Policy Agenda Setting for Blue Economy and Socio-Economic Development in Tanzania

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ABSTRACT

Tanzania enjoys benefits of having 1,424 km from Tanga to Mtwara along the Indian ocean, rich on natural marine resources including ocean waters, beaches, harbours and ports along the Indian ocean, where imports and exports, fishing, tourism and marine transportation to neighbouring landlocked country and many other marine-based economic activities could flourish. However, there is no specific National policy guiding the blue economy to guide the Tanzania's marine resource economy. The objective of this article is threefold; to provide evidence from scholarly works that informs the role of Blue economy in Tanzania; to identify specific socio-economic sectors with potential for exploring Blue economy potentials; and three to set up a policy agenda for the establishment of a National Blue economy policy. The study applied explorative as well as descriptive design for capturing both qualitative and quantitative data. The target population was the marine transport, energy, tourism and fisheries sectors. A purposeful sampling technique was adopted because it enabled selection of key informants with rich information on economic activities in the Indian ocean bordering Tanzania coast. The study applies mixed methods of bibliometric analysis, interview, and desk top review. This article sets a policy agenda for the needed policy to guide blue economy for a country with access to Indian Ocean. The article examines the potential opportunities for developing blue economy in the key economic sectors. Tanzania has the geographical advantage to the Indian Ocean covering potential sectors of Ministry of Fisheries and Livestock, Ministry of Infrastructure, Ministry of Natural resources and Tourism, Ministry of Energy, and Ministry of Industries and Trade. The article sets a policy agenda that the abundant resources in the Indian Ocean including fish, oil and gas requires a guiding policy for harnessing resources sustainably. Nevertheless, the missing link is there is missing policy for harnessing the unexploited potentials in the ocean. This paper instigates to set a blue economy policy in Tanzania because there many unleashed potentials across the Indian Ocean for the socio-economic development in Tanzania. The research concluded that although the government of the United Republic of Tanzania supports blue economy, there is a need to reactivate and promote the blue economy in practical terms. This can be achieved through holistic multi-sectoral policy, planning and coordination of key sectors in the blue economy. This article recommends for policy to manage sustainable blue economy in Tanzania, which is an emerging, but remain unleashed potential for the country's socio-economic development. Since in there is a policy vacuum to develop a blue economy, an agenda for multi-sectoral blue economy policy should be considered for harnessing marine resources sustainably to meet both the national development goals as well as the Sustainable Development Goals.

Key words: Agenda Setting, Blue Economy, Policy, Socio-Economic Development, Tanzania

INTRODUCTION

Blue Economy as a scholarly concept appears under the Sustainable Development Goal SDG-14-Life below water covering ocean economy for countries endowed with marine resources (Midlen, 2021; Karani *et al.*, 2022). It originated from the Rio de Janeiro in 2012 United Nations Conference on Sustainable Development (UNCTAD, 2014; Eikeset *et al.*, 2018) whereby scholars refer to ocean economy or marine economy interchangeably (Smith-Godfrey, 2016; Spalding, 2016; Lee et al., 2020). Blue economy was further conceived by the African Union in the Africa's Integrated Maritime Strategy that recognizes the vast maritime potential for wealth creation in the Sub-Saharan Africa (United Republic of Tanzania, 2022; Ulega, 2023). The African Union (AU) encourages member countries to utilize sustainably the existing maritime resources for generating the desirable outcome to improve people's livelihoods (Karani et al., 2022). This article identifies blue economy as the unexploited potential area for socio-economic development in African countries such as Tanzania that are endowed with marine resources bordering the Indian ocean. The article use agenda setting rational model to define a problem and framing a policy agenda on how policy entrepreneurs can put forward a blue economy institutional agenda for policy making process.

Agenda setting refers to a deliberate planning process through which policy issues are identified, problems get defined and prioritized, support is solicited and decision makers lobbied to take appropriate action (Birkland, 2019).

The policy agenda setting process normally starts with the identification of the policy problem by one or more stakeholders in society, who feel that the inaction of government detrimentally affects themselves or another segment of society (Birkland, 2019). Such a policy entrepreneur mobilize support from key stakeholders to persuade policymakers to take action in order to change the status quo in their favor. According to (Dery, 2000; Kingdon, 2010), agenda setting refers to an ongoing competition among issues proponents to gain the attention of public policy making process. The concept of policy agenda from the political point of view includes strategic policy issues from actors who then activate channels to influence specific public policy agendas through policy process and the media. Agenda-setting is referred as the list of subjects or problems to which government officials and people outside of government closely associated with those officials are paying some serious attention at any given time (Kingdon, 2010).

In the context of blue economy, agenda setting refers to a problem definition of underutilization of marine resources as an economic alternative development pathway in countries along the Indian Ocean. Harnessing marine resources requires a policy whose agenda setting for sustainable development is aligned with Africa Union (United Nations Economic Commission for Africa, 2018). Whereas, Kingdon (2010) considers the agenda-setting as the *"list of subjects or problems to which government officials and people outside the government are paying some serious attention at any given time",* agenda setting for Blue economy can also mean the ability to influence issues salient among the public as well as the politics of selecting issues for active consideration of authoritative decision makers (Cobb et al., 1976) for sustainable harnessing of fisheries, aquaculture, tourism, shipping, seabed mining, oil and gas extraction, and renewable energy (Dekker & Scholten, 2017; Moolna & Thompson, 2018; Harris & Thompson, 2023).

Other than marine resources, Tanzania serve as gateways to Indian Ocean trade for the neghbouring land-locked countries. The port city of Dar Es Salaam, Tanga and Mtwara are crucial nodes in the Northern, Central and Southern Corridors linking countries such as Zambia, Uganda, Democratic Republic of Congo (DRC), Rwanda, and Burundi. In Tanzania, the port city of Dar es Salaam anchors the Central Corridor, which also connects with eastern DRC, Rwanda and Burundi. Tanzania's comparative advantage to the Indian ocean has unexploited potential for blue economy development. However, the policy gap of blue economy policy leaves the country with unexploited potentials for economic transformations and poverty reduction.

1.1 Statement of the Problem

Only a few African countries such as Madagascar, Comoro, Seychelles, South Africa, Mozambique, and Kenya have set up blue economy policies for guiding sustainable oceanic economies (Keen, et al., 2017). Although the United Republic of Tanzania (URT) is endowed with 1,424 km from Tanga to Mtwara along the Indian Ocean rich ocean waters provides a window of opportunity to expand capture fish (Fig.1). It has natural beaches, harbours and ports and many other natural resources which have not been adequately exploited sustainably (Nagy and Nene, 2021) due to the policy gap (Thoya *et al.*, 2022) to guide sustainable extraction and utilization of marine resources people's socio-economic activities in many ways for food, energy, tourism, and jobs which important and improved livelihood on earth.

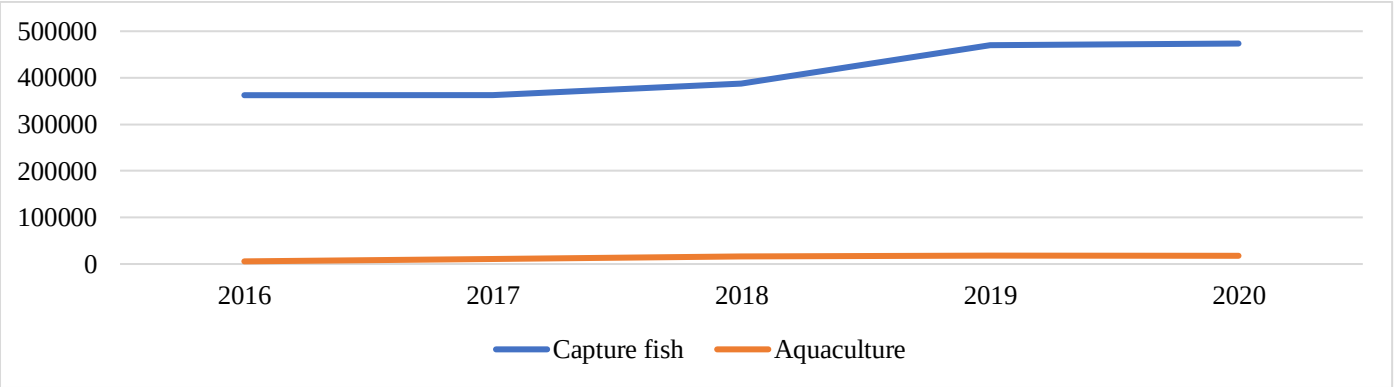

Figure 1
Capture Fish and Aquaculture production in Mt, 2016-2020

The Blue Economy approach to ocean and coastal sustainable economic development in Tanzania promises great potential and has emerged to dominate attention on political election manifesto and the associated political rhetoric. Yet, there exist a policy gap to affirmatively translate the political election manifesto and the associated political rhetoric into Blue Economy policy as the solution to sustainable development (Moolna & Thompson, 2018).

1.2 Research Objectives

i. To map out Blue economy in scholarly work to inform policy decisions
ii. To identify potential sectors for blue economy development in Tanzania
iii. To apply theory of policy agenda setting for a Blue economy policy in Tanzania.
iv. To identify barriers for Blue economy in Tanzania

1.3 Research Questions

i. What is the extent of scholarly work on Blue economy informs policy decisions
ii. What sectors bring potential benefit from blue economy?
iii. How can agenda setting theory promote blue economy policy in Tanzania?
iv. What barriers hinder blue economy development in Tanzania?

II. LITERATURE REVIEW

2.1 Theoretical Review

Theoretically blue economy definition includes aquatic and marine spaces (seas, coasts, lakes, wetlands, floodplains, rivers, and underground water) while also covering a variety of production sectors like fishing, aquaculture, tourism, shipbuilding, underwater mining, transport, bioprospecting, and related activities (Nagy & Nene, 2021). They theorize the Indian Ocean and other oceans as "Blue Gold"; that is to metaphorically looking at the oceans as the unexploited gold. It has been pointed out that the African Union agenda 2063 focuses on making the use of marine resources a priority within the literature and programmatic policy orientation towards blue economy. However, it has been observed that most African countries are still lagging in taking the initial steps of identifying and prioritizing blue economy sectors. It has been argued that for Africa, blue economy offers greater opportunity beyond the economy. It presents Africa with a unique opportunity to achieve its national objectives, to improve regional integration, and to exert influence in the global setting (Nagy & Nene, 2021).

While policy agenda are found in the government, non-government organizations, as well as in community, Nagy and Nene (2021) suggest that "we need to develop new framings and begin to experiment with new policy practices to address social and environmental challenges facing the Blue economy including policy formulation, implementation towards blue economy governance, climate change mitigation and sustainability. Therefore, it entails a collection of issues that are available for discussion and disposition, or that are being actively considered they become policy agenda. Policy issues such as declining quality education, water, health, security services and deteriorating economy or under- utilization of marine resources. An issue becomes a systemic policy agenda when its rationality and feasibility is brought forward to policy making organs it transforms into being an institutional agenda (Kingdon, 2010; Bartlett & Pagliarello, 2016). Agenda setting debate is determined by the extent to which the society becomes involved in it, however the interplay of politics and power of audience on influencing the policy agenda must be observed.

The politics and power on setting a blue economy agenda requires deliberate planning process through which policy issues are identified, problems are defined and prioritized, supporting evidence is mobilized, and an alternative decision is developed for appropriate actions. For example, Chama Cha Mapinduzi (CCM) agenda setting for Blue Economy is embedded in its political economy and election manifesto of 2020 recognizing water resources as an opportunity for their policies to develop the local economy. They set for "strengthening port infrastructure, transportation for Tanzania to become the center of excellence in the blue economy" (CCM, 2020). By and large, CCM political power is vested on as the ruling party interplays with politics on setting a policy agenda for utilization of ocean resources for sustainable national development as (Heidbreder, 2012; Fischer & Strandberg-Larsen, 2016) discusses the interplay of power and politics on setting a policy agenda. Putting BE into policy process depends on the conceptualization and material fabric of political ecology and policy actors in development (Childs & Hicks, 2019).

The policy process normally starts with the identification of a policy problem by one or more stakeholders in society, who feel that the actions of government detrimentally affect themselves or another segment of society. Stakeholders mobilize support in order to persuade policymakers to take action in order to change the status quo in their favor. Policy agenda setting is crucial phase in public policy making for two main reasons. Firstly, it determines how stakeholders influence the policy agenda and secondly, it determines who influences or controls the policy-making process and therefore policy agenda setting is both a procedural and substantive process. Furthermore, agenda setting triggers identification of drivers for policy change and data gathering that informs the subsequent stages of policy making process with the expected policy outcomes. The process then calls to produce evidence in the form of policy options for blue economy policy dialogue at the national, regional or global platforms.

2.2 Empirical Review

A bibliometric analysis was conducted to map out Blue economy in scholarly and scientific literature that inform policy decisions The existing empirical literature on Blue economy explains that oceans, seas and waterways provide ecological, economic, and social benefits, when combined they guarantee sustainable economy. The oceans in coastal countries promises sustainable development through 'blue economy' which is a widely used in academia and policy circles.

A search from Scopus using the Boleean key search words; Blue"AND"Economy"AND"Global"OR"Africa" produced 9165 in 60 seconds. This in an indication that the concept has become a popular and useful in the academia as well as public policy circle (Raimi, et al, 2022). Fig.2 provides evidence from bibliometric analysis.

Wenhai *et al.* (2019) provide both theoretical and empirical literature on Blue economy potential for socio-economic transformation and sustainable development. Wenhai *et al.* (2019) argue that blue economy research has expanded with the world increasingly understanding its importance. Both researchers and policy makers globally are concerned with ocean and coastal regions are demanding further and improved analysis of the Blue Economy. They provide a conceptual definition that since the 21st century, the concept of the Blue Economy has become increasingly popular in international space because it is believes that blue economy covers innovative development economy and development of marine economy.

Wenhai *et al.* (2019) argue that while in empirical research, the blue economy research and literature put forward the aim of Blue Economy models is to shift resources from scarcity to abundance, and to start tackling issues that cause environmental problems. These scholars provide case studies of successful Blue economy in the European Union (EU) who implemented Blue Growth Strategy and Blue Innovation Plan in 2012. They document that "the European Union proposed the "Blue Growth" strategy, specifying that Blue Growth to be the core of marine policies and stating clearly key development areas and specific measures for the future. The EU Blue Growth Strategy initiatives include policy areas related to Europe's oceans, seas and coasts, facilitating the cooperation between maritime business and public authorities across borders and sectors, and stakeholders to ensure the sustainability of the marine environment. To advance the EU Growth strategy, Wenhai *et al.* (2019) noted that in 2014, the Blue Economy Innovation Plan was launched focusing on "developing sectors that have high potential for sustainable jobs and growth. This is the central focus of this article to emulate Blue Economy policies in Africa and in Tanzania in particular based on the theoretical and empirical evidence provided.

In the context of Tanzania, blue economy in Tanzania include fish capturing in lakes, rivers and largely in the Indian ocean with annual production of 375,533 tonnes in 2005 to 473,592 tonnes in 2020. However, the fishery remains underdeveloped and unsustainable as key source of employment, food security, and revenue for the country. The fishing industry provides at least 4.5 million employed in the fish sector value chain. Moreover, the natural gas along the Indian ocean is underexploited and underutilized for sustainable development. Blue economy as an emerging economic area in Tanzania has a potential for economic transformation that has attracted political attention in the 2020 General Elections in both Tanzania mainland and Zanzibar (CCM, 2020).

From the UN conference on sustainable development and African, many countries in the world as well as in the Sub-Saharan Africa have adopted blue economy policies as one of strategies for achieving Sustainable Development Goals. For Tanzania, blue economy activities are implemented under different sector ministries such as Ministry of Livestock and Fisheries, Ministry of Transport and Infrastructure (for marine transport and harbour services), Ministry of Energy (for natural gas extraction), Ministry of Industries (for fish processing industries), Ministry of Agriculture (for capture fishing and aquaculture), Ministry of Tourism (for tourism services and business). There is inadequate policy coherence for blue economy in Tanzania despite the highest political will to develop the utilization of the marine natural resources.

III. METHODOLOGY

3.1 Research Design

The study applied explorative as well as descriptive design for capturing both qualitative and quantitative data. This design was appropriate for the reason that blue economy is an emerging approach in many African countries although it has been practiced in the European Countries and few African members of the Indian Ocean Rim Association. Further, the study used mixed methods approach that include qualitative interviews for collecting data from sectors and institutions.

3.2 Sampling Procedures

A purposeful sampling technique was used to select respondents based on the criteria of having rich information and their key roles performed in the Indian Ocean activities. Five interviews were conducted for gaining

an in-depth understanding and exploring the unexploited potentials of key sectors in the Indian Oceanic area. The interviews with key informants were conducted at the Ministries of Energy, Livestock and Fisheries Development, Works, Transport and Communication, Industries and Trade, and Natural Resources and Tourism, who provided both descriptive and narrative information on economic activities relevant to blue economy. This was triangulated with documents, national policy documents and legislations for understanding the blue economy in Tanzania.

3.3 Data Collection and Analysis

Primary data were collected using an interview guide at the sampled sectors. Whereas secondary data were collected through document review and database of Scopus. The collected data were triangulated, analyzed and synthesized to present the current state of the blue economy in the selected sectors in Tanzania bearing on the Strength, Weakness, Opportunities and Challenges (SWOC) analysis for a better description and understanding of Tanzania's blue economy. A content analysis of blue economy interviews and documents was conducted with the help of Nvivo 12 software that generated the thematic patterns for blue economy policy agenda. A bibliometric analysis was done to extract evidence from scientific literature informing policy decisions on Blue economy and its potential for sustainable socio-economic development in Africa and Tanzania in particular.

IV. FINDINGS & DISCUSSION

The study objectives were to map out Blue economy in scholarly work that inform policy decisions, identify potential sectors for blue economy development in Tanzania, apply theory of policy agenda setting for a Blue economy policy and identify barriers for Blue economy in Tanzania. The Indian Ocean Tanzania coastal areas contain potential but underutilized drivers for socio-economic transformation and human development across many sectors for fisheries, infrastructure, tourism, energy, industries and trade.

4.1 Map out Blue Economy in Scholarly Work

Blue economy in scholarly circle has been growing over time to inform policy decisions across countries in the globe. Fig.2 displays a bibliometric analysis that picked from 2007 to 2023. Certainly, the academia has generated evidence on the potential of Blue economy in countries with access to seas and oceans in areas of marine transport, fisheries, tourism, energy and marine transport.

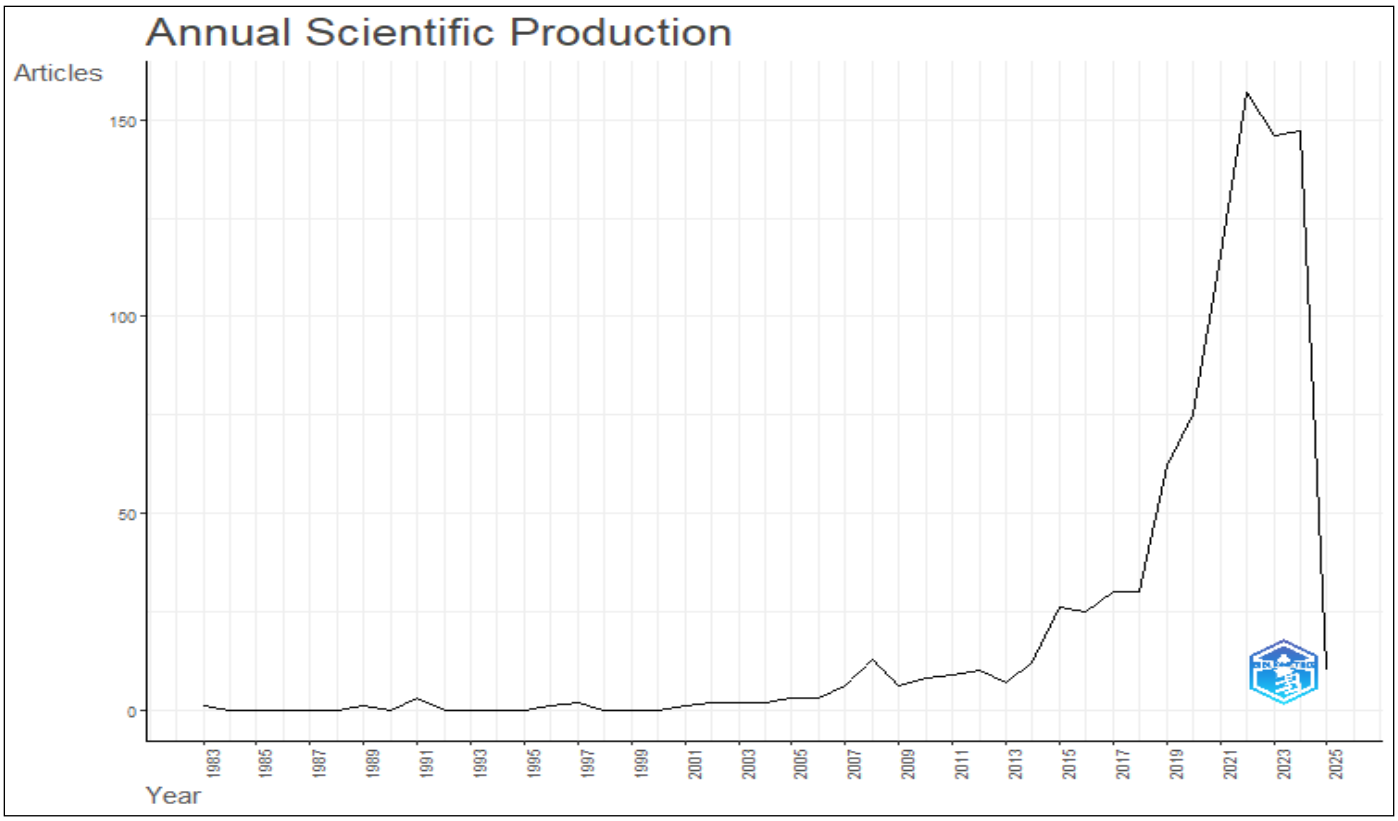

Figure 2
Blue Economy in Scientific Literature

The study objective was to identify potential sectors for blue economy development in Tanzania. The study findings present the identified sectors. The following are the identified sector with potential descriptions of developing blue economy in Tanzania.

4.1.1 Fisheries Blue Economy

The fisheries sub-sector falls under the Ministry of Fisheries and Livestock Development, which is engaged in economic activities including marine fish capture in off-shore, Exclusive Economic Zone (EEZ) and deep-sea in the Indian Ocean waters. The main marine fishing activities and its value chain include capture fisheries in both marine and fresh water. Aquaculture is done in both marine and fresh water. Fisheries sub-sector plays important role in Tanzania contributing to GDP between 1.5% and 1.8% from 2016-2020 (Ulega, 2023), it provides employment directly and indirectly to for 4 million people, and is a source of foreign exchange. Tanzania earned US$239,680,014 in 2018 by exporting fish and fish products. Tanzania's marine fisheries can be broadly divided into three main types; artisanal (small-scale coastal) fisheries, prawn fishery and the offshore fishery done for local consumption and export markets. The marine fisheries activities are conducted within territorial waters, which extend up to 12 miles in the EEZ, and extends up to 200 miles from the Indian Ocean shoreline. Fishing activities take place in water depths of less than 500 meters and within 40 miles from the coast of Indian Ocean covering area of 64,000 km2. The Tanzania coastline stretches a length of 1,424 km from North to the South with almost all coastal communities engaged in fishing activities.

The marine artisanal fleet operates mostly with small dug-out canoes between 3 and 5 meters in length, and wooden planked boats that range from 6 to 15 meters. Smaller vessels are powered by paddle and sail, while larger vessels are powered by advanced technology of inboard and outboard engines. The interviews and secondary data indicate that there are 7,664 vessels fishing and landing their catches to 257 landing sites along the Tanzania coast. It should be noted that the number of vessels has been increasing at an average rate of 280 vessels per year. The vast majority, as much as 95% of the marine fish production comes from fishing within the territorial sea. The marine fisheries production appears to have remained relatively stable, ranging between 43,000 and 55,000 mt per annum. The artisanal fishery supplies a modest trade to the local market in a number of higher value species such as marine crabs, lobsters, octopus, shrimps and squid. Only a few Tanzanian vessels are capable of exploiting marine resources in the EEZ despite of the potential for development for blue economy in this area. Since 1998 the Government of Tanzania started licensing foreign-flagged fishing vessels to operate in the EEZ. About seventy-four vessels were licensed in 2014 from mainly four countries Spain, (14 vessels), France, (2 vessels) Seychelles (7 vessels) and South Korea (2 vessels) (Midlen, 2021). It is from the Indian Ocean waters that fish stocks of skipjack, yellow fin and big eye tunas, and other large pelagic fish such as shark, swordfish and marlins are captured.

To overcome the challenges in the deep-sea fishing, the Government of Tanzania put a new legislation, the Deep Sea Fisheries Management and Development Act, 2020 to address a range of challenges. One of the major challenges include illegal, unreported and unregulated (IUU) fishing. Childs and Hicks (2019) argues that IUU fishing is a global phenomenon with devastating environmental and socio-economic consequences in developing countries, this is true for Tanzania where IUU cases are eminent. With monitoring capacity in the exclusive economic zone EEZ of about 241,453 km^2, Tanzania has not been able to curb IUU. The new legislation provisions strengthen monitoring, control and surveillance in the EEZ. The law also prescribes charges against unauthorized fishing vessels.

4.1.2 Fish Processing

Developing and managing the blue economy requires sophisticated infrastructure including commercial fishing vessels, fishing ports, storage facilities, and processing facilities. By the time of this study, there is no dedicated port facilities for industrial fishing vessels at Dar es Salaam harbour. However, one area of the port (Berth 6) has been earmarked for fisheries by the Ministry of Livestock and Fisheries. The quay has the length and depth to accommodate large ships and offers potential for landing of fish, and for transshipment to refrigerated transport vessels. There is also potential for constructing cold storage and fish processing facilities along the Indian Ocean ports. This is a promising economic development area for Tanzania's blue economy.

Upstream markets at landing sites and fish market levels are managed by local governments (city, municipal and district councils) with some collaboration with the Ministry of Livestock and Fisheries. Fish processing industries are mainly private owned and regulated by the Ministry of Livestock and Fisheries. Other upstream production system and Tanzania Fisheries Research Institute and private registered vessels engaged on deep fishing, aquaculture, and mariculture. Whereas the downstream market of marine fishing is described as the marketing system and distribution channels of marine fish in Tanzania. The markets are managed with the central government in collaboration with countries of destination of the fisheries products through bilateral agreements which set standards between respective countries and Tanzania. The downstream markets compliance to standards are set by European Union when exporting

fisheries products to EU member countries. The interviews show fish marketing is controlled by private sector whereby small fish traders at various fish markets along Indian Ocean get their livelihood. On the other hand, the organized fish export is done by licensed exporters.

Strength of undertaking blue economy activities in the fisheries sector is when properly implemented activities are improving economy of the countries by earning more foreign exchange and providing more employment. The fact that Tanzania possess large area of marine waters with an area of 61,500km^2 which is about 6.4 % of the country total land area as well as an EEZ with total of 223, 000 km^2 , it gives the strength of developing economically important Blue economy activities.

Tanzania lacks the technological capabilities of utilizing fisheries resources in the EEZ which have deep waters. Fishing in this zone requires large vessels with sophisticated technologies which the country does not possess as it was reported earlier that Tanzania use foreign licensed fishing vessels. Fishing fleet for now is manly dominated by foreign fishing fleets in this zone. Lack of persons with required competencies to operate fishing vessels in Economic Exclusive Zone also hinders Tanzania in undertaking Blue economy effectively in the deep sea. Lack of capital is also one of big factors which hinders

Blue economy activities in the Ministry of Energy (MoE) can be categorized under exploration of hydrocarbons. Exploration of hydrocarbon in Tanzania started in the 1950's, it in early 1974 when the government increased investment on exploration that resulted into the discovery of 2.5 trillion cubic feet (Tcf) of natural gas at Songo-Songo Island in the southern Tanzania (URT, 2013). The natural gas discovery in Tanzania is expected to contribute to electric power generation in Tanzania. By 2017, natural gas contributed about 625.5megawatts (MW) of the total power installed capacity (1,450 MW) followed by 609 MW of hydropower and 188.5 MW of liquid fuel It is also expected to be utilized in manufacturing fertilizer for the agriculture sector development. However, the natural gas sub sector has remained undeveloped to the fully potential to provide equitable benefits to Tanzanians.

The first discovery of natural gas in Tanzania was followed by onshore exploration of about 5Tcf in 1982 at Mnazi Bay in Mtwara region. The two subsequent discoveries were then followed by a string of onshore discoveries at Kiliwani, Mkuranga, and Ntorya. Moreover, substantial discovery of natural gas was made in 2010 in the deep offshore in the Indian Ocean. The deep offshore discoveries compelled Tanzania to formulate policy, legal and regulatory frameworks to guide the development and proper management of natural gas resource. These included National Energy Policy (2013) Oil and Gas Revenue Management Policy, (2015), Petroleum Act, 2015, and the Oil and Gas Revenue Management Act (2015). However, the oil and gas economic activities remain underexploited.

The up-stream activities in the energy sector are largely undertaken by the Tanzania Petroleum Development Corporation (TPDC), which is a designated institution for National Oil Company (NOC) and multinational petroleum companies that have been engaged on explorations for over the past 60 years. Oil exploration has resulted in the abundant gas discoveries at Songo Song, Mnazi Bay and in the Southern deep-sea basin in Ruvuma region. The cumulative seismic coverage in public domain is approximately 100,000 km; 70,000 km offshore and 30,000 km. Between 2002 - 2007 exploration licenses were to offered to Petrobras (Blk - 5, 2004), Ophir (Blk - 1, 2005), Ophir (Blks - 3, 4, 2006), Statoil (Blk - 2, 2007), Dominion (Blk - 7, 20_), Petrobras (Blk - 8, 2012). This resulted to findings of 70,000 live km of 2D seismic data and 15,000 square km of 3D seismic data that were acquired. The outcome were the drilling of wells BG (Blks - 1,2,3), Statoil (Blk - 2) and Petrobras (Blk - 5), making significant gas discoveries in blocks 1, 2 and 3. The upstream market in the energy sub-sector is also described as the production system and research in the petroleum and gas sector.

The down-stream activities include distribution of natural gas to for 423 MW power generation to Tanzania Electric Supply Company (TANESCO), industries such as Twiga Cement, and recently for domestic use that was launched in June 2020. The downstream market in the oil and gas sub-sector is also described as the marketing system and distribution channels of petroleum and gas in Tanzania. The downstream markets are managed by the executive agencies of the government including Petroleum Bulk Procurement Agency (PBPA), Energy and Water Utilities Regulatory Authority (EWURA), Oil Marketing Companies (OMCs) and Liquefied Petroleum Gas (LPG) Companies which are engaged in distribution within the country and to the neighbouring land locked countries. The following include (but are not limited to) companies engaged in the petroleum and gas value chain including the Tanzania Petroleum Development Corporation (TPDC), Gas Supply Company (GASCO), Oil Marketing Companies (OMCs), Liquefied Petroleum Gas (LPG) Companies, Oil Com, Lake Oil company, etc.

The produced natural gas at Songosongo and Mnazi bay is a source of clean energy for both industrial and domestic use whereby 48 industries and over 400 households are connected to natural gas infrastructure. Natural gas contributes over 55% to country's total electricity mix. (892.7 MW out of 1602.3 MW). Since commercialization of natural gas began in Tanzania in 2004, Tanzania has made savings of over US$ 13.1 billion by using natural gas instead fuels such as Heavy Fuel Oil (HFO) for generating electricity (URT, 2022). Other benefits include increased participation of local citizens in the oil and gas value chain activities. For example, the blue economy activities have

created employment opportunities to Tanzanians including local service providers, supply of goods and services in the oil and gas sector as well as capacity building to local nationals

4.1.3 Tourism Blue Economy

Tourism sector is among the key areas in the blue economy managed by the Ministry of Natural Resources and Tourism. The nexus of tourism to blue economy is in the context that tourist come to experience life and relax in the country where there is conducive touristic infrastructure. One of the touristic infrastructures is the clean and sustainably managed beaches and well-built hotels. Such infrastructure attracts the number of tourists entering the country who contribute to national foreign exchange. The upstream market in the tourism sector is organized and promoted through the Tanzania Tourism Board (TTB) targeting the high-end segmented market in European countries, America, China and Russia who arrive by air then stay in tourism hotels located along coastal areas. Fig. 3 indicates tourists arrived in Tanzania between 2005 and 2018.

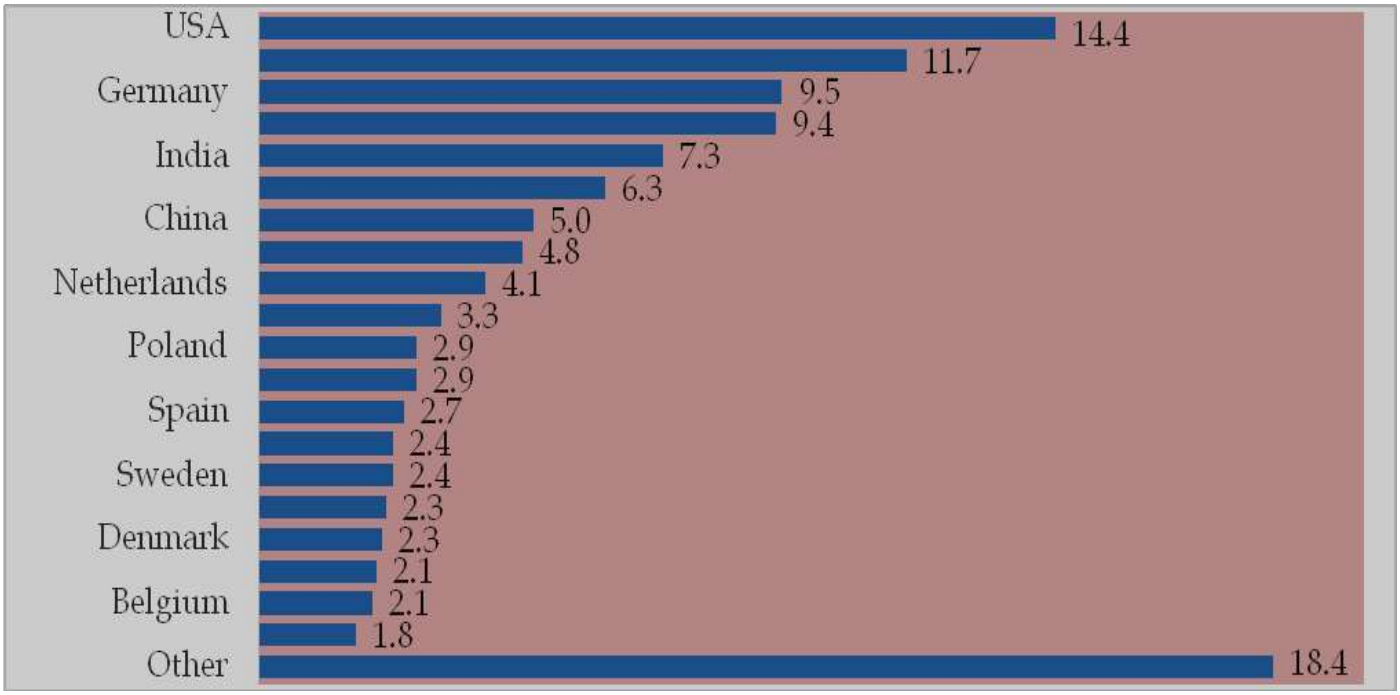

Figure 3
Tourists by Origin of Countries
Source: *Ministry of Tourism and Natural Resources*, 2018.

The market share of tourists coming to Tanzania include USA (14.1%), Germany (11.7%), India (7.3%) (Fig.1). The major blue economy related activities in tourism include: ecotourism, coastal tourism, and water sports tourism. The coastal and ocean-related tourism comes in many forms such as dive tourism, maritime archaeology, surfing, cruises, ecotourism, and recreational fishing. The tourism industry offers unique tourist products along coastal beaches including maritime archaeology, surfing, cruises, ecotourism, and recreational fishing.

While the government provides an enabling environment including formulation of National Tourism Policy for developing tourism, which allows private sector share on tourism infrastructure and business. Tanzania has made considerable strides towards sustainable coastal and marine governance through developing and implementing various policies and strategies including the Integrated Coastal Environment Management Strategy in Zanzibar and Tanzania Mainland. Promoting marine planning tools such as marine spatial planning as a keystone to attaining Blue economy in the country where by trainings on marine spatial planning have been conducted to various stakeholders.

However, the tourism industry has been negatively impacted by the Covid-19 that has paralyzed travels across the world thus the blue economy fluctuations happened in Tanzania as well. According to the Bank of Tanzania (BoT) during the quarter ending June 2020, the number of tourist arrivals declined from 72,487 in similar quarter in 2019 to 757 relating to the effect of COVID-19 pandemic to tourism industry (Fig. 4)

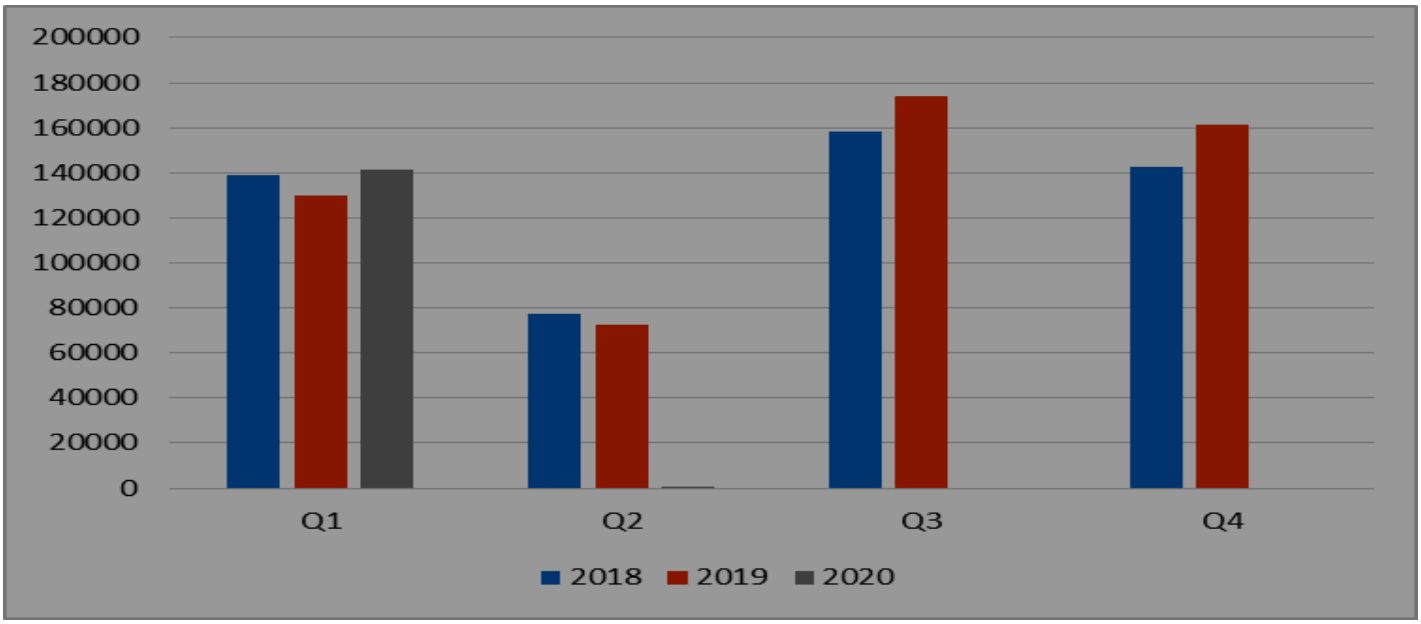

Figure 4
Tourist Arrival Trend Before and After COVID-19 in Tanzania

Source: Bank of Tanzania, 2020

In response to COVI-19, the Government of Tanzania took various policy actions to overcome the pandemic. The emphasis was to mitigate the effects of COVID-19 on socio-economic contexts. The mitigations included closing public and private schools and colleges and universities, suspending all public meetings, sporting events, and all international passenger flights. The government through the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) provided public health education against COVID-19 on hand washing with disinfectants and running water, using sanitizers and wearing face masks in public areas (MoHCDGEC) along with traditional therapy practices. Beginning 3rd quarter of 2020, the government of Tanzania assessment of COVID-19 convinced that there were decline of COVID-19 cases in the country. This prompted to opening flights operations that are key for bringing in tourists in the country.

The government remained to be cautious of the disease, therefore it provided travel advisory note that required residents and non-residents entering or leaving to be screened for COVID-19 infection. The outcome has been a return to tourism business incrementally with 326 tourist arrivals in May to 1,895 tourist arrivals in August 2020. The tourism sub-sector has its own Strength, Weakness, Opportunities and Challenges for engaging in blue economy. The SWOC analysis presents the position that Tanzania Ministry of Tourism and Natural Resources showing the potential opportunities for engaging in the Blue Economy.

The Tanzania Port Authority (TPA) includes ports in Dar Es Salaam, Tanga and Mtwara along the Indian Ocean offering marine transportation services of import and export of goods for Tanzania and the neighbouring land-linked countries (Burundi, Rwanda, Democratic Republic of Congo, Malawi and Zambia. Other countries that trade goods through Tanzania ocean water include Zimbabwe, Comoro, South Sudan and Mozambique. During 2018/2019, the TPA handled 6,934 million mt, whereas in 2019/2020, it handled 7,137 million mt of various goods. Dar Es Salaam port alone, handled 4,694 million mt in 2018/19, whereas in 2019/ 2020 it handled 5,545 million mt. During 2018/19, the Dar Es Salaam port alone handled 4,694 million mt, whereas in 2019/ 2020 it handled 5.545 million mt of transit goods to Uganda, Rwanda, Burundi, DR Congo, Zambia and Malawi. Other countries that trades goods through Tanzania ocean water include Zimbabwe, Comoro, South Sudan and Mozambique.

The transportation sector is one of the unexploited pillar of blue economy in Tanzania. Despite efforts made by the government to improve Dar Es Salaam port, roads and railways that support the blue economy, marine transportation in the Indian Ocean are not much developed. There is a need to increase public and private investment in road, railway and marine cruise ship within the country. The AZAM marine transportation between Dar Es Salaam and Zanzibar is one of the pioneer private shipping company that has revolutionized and modernized the sector, thus contributing to the blue economy in terms of goods and services as well as tourism. The sector services can be expanded to marine transportation between Dar Es Salaam and Bagamoyo, Tanga, Mafia and Mtwara where cultural and heritage touristic sites exist. Similarly, marine cruise ship for tourism purposes could be expanded from Tanzania ports along the Indian Ocean to the rest of IORA member countries can contribute to the blue economy.

4.2 Industries and International Trade

The Ministry of Industries and Trade (MIT) has a central role in developing Tanzania's blue economy. Although the Ministry of Industry and Trade is not directly involved in blue economy operations, it has the mandate of managing in-country, inter-countries and intercontinental trade across oceans as well as managing and coordinating industries along oceanic waters. The ministry should be aligning on processing and value addition, marine exports and ship building industry, which promises potential opportunities for job creation along the Indian Ocean. Whereas trade along and across the Indian ocean is an historical phenomenon in East Africa ports, the modernization of ports and harbours can facilitate import and exports of goods in the region through the Tanzania ports.

Tanzania major exports include cotton seeds, sugarcane, uncoated kraft paper, paperboard, sunflower seeds, maize (corn), black tea, minerals, cement clinkers, dried fish. Other export commodities are cattle, mattress and bedding linen, fabrics, livestock (mostly goats). In addition, Tanzania exports cashew nuts; tropical wood; Tanzanite; hides and skins; unwrought gold; Pigeon peas (Cajanuscajan); Chickpeas (garbanzos); beans and other textiles. Tanzania imports goods such as medicaments, organic surface-active products, chemicals, vehicles, machinery. Other imported goods include iron or steel, oil and refined petroleum, fishing vessels; factory ships and vessels for processing, yachts and vessels for pleasure or water sports; rowing boats. In addition, the imports through the oceans include gas oil; medicaments; kerosene type jet fuel; pharmaceutical, vaccines for human medicine; motorcycles with reciprocating engine of capacity 50-250cc; sugar for industrial use; and, sodium hydroxide.

Table 1 indicates imports and exports going through Tanzania ports along the Indian Ocean. The geographical position of Tanzania along the Indian Ocean provides an ideal enabling environment for developing marine transportation for the blue economy. Tanzania has made considerable investment in developing its ports of Dar Es Salaam, Tanga and Mtwara that promises a significant contribution to the blue economy.

Table 1

Tanzania Import and Export Trade through Indian Ocean

Trade area	Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Europe	Exports	440.0	464.0	553.5	745.4	898.4	791.7	708.7	236.5	441.4	497.8	399.3
	Imports	1,076.6	1,111.4	1,074.4	1,536.9	2,759.4	2,895.0	1,159.8	557.7	936.1	1,015.8	909.0
	Total	1,516.6	1,575.4	1,627.9	2,282.3	3,657.8	3,686.7	1,868.5	794.2	1,377.5	1,513.6	1,308.3
	Balance	-636.6	-647.4	-520.9	-791.5	-1,861.0	-2,103.3	-451.1	-321.2	-494.7	-517.9	-509.7
EAC	Exports	263.8	450.1	352.4	515.3	419.1	598.1	1,062.4	437.7	349.6	447.5	674.4
	Imports	310.5	285.2	263.8	668.4	394.7	706.0	322.8	298.9	220.4	302.9	329.1
	Total	574.3	735.3	616.2	1,183.7	813.8	1,304.5	1,385.2	736.6	570.0	750.4	1,003.5
	Balance	-46.7	164.9	88.6	-153.1	24.4	-108.3	739.6	138.8	129.2	144.6	345.3
SADC	Exports	374.2	625.1	1,158.8	1,421.9	1,243.6	1,235.9	1,357.7	1,017.9	877.8	999.3	1,330.9
	Imports	733.2	827.7	881.3	1,093.1	835.9	773.0	771.2	612.4	600.6	604.3	155.1
	Total	1,107.4	1,452.8	2,040.1	2,515.0	2,079.5	2,008.9	2,128.9	1,630.3	1,478.4	1,603.7	1,486.0
	Balance	-359.0	-202.6	277.5	328.8	407.7	462.9	586.5	405.5	277.2	395.0	1,175.8

The Tanzania proximity to Indian Ocean makes it to be the key partners to facilitate trade between Tanzania and IORA member countries. The major partners include Indonesia, Comoros, India, and Indonesia, Rwanda, DRC, Zambia, Burundi through the Indian Ocean on various tradable goods. Fig. 5 with export and import countries through Tanzania ports and harbours thus generating economic activities, revenue and employment.

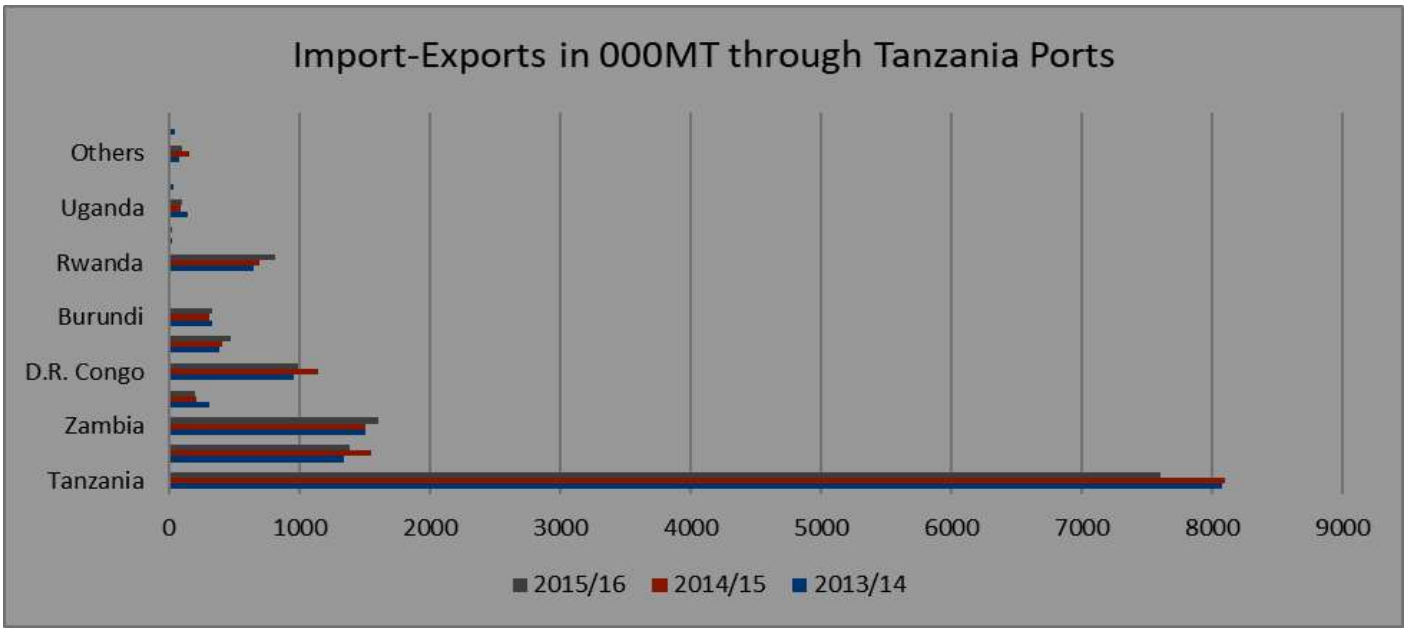

Figure 5
Import and Export Trading Through TPA

Source: *Tanzania Ports Authority, http://ports.go.tz/index.php/en/publications/reports-annual-reports*

4.3 Challenges and Policy Options for Blue economy in Tanzania

The most critical challenge is the absence of a National Blue economy policy to accommodate range of various needs across sectors. Marine fishing faces a challenge of deep fish technology and equipment, storage and markets.

There is also a skills development challenge for youths' employability in Blue Economy. The key issues of skills include mismatch and inadequate supply of labour with proper quality training in the marine enterprises. There are also challenges of governance and policy incoherence across sectors with multiple policies such as fisheries Policy of 2015, fisheries Act No. 22 of 2003 and Fisheries Regulations of 2009 which provides legal framework of all activities in fisheries sector

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusion

This article mapped out the growing scholarly literature on Blue economy that informs policy decision makers to consider blue economy for strategic development plans. Tanzania abundant resources along the Indian Ocean represents one of the unexploited marine resources including fishing, oil and gas mining that require a guiding Blue economy policy for harnessing resources sustainably. Tanzania has done it well by putting in place a national natural gas policy. Nevertheless, the missing link is the policy gap for all other sectors for harnessing the unexploited potentials in the ocean. This sets up an agenda for developing a National Blue economy policy in Tanzania, because there many more unleashed potentials across sectors of transportation, tourism, energy, industries, fisheries, etc. The article identifies five key sectors that provides opportunities for development of blue economy activities. Since blue economy is a cross-cutting issue, managing the blue economy requires the integration of cross-cutting policy implementation that should incorporate science and technology innovations, environmental protection for the equitable social well-being of the people.

5.2 Recommendations

This article recommends for policy to manage sustainable blue economy in Tanzania, which is an emerging, but remain unleashed potential for the country's socio-economic development. Since in there is a policy vacuum to develop a blue economy, an agenda for multi-sectoral blue economy policy should be considered for harnessing marine resources sustainably to meet both the national development goals as well as the Sustainable Development Goals.

REFERENCES

Bank of Tanzania. (2021). *Economic Bulletin* (Vol. XLIX No. 3, LIII[3], p. 84). Retrieved from http://www.bot.go.tz/publications/QuarterlyEconomicBulletins/QEB-SEPTEMBER2021.pdf

Bartlett, W., & Pagliarello, M. C. (2016). Agenda-setting for VET policy in the Western Balkans: Employability versus social inclusion. *European Journal of Education, 51*(3), 305–319. https://doi.org/10.1111/ejed.12182

Birkland, T. A. (2019). *An introduction to the policy process: Theories, concepts, and models of public policy making* (4th ed.). Routledge. https://doi.org/10.4324/9781315717371

CCM. (2020). *Election manifesto of Chama cha Mapinduzi for the 2020 general election*. Government Printers.

Childs, J., & Hicks, C. C. (2019). Securing the blue: Political ecologies of the blue economy in Africa. *Journal of Political Ecology, 26*(1), 324–340.

Cobb, R., Ross, J. K., & Ross, M. H. (1976). Agenda building as a comparative political process. *American Political Science Review, 70*(1), 126–138. https://doi.org/10.1017/S0003055400264034

Dekker, R., & Scholten, P. (2017). Framing the immigration policy agenda: A qualitative comparative analysis of media effects on Dutch immigration policies. *International Journal of Press/Politics, 22*(2), 202–222. https://doi.org/10.1177/1940161216688323

Dery, D. (2000). Agenda setting and problem definition. *Policy Studies, 21*(1), 37–47. https://doi.org/10.1080/014428700114008

Eikeset, A. M., Mazzarella, A. B., Davidsdottir, B., Klinger, D. H., Levin, S. A., Rovenskaya, E., & Stenseth, N. C. (2018). What is blue growth? The semantics of "sustainable development" of marine environments. *Marine Policy, 87*(4), 177–179. https://doi.org/10.1016/j.marpol.2017.10.019

Fischer, S. E., & Strandberg-Larsen, M. (2016). Power and agenda-setting in Tanzanian health policy: An analysis of stakeholder perspectives. *International Journal of Health Policy and Management, 5*(6), 355–363. https://doi.org/10.15171/ijhpm.2016.09

Harris, J. L., & Thompson, B. S. (2023). Supporting places left to the sea: A place-based research agenda for regional coastal transformations in the blue economy. *Progress in Environmental Geography, 2*(4), 266–288. https://doi.org/10.1177/27539687231212672

Heidbreder, B. (2012). Agenda setting in the states: How politics and policy needs shape gubernatorial agendas. *Politics and Policy, 40*(2), 296–319. https://doi.org/10.1111/j.1747-1346.2012.00345.x

Karani, P., Failler, P., Gilau, A. M., Ndende, M., & Diop, S. T. (2022). Africa blue economy strategies integrated in planning to achieve sustainable development at national and regional economic communities (RECs). *Journal of Sustainability Research, 4*(3), 2–34.

Keen, M., Schwarz, A.-M., & Wini-Simeon, L. (2017). Towards defining the blue economy: Practical lessons from Pacific governance. *Elsevier, 5*(88), 333–341.

Kingdon, J. W. (2010). *Agendas, alternatives, and public policies, update edition, with an epilogue on health care*. Pearson. Retrieved from http://www.amazon.co.uk/Alternatives-Policies-Epilogue-Classics-Political/dp/020500086X

Lee, K. H., Noh, J., & Khim, J. S. (2020). The blue economy and the United Nations' sustainable development goals: Challenges and opportunities. *Journal of Environment International, 137*(6), 1–6. https://doi.org/10.1016/j.envint.2020.105528

Midlen, A. (2021). What is the blue economy? A spatialised governmentality perspective. *Maritime Studies, 20*(1), 423–448. https://doi.org/10.1007/s40152-021-00240-3

Moolna, A., & Thompson, B. S. (2018). The blue economy approach for sustainability in Seychelles & East Africa. *Keele University Institute for Sustainable Futures Discussion Paper, 1*. Retrieved from https://eprints.keele.ac.uk/6513

Nagy, H., & Nene, S. (2021). Blue gold: Advancing blue economy governance in Africa. *Sustainability, 13*(13), 1–11. https://doi.org/10.3390/su13137153

Raimi, L., Kah, J. M. L., & Tariq, M. U. (2022). The discourse of blue economy definitions, measurements, and theories: Implications for strengthening academic research and industry practice. In *Implications for entrepreneurship and enterprise development in the blue economy* (pp. 1–17). IGI Global.

Rudi, S. (2023). Public policy in the concept of blue economy for anticipating disasters in Indonesia. *BIO Web of Conferences, 70*(1), 1–9. https://doi.org/10.1051/bioconf/20237004002

Smith-Godfrey, S. (2016). Defining the blue economy. *Maritime Affairs: Journal of the National Maritime Foundation of India, 12*(1), 58–64. https://doi.org/10.1080/09733159.2016.1175131

Spalding, M. J. (2016). The new blue economy: The future of sustainability. *Journal of Ocean and Coastal Economics, 2*(2), 1–21. https://doi.org/10.15351/2373-8456.1052

Thoya, P., Horigue, V., Möllmann, C., Maina, J., & Schiele, K. S. (2022). Policy gaps in the East African blue economy: Perspectives of small-scale fishers on port development in Kenya and Tanzania. *Frontiers in Marine Science, 9*(7), 1–12. https://doi.org/10.3389/fmars.2022.933111

Ulega, A. (2023). The contribution of marine fisheries to socio-economic development in Tanzania mainland: Reflections on the blue economy concept from selected coastal villages. *Journal of the Geographical Association of Tanzania, 42*(2), 1–22. https://doi.org/10.56279/jgat.v42i2.229

UNCTAD. (2014). The oceans economy: Opportunities and challenges for small island developing states. *United Nations Conference on Trade and Development*.

United Nations Economic Commission for Africa. (2018). Africa's blue economy: Opportunities and challenges to bolster sustainable development and socioeconomic transformation. ECA.

URT. (2022). *Fisheries Sector Master Plan.* Ministry of Livestock and Fisheries, Dar Es Salaam.

Wenhai, L., Cusack, C., Baker, M., & Wang, T. (2019). Successful blue economy examples with an emphasis on international perspectives. *Frontiers in Marine Science, 6*(5), 1–14.