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Assessment of the Potentials of the Blue Economy Resources for Poverty Reduction in Tanzania

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A B S T R A C T

This study assesses the potentials of the blue economy resources for poverty reduction in Tanzania. Specifically, it identifies the blue economy sector and examines how individuals and government have benefited from blue economy' industry. The study used a mixed methods approach in data collection that include interviews, questionnaire, and documentary reviews. Data analysis was done based on data collected, whereby, quantitative data analysis methods used was descriptive statistics while qualitative data were analyzed through content analysis. We find that 19% of the respondents were found involving in more than one sector of the blue economy including fisheries, coastal tourism, and transportation. The blue economy sectors were found creating employment opportunities to skilled and unskilled people, entertainment, and food. These potentials provide incomes to people who use to meet their social and economic needs, which eventually reduce poverty. Likewise, the revenue collected by the government from various sectors is used by the government to provide social services to the public such as health, education, roads, and many others, which eventually reduces poverty in Tanzania. Therefore, it is important the blue economy agenda to be sustainable in national development plans by formulating blue economy policy which will create more good working environment to create more employment opportunities to Tanzanians to increase more income at household level and have participatory economy.

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1. Introduction

The blue economy has become increasingly proposed by scholars and policy makers as a useful policy tool for conserving oceans, coasts, seas, rivers, lakes, groundwater, wetlands, floodplains, and associated water resources. Conservation of these resources has emerged as a strategy for stimulating both social and economic development, thereby integrating both environmental and economic interests (Vierros and De Fontaubert, 2017; Okafor-Yarwood, et al., 2020). The concept of the blue economy was popularized during the United Nations Conference on Sustainable Development held in Rio de Janeiro in 2012. Since then, the blue economy has received attention from researchers, Non-Government Organizations (NGOs) and sovereign nations, as important means to drive economic growth and create jobs globally at the same time reducing environmental risks (Voyer et al., 2018; Schutter and Hicks, 2019; Wenhai, et al., 2019; Okafor-Yarwood, et al., 2020).

There is no universally accepted definition of the blue economy, many agencies and organizations are working on describing how they understand the concept. The World Bank and United Nations Department of Economic and Social Affairs (2017) defines the blue economy as "a long-term strategy aimed at supporting sustainable and equitable economic growth through oceans-related sectors and activities". The United Nations Conference on Trade and Development (2014) defines blue economy as the economic and trade activities that focus on the ocean-based marine environment, associated biodiversity, ecosystems, species, and genetic resources whilst ensuring conservation. Spamer (2015) defines the blue economy as a concept that simultaneously encourage social inclusion, environmental sustainability, strengthening of maritime ecosystems, transparent governance as well as economic growth and development. The blue economy also is defined by the African Union as "sustainable economic development of oceans using such technics as regional development to integrate the use of seas and oceans, coasts,

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lakes, rivers and underground water for economic purposes, including, but without being limited to fisheries, mining, energy, aquaculture and maritime transport, while protecting the sea to improve social well-being" (AMCEN, 2019). The blue economy is linked with Sustainable Development Goal 14 which focuses on enhancing economic benefits from conserved and sustainable use of oceans, seas and marine resources for realization of social and economic development for present and future generation (Vierros and De Fontaubert, 2017; Wenhai, et al., 2019). The global ocean covers more than 72% of the earth's surface and it has become a significant driver of creating jobs, food, and recreation which have provided abundant economic, social, and cultural benefits for a large number of the world's population (Patil, et al., 2016; Keen et al., 2018; Klinger et al., 2018). Over three billion people worldwide depend on coastal and marine resources as a place to live, work and take their leisure time. The blue economy as policy tool, aims to manage and protect sustainably marine and coastal ecosystems from mismanagement as well as mitigating some of the challenges facing coastal and marine resources. As such, the blue economy fosters economic growth whilst significantly reducing environmental degradation, maintaining ecosystems, social inclusion and improving community wellbeing (Hossain et al., 2017; Vierros and De Fontaubert, 2017; Klinger et al., 2018; Hassanali, 2020).

The blue economy has gained substantial attention in emerging economies particularly in African countries, as an alternative economic approach to address poverty, by facilitating international trade via linking sellers and buyers. As such, it promotes economic growth, environmental sustainability of coastal areas and marine, social inclusion and hence improvement of livelihoods (Bari, 2017; AMCEN, 2019). The African continent is gifted with massive aquatic and marine resources including lakes, rivers, seas and oceans with potential for blue economy growth. The continent has 38 coastal states and several island states which encompass vast ocean territories of an estimated 13 million km². These water bodies provide opportunities for gas energy mobilization, offshore oil, fisheries, shipping, aquaculture, coastal tourisms and other blue economy related activities. Africa has more than 100 ports, 52 of which handle containers and transnational trade, thus maritime economy is estimated to represent some 90 % of total commerce in Africa and if effectively used could be a strong engine for economic growth and poverty reduction (AU-IBAR, 2019; AMCEN, 2019). Besides economic opportunities from blue economy, the African Union (AU) recognizes the challenges faced by its member states in utilizing benefits from the various sectors of the blue economy; particularly, the increasing danger of illegal fishing, pollution, climate change and climate variability (AU-IBAR, 2019). Reflecting these challenges the African Union established a clear vision for the continent as captured in the various pan African instruments and declaration; notably the 2050 African Integrated Maritime Strategy (AIMS); the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS), 2016 Lomé Charter and above all the Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future "Agenda 2063" (AU-IBAR, 2019; Okafor-Yarwood, et al., 2020).

Like other countries of the world, Tanzania has promoted the blue economy as an emerging concept which encourages better stewardship of blue resources. The promotion is done by highlighting close linkages between water resources, climate change and wellbeing of communities living along the ocean, lakes and greater livers as per the Sustainable Development Goal (SDG) 14 advocating for sustenance of life below the water surface. The government plans on fully utilizing available resources in the country, and exclusive economic zone via favorable business and investment models involving the private sector (Semboja, 2021; WIOMSA and UN-Habitat, 2021). Besides these interventions still poverty remain a constraint across coastal communities URT (2019); Misaki, (2022). Therefore, investigating how communities living along water resources have improved their living standards and how the government benefited from collection of taxes and fees from the blue economy resources was important. Such investigation was beneficial in learning and knowledge sharing as well as helping policy makers on where and how to improve and enjoy more opportunities for social and economic development which eventually reduces poverty. The study done by Vierros and De Fontaubert (2017) found the blue economy linked with different economic sectors including tourism, fishing, and transportation. Also, new emerging activities include seabed extractive activities, aquaculture, offshore renewable energy, marine biotechnology and bioprospecting, which all contribute to social and economic development of communities. However, economic activities linked with the blue economy varies from one country to another, depending on the specific national water related sources, national vision and plans adopted to reflect its own conception of a blue economy. Rustomjee (2018) reveals that most African countries have not yet utilized fully the blue economy, and thus the contribution of the ocean, sea and lakes resources to GDP is limited and unemployment and poverty has continued to exist in African communities living along these resources. The main factors highlighted include limited infrastructure and capacities to assure security and protection of these resources, limited capacity of law enforcement, climate change, and poor and inefficient fisheries management practices. These factors have contributed decline of fish production and stocks and have placed communities at increasing risk of coastal erosion.

Okafor-Yarwood, et al., (2020) contends that African countries that have ocean, lake and river resources have focused on economic outcomes, with limited attention on social equity and ecological sustainability. Vierros and De Fontaubert (2017) adds that blue economy contributes to inclusiveness of both skilled and unskilled people through employment from different economic sectors which are central to poverty reduction and eventually archive the Sustainable Development Goals (SDGs). Besides these promises, most of developing countries are faced by challenges like marine pollution, lack skills and resources to develop and effectively utilize water resources which limited African countries from utilizing blue economy opportunities. These studies have not focused on Tanzania context especially on how poverty is reduced through blue economy. The paper sets out to examine the potentials of blue economy resources for poverty reduction in Tanzania. Specifically, the study identified key sectors of blue economy and its linkages to social and economic development which eventually has reduced poverty among communities living along water sources and help the government to earn income which is used in development interventions which directly and indirectly reduces poverty.

2. Methodology

The study was conducted in Tanzania mainland. In this context, the study used different methods to collect and analyze data. Data were collected using both secondary and primary data methods. Secondary data collected covered Tanzania mainland and thus provided a picture of all regions where a specific water sources in specific subsector covers. For example, statistics on fishing covered lakes and oceans like Victoria, Lake Tanganyika, Indian Ocean, Lake Nyasa, and others. Secondary data were collected by using documentary review and were accessed from various Tanzania Mainland' Ministries, and other documents published and online

sources. In this context, review of multiple documents was done by identifying important documents and developing a review protocol to ensure that key information is not missed during the review. Data were triangulated by finding specific information in more than one document of information, to increase the likelihood confidence in its accuracy.

Primary data included data that were collected directly from the respondents. The study considered primary data as important in triangulation by developing a comprehensive understanding of study phenomena and compare primary and secondary data. Primary data were collected from 4 key groups of informants who included government officials responsible to fishing, transportation and tourism from the Ministry of Livestock and Fisheries, Ministry of Natural Resources and Tourism and Ministry of Works, Transport, and Communications, as well as the blue economy expert from Dar es Salaam Maritime Institute (DMI) to get technical information which could not be obtained from anyone.

In addition, according to URT (2019) in Kigamboni District there was 3294 fishermen, who operates their business in Pemba Mnazi, Kimbiji, Mjimwema Somangila, and Kigamboni wards and all beaches along Kigamboni Coastal area. Given the population of Kigamboni Wards, it was estimated that 30% of registered fishermen (988) come from Kigamboni Ward. Also, the survey found 370 business-people involved in other activities related to transportation and tourism along the ocean to raise income daily, and thus making a total of 1,358 population under the study. From this population the study sampled 10% which is equal to 135 which were sampled randomly, and data collected using questionnaire to capture type of activities they undertake and how it helps them in improving their living standard. Sharma (2021) suggests that a fair maximum sample size, as long as it doesn't exceed 1000 persons, is 10% of the population.

Since Kigamboni Municipality is the only district in the Dar es Salaam Region with more activity pertaining to the blue economy, it was chosen to represent other districts in the region. Kigamboni Ward was chosen as well because, in comparison to other Wards in the District, it is the only one with a high concentration of people engaged in Blue Economy-related activities. This cohort was crucial to the study since it provided information on how people explore local blue economy options. This information was crucial for gathering proof and comparing data gathered employing different techniques for the same element. Since Dar es Salaam is the top region in the country for revenue collection associated with the blue economy activities, particularly transportation, Dar es Salaam and Kigamboni in this context represented other regions and Districts in Tanzania Mainland that engage in blue economy activities. Based on the information gathered, both qualitative and quantitative data were analyzed in different ways. Descriptive statistics were employed in quantitative data analysis to describe the sample and identify group differences. Numbers representing frequency and percentage were used to present the data under analysis. Qualitative data were analyzed through content analysis whereby the recorded data were transcribed, categorized, coded and grouped into themes and concepts in relation to the objectives of the study.

3. Results and Discussion

The study found respondents of the study involved in major three sectors including fisheries (34%), coastal tourism (29%) and transportation (37%) refer Table 1, and some of the respondents (32) were involved in more than one sector of blue economy. This shows that the blue economy is linked from one sector to another, and every sector is opportunity to people living along the sea.

Table 1. Blue economy sectors.

Sector	Frequency	Percent (%)
Fisheries	57	34
Coastal tourism	49	29
Transportation	61	37
Total	**167**	**100**

3.1. Fisheries

Fishing is one of the major economic activities in oceans and lakes generating employment opportunities and food as nutrition for the human body. The study findings reveal that in 2021, the fisheries sector grew by 2.5% and its contribution to GDP was 1.8%. In the year 2021, the fishing industry directly employed roughly 194,804 fishermen, who caught 415,880.64 tonnes of fish valued Tshs 2.80 trillion. Due to numerous activities associated with the fisheries sector, such as building and repairing boats, patching nets, selling fish and its products, and operating restaurants, more than 4.5 million Tanzanians have been able to continue to satisfy their daily needs. Additionally, fisheries accounts for about 30% of the protein derived from animals. However, comparing the contribution of fishing to other economic activities like forestry and agriculture, it is less than other activities. According to key informants from the Ministry of Livestock and Fisheries, the government collected approximately Tshs 18,534,461,827.62 between July 1 and April 30, 2021, which is equal to 56.2% of the annual target from the Fisheries Sector and 83.3% of the target of collecting Tshs 27,500,000,000 as of April 30, 2021. The study found that these funds were gathered from export and import licences, export, and import royalties, high seas economic zone fishing licences, laboratory fees, fines for different violations of fishing rules, and other services. Among the reasons for the decline in collections includes an outbreak of COVID-19 which affected the export of fishery products to Europe, strengthening of the domestic fish market whose tariffs are levied by the Council, and the continued existence of illegal export of fishery goods.

On the otherhand, Daniel et al., (2023) reported that, contrary to other East African nations like Uganda, where people had fishing quotas restricted and fewer fishermen on the boat, which resulted in a decline in the volume of fish captured, COVID-19 had no adverse effects on the fishery industry in Tanzania. Fishing continued to be a major source of income for many individuals as they abandoned off other activities like agriculture. The study also confirms that a large number of people have been employed in the fishing industry as well as in related fields like the production of fishing gear like nets, ropes, hooks and furs, fishing vessels, drying storage, packaging, sale and transportation. Both skilled and unskilled workers can find employment in these pursuits in a significant amount. The fishing industry and its value chain offer a variety of business options. In this sector of the economy, some people own fishing vessels and use them for fishing, while others lend them out and receive reimbursement from those who use them based on agreements. Moreover, for the purpose of earning money, some people run fish purchasing and selling businesses.

Even though the fishing sector attracts many people to leave agriculture, the sustainability of the fishing business is in doubt due to the use of destructive fishing techniques like dynamite fishing, overfishing, and drag nets that destroy fish habitats and subsequently result in the depletion of fish stocks, having a detrimental effect on both the environment and the

livelihoods of those who depend on fishing. However, the study revealed that the government has strengthened measures to safeguard the sustainability of fishing operations, including educating those who participate in fishing operations, restricting, and outlawing disruptive fishing and processing techniques, as well as involving every stakeholder in the prevention and oversight of protection measures implemented in the fisheries sector.

3.2. Transportation

The study found that the transportation industry is another area of the blue economy. It is a well-established sector that incorporates ocean shipping, and it has been found that most of the cargo coming from Tanzania is shipped by sea. Additionally, Tanzanian islanders rely heavily on maritime transit. Tanzanian ports offer services to nations like Zambia, Burundi, Uganda, Rwanda, Malawi, and the Democratic Republic of the Congo. A total of 16.2 million tonnes of cargo went through or were used by coastal ports, according to NBS (2018). The study's findings indicate that Marine Services Company Limited (MSCL), which has continued to provide passenger transport services as well as cargo in the big lakes of Tanganyika, Victoria, and Nyasa, is the primary provider of inland waterway transportation in Tanzania. The study found for the period of July, 2021 to April, 2022, the Company shipped a total of 242,107 passengers compared to 230,149 passengers transported in a similar period in 2020/21, which is an increase of 5.2%. In the period of July, 2021 to April, 2022, the Company shipped a total of 20,484.67 tons of cargo compared to 15,965.32 tons transported in 2020/21, which is an increase of 28.3%. The MSCL has continued to implement different projects, for example building MV Mwanza (Hapa Kazi Tu) with capacity of carrying 1,200 passengers and 400 tons of cargo in Lake Victoria that reached 66% of completion in April, 2022. In addition, the study findings show that Tanzania Ports Authority (TPA) has continued to manage both IWW and seaports. According to URT (2021) between July, 2021 to April, 2022, TPA served a shipment of 11.3 million tons and collected revenue of Tshs billion 888.9 compared to shipment of 10 million tons and collected Tshs billion 751.2 in the same period of 2020/21, which is an increase of 18.3%. In addition, 162,340 vehicles were unloaded at the Port of Dar es Salaam compared to 119,854 vehicles unloaded in the same period of 2020/21, which is an increase of 35.5%. A key informant from DMI who was interviewed disclosed that there are career opportunities in the transportation sector, one of which is seafaring. International standards offered by the International Maritime Organization (IMO) serve as a guide for seafaring education and training. This professional, among others, exemplifies one of Tanzania's crucial employment opportunities that raises living standards and generates income for the nation's economy. Ship inspection, which takes place out when vessels enter ports and when they are built, registration of vessels, and maintenance of vessels are other employment opportunities discovered. Another opportunity is the Maritime education and training provided by DMI, which aids people in finding employment and raising their level of living. The survey also revealed that engineers for ships have work potential in shipbuilding and ship maintenance, and that naval architects can participate in a wide range of activities, from sketching through construction to ship entry into the water. Furthermore, a crucial informant interview revealed that Tanzanians can obtain employment at ports. This comprises ports on the Indian Ocean at Dar es Salaam, Mtwara, Tanga, and Malindi as well as ports in Lake Victoria, Lake Tanganyika, and Lake Nyasa. Small ports including Mkokotoni, Mkoani, Wete, and Wesha are also prominent. Cargo that is moved into and out of the country has been brought in and sent out through these ports. These ports provide a range of opportunities that can be exploited to provide employment for both trained and unskilled individuals. Thus, based on the opportunities existing, the government develops plans to expand ports in the country, buying and repairing vessels for transportation of cargo and passengers. All the commercial and social activities present in these ports have increased employment opportunities and offerings of services, both of which have boosted the economy.

3.3 Tourism

The investigation discovered swimming and beach sunbathing, spotting sea life and fish, boat racing, and other tourism activities are all related to lakes and oceans. In coastal areas, going to the beach is one of the most popular ways to relax, and it has helped many business owners by creating jobs and earning cash. Other tourists visit islands and beaches and travel by sea, particularly from Dar es Salaam to Zanzibar, Mafia, Kilwa, Tanga, and Bagamoyo, which has given Tanzanians many business opportunities. Restaurants, banking services, education, and other economic opportunities are all connected to tourism. It was discovered that lake and ocean tourism offer job opportunities in a variety of industries, including hotels and restaurants. Tanzania is experiencing an increase in beach-related tourism, which is popular because visiting beaches is simple and cost-free. Both people inside and outside of Tanzania employ this kind of tourism. As a result, restaurants and hotels near beaches and islands are frequently chosen above others due to their superior air quality, which in turn generates employment opportunities. Marine and lake activities, which comprise boats, motorcycles, and buoys placed next to hotels and restaurants as tourist attractions, are another career option. Youth can earn money by doing these sports, thereby providing them with employment. The results of this study are in line with earlier studies by Vierros and De Fontaubert (2017), Rustomjee (2018), and Okafor-Yarwood, et al. (2020), which discovered connections between the blue economy and several industries, such as tourism, fishing, and transportation. According to the study, agriculture was the primary economic activity for the majority of respondents who are engaged in the blue economy. A blue economy has replaced agriculture as the primary source of income. They said that their move was motivated by the fact that they discovered more opportunities in blue economy industries. This demonstrates that expanding blue economy industries can draw young people and help with the unemployment problem because young people favour activities that can bring in money quickly. This suggests the necessity for a blue economy policy that will tackle various concerns, such as young employment, through the blue economy. The results also show that opportunities in the blue economy have not been fully taken advantage of because of various issues, which the government has begun to address to ensure that its contribution to GDP is growing, address employment issues, and lessen poverty for those involved in the blue economy. Additionally, the blue economy is interconnected with all national ministries, but for a very long time, this connection has been lacking, which has hindered the blue economy's ability to contribute to local communities and the country. All ministries should collaborate to uncover potentials and connect them to people living beside lakes and oceans if policy makers, researchers, and development stakeholders consider the blue economy agenda may change people's lives and help reduce poverty. For instance, the ministry of agriculture could educate the public on how to manage agricultural activities near lakes and coastlines.

4. Conclusion

Blue economy activities in Tanzania have been scattered in different sectors such as tourism, fishing, and transportation. These sectors are important to communication and business growth at national and international level and employment creation. Development of science and technology has expanded the scope of development through the ocean and lakes. The blue economy has contributed to national income and benefits the economy of individuals in sectors linked with the blue economy through employment creation, food and happiness obtained from tourism, which eventually reduces their poverty. The income generated by national is used by the government in providing social services to Tanzanians; these include education, health services, infrastructures and others which reduce poverty and contribute to the implementation of agenda 2063 the Africa we want as well as Sustainable Development Goals (SDGs). Therefore, it is important the blue economy agenda to be sustainable in national development plans to create more employment opportunities all Tanzanians to increase income at household level and have participatory economy.

Based on the study findings, the government should put more control measures and provide education to people especially living along water resources on water conservation and good fisheries management practices. The blue economy agenda is inevitable, it need to be strengthened to stimulate economic growth, especially to women and youth living along the oceans and lakes, this can be considered in blue economy policy. The blue economy concept is not clear to people, this shows a need for more research studies and awareness creation campaigns among people living along water sources. The concept of the blue economy needs its policy as well as more clarification, communication, and publication. Likewise, situation analysis needs to be done to identify and assess all activities related to blue economy, challenges, blue economy stakeholders, and recommend how the blue economy can be strengthened to contribute to social and economic development. This analysis will help to come up with the blue economy policy which addresses all issues of the blue economy.

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References

AMCEN (2019). Advancing the sustainable blue (ocean-based) economy in Africa. African Ministerial Conference on the Environment, Durban, South Africa, 14 and 15 November 2019.

AU-IBAR. (2019). Africa Blue Economy Strategy. Nairobi, Kenya.

Bari, A. (2017). Our oceans and the blue economy: Opportunities and challenges. Procedia Engineering, 194, 5-11.

Daniel, L. Mbilingi, B. Mutambala, M. and Arayo, E (2021). COVID-19 impact on the East African fisheries sector. http://southernvoice.org/covid-19-impact-on-the-east-african-fisheries-sector/.

Hassanali, K. (2020). CARICOM and the blue economy–Multiple understandings and their implications for global engagement. Marine Policy, 120, 104137.

Hossain, M. S., Chowdhury, S. R., & Sharifuzzaman, S. M. (2017). Blue Economic Development in Bangladesh: A policy guide for marine fisheries and aquaculture. Institute of Marine Sciences and Fisheries, University of Chittagong, Bangladesh.

Keen, M. R., Schwarz, A. M., & Wini-Simeon, L. (2018). Towards defining the Blue Economy: Practical lessons from Pacific Ocean governance. Marine Policy, 88, 333-341.

Misaki, E. (2022). The Attainment of the Blue Economy in Tanzania: Opportunities and Gaps to Bridge. College of Business Education, Dar es Salaam.

Okafor-Yarwood, I., Kadagi, N. I., Miranda, N. A., Uku, J., Elegbede, I. O., & Adewumi, I. J. (2020). The blue economy–cultural livelihood–ecosystem conservation triangle: The African experience. Frontiers in Marine Science, 7, 586.

Patil, P. G., Virdin, J., Diez, S. M., Roberts, J., & Singh, A. (2016). Toward a blue economy: a promise for sustainable growth in the Caribbean. World Bank.

Rustomjee, C. (2018). Green Shoots for the African Blue Economy?. Centre for International Governance Innovation.

Schutter, M. S., & Hicks, C. C. (2019). Networking the Blue Economy in Seychelles: pioneers, resistance, and the power of influence. Journal of Political Ecology, 26(1), 425-447.

Semboja, J. (2021). Realizing the Blue Economy in Zanzibar: Potentials, Opportunities, and Challenges. UONGOZI Institute.

Sharma (2021). Easy way to determine the sample size. Academic Research Foundation, Allahabad.

Smith-Godfrey, S. (2016). Defining the blue economy. Maritime affairs: Journal of the national maritime foundation of India, 12(1), 58-64.

Spamer, J. (2015). Riding the African blue economy wave: A South African perspective. In 2015 4th International Conference on Advanced Logistics and Transport (ICALT) (pp. 59-64). IEEE.

The World Bank United Nations Department of Economic Social Affairs (2017). The Potential of the Blue Economy: Increasing Long-Term Benefits of the Sustainable Use of Marine Resources for Small Islands Developing States and Coastal Least Developed Countries. Washington D.C

United Republic of Tanzania (2021). Ministry of Livestock and Fisheries Budget Speech 2020/2021.

United Republic of Tanzania (2021). Ministry of Works and Transport Budget Speech 2020/2021.

URT (2019). Benefits and Challenges of Transboundary Water Cooperation for Tanzania. Ministry of Water. Dar es Salaam Government Printers.

URT (2019). Kigamboni Municipal Council Socio Economic Profile 2019. National Bureau of Statistics, and Kigamboni Municipal Council. Dar es Salaam Government Printers.

Vierros, M., & De Fontaubert, C. (2017). The potential of the blue economy: increasing long-term benefits of the sustainable use of marine resources for small island developing states and coastal least developed countries (No. 115545, pp. 1-50). The World Bank.

Voyer, M., Quirk, G., McIlgorm, A., & Azmi, K. (2018). Shades of blue: what do competing interpretations of the Blue Economy mean for oceans governance? Journal of environmental policy & planning, 20(5), 595-616.

Wenhai, L., Cusack, C., Baker, M., Tao, W., Mingbao, C., Paige, K., ... & Yue, Y. (2019). Successful blue economy examples with an emphasis on international perspectives. Frontiers in Marine Science, 6, 261.

WIOMSA and UN-Habitat (2021). Coastal Cities of the Western Indian Ocean Region and the Blue Economy: City Case Study - Dar es Salaam. WIOMSA and UN-Habitat, Zanzibar, Tanzania.

World Bank and United Nations Department of Economic and Social Affairs. (2017). The Potential of the Blue Economy: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island

Developing States and Coastal Least Developed Countries. World Bank, Washington DC.