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Seeking the opportunities and Challenges of Blue Economy Sustainable Development: A study of Dar es salaam coastal area Tanzania

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Abstract

A sustainable ocean economy is achieved by improving economic, environmental and social performance. Unfortunately, Tanzania's Marine and costal ecosystem are threatened by overfishing, mangroves and coral reefs and marine debris degradation. Thus, this research analyses the blue ocean business model in coastal areas of Dar es Salaam Tanzania.

Key findings from the case studies in this report include the importance of establishing a trusted and diversified knowledge base, complimented with resources which help inspire and support innovation; as well as the importance of developing an engaged process of stakeholder consultation and co-creation of a vision for a Blue Economy.

Keywords: - Blue economy, Coastal Tourism, Sustainable development, Maritime Transport.

1. Introduction

1.1 Background of the study

Tanzania has a total land area covering about 947,300sqkm with a coastline of about 1,424km long and a 200nm Exclusive Economic zone (EEZ) totalling an area of 241,888sqkm. The country is bordered by some of Africa's largest lakes including Lake Tanganyika, Lake Victoria and Lake Nyasa.

The Rufiji River is the largest in Tanzania, draining most of the southern part of the country. Formed by confluence of the Kilombero and the Luwengu rivers it flowa for about 175miles northeast and east to enter the Indian ocean. Its major tributary is the Great Ruaha (MC Screeney et al 2018).

Blue economy is a very recent concept and its comprehension has grown and gained emphasis in this century, especially in the last decade, with the also growing movement of environmental protection towards climate emergency (Kathyotes & Sekhniashvili, 2017).

A generally accepted concept of blue economy remains vague and inconsistently used across literature (Keen, Shwarz, &Win Simeon,2018. Some challenges emerge as the delineation of the geographical boundaries of blue economy that falls on the need for a clear characterization of blue resources and the bonding of the different definitions of blue economy towards a common objective (Voyer, Quirk, Mcllgorm, & Azmi,2018).

However, a very generic understanding of it may be brought by World Bank as comprising the range of economic sectors and related policies that together determine whether the use of oceanic resources is sustainable (World Bank & UNDESA 2017, P.6).

In fact, sustainability and preservation of Maritime resources is a concern of blue economy. Moreover, this discipline cares about social and economic development of societies in the long-term prospect, through a pragmatic and political approach, differentiating it from maritime and ocean economies perspectives (Kathijotes &Sekhniashvili, 2017).

Humanity relationship with the ocean and how people use and exploit their resources is evolving in important ways. While the Oceans are increasing becoming a source of food energy and products such as medicines and supplements there is also now a better understanding of the non –market goods and services that the ocean provide which are vital for life on earth. People also understand that the ocean are not limitless and that they are suffering from increasing and often cumulative human impacts. Oceans that are not healthy and resilient are not able to support economic growth.

The matter that oceans and seas matter for sustainable development is undeniable. Oceans and Seas cover two-thirds of Earth's surface, contribute to poverty eradication by creating sustainable livelihoods, and decent work, provide food and minerals, generate oxygen, absorbs greenhouse gases and mitigate the impacts of climate change, determine weather patterns and temperatures and save as highways for seaborne international trade. With an estimated 80 per cent of the volume of world trade carried by sea international shipping and port provide crucial linkages in global supply chains and are essential for the ability of all countries to gain access to global market (UNACTAD,2016).

Maritime resource composes a very important part of society's daily-basis from household to firms, from private to public agents, that need to be managed carefully in the scope of sustainability limits (European Commission,2019).

Nowadays oceanic resources exploitation incorporates a set of traditional economic activities like fishing aquaculture, tourism, mobility. but also, innovation and development sectors such as energy production, biodiversity research and marine biotechnology.

The management of not only assets related to the sea, but with the coast brings a new additional concern in consequence of its intense exploitation and abuse in the last decades of increasing industrialization, consumerism and pollution. This leads to the need of creation of protection, maintenance and regulation activities at a much larger level than ever before for which blue economy brings practical answers (Fredrigo-Fazio & Brink,2012).

With these resources available, Tanzania has a vast potential for growth under the blue economy as just five mainland coastal regions such as Dar es Salaam, Pwani, Tanga, Lindi and Mtwara contribute about one third of the National Gross Domestic Product (GDP) and 75% of the Tanzania industries are in urban coastal areas.

Economic activities in the coastal areas of Tanzania including coastal tourism, mariculture development and natural gas exploration are increasing becoming important in promoting national economic developments. There is also substantial potential for agriculture, offshore fisheries, shipping, urban development, small scale mining and manufacturing (Akwilapo,2016).

According to the World Bank the blue economy is the sustainable use of ocean resources for economic growth, improved livelihoods and jobs while preserving the heath of the ocean ecosystem''

The potentials of the marine and coastal environments in Tanzania does not only rely on fisheries but also on other sectors such as Maritime transport, Coastal tourism, Natural gas and Mariculture. For instance, fisheries sector contributes 3.5% of Zanzibar GDP and provides substantial employment, income and livelihoods, foreign earnings and revenue of the country. This industry directly employs more than 200,000 peoples while more than 2,000,000 peoples benefits from the sector.

Therefore, blue economy should not be seen as a way of preserving ecosystem but a way of starting sustainable business because it can transform Tanzania into a higher status economy.

1.2 Statement of the problem

Maritime industry is one of the very fast-growing sectors in Tanzania, however it is considered to impact blue economy significantly. The United Nations Development Programme has observed that as far as exploitation of the blue resources is concerned, the East African region faces challenges of illegal and unregulated fishing, piracy, armed robbery, Mari time terrorism, Illicit trade in crude oil, arms, drugs and human trafficking and smuggling of contraband goods, degradation of marine ecosystem through discharge of oil, the damping of toxic waste, illegal sand harvesting and the destruction of coral reefs and costal forest.

Tanzania also suffers from fragmented management of the coastal zone, lack of capacity and technical know-how, lack of capital, minimal participation by citizens, incoherent benefit sharing regime and biodiversity loss amongst others (UNDP2018)

This study intends to give the insights of what drags behind every effort that promotes maritime activities and propose best ways to solve existing challenges while observing sustainability of the economy.

2. Brief Literature Review

2.1 Established and Emerging industries under the Blue Economy

The projections suggest that between 2010 and 2030 on a business-as-usual scenario basis, the Blue Economy could move than double its contribution to global value added, reaching over USD 3trilion.Particularly strong growth is expected in marine aquaculture, offshore wind energy, ship building and repairs, port activities and seafood processing (Professor Attri,2016)

The following ocean-based industries have been identified

Established	Emerging
Capture Fisheries	Marine aquaculture
Sea food Processing	Deep-and-ultra-deep-water oil and gas
Shipping	Offshore wind energy
Ports	Ocean renewable energy
Ship building and Repair	Marine and Seabed mining
Offshore Oil and gas (shallow water)	Maritime Safety and Surveillance
Marine Manufacturing and Construction	Marine biotechnology

Maritime and coastal Tourism	High technology marine products and services
Marine Business Services	Others
Marine R&D and education	
Dragging	

Source: OECD (2016) The ocean economy in 2030

2.2 Empirical review within Africa

The blue economy in Africa is neglected, ignored or under exploited, but it can offer a range of African solution to African economic problems. More than one-quarter of African population lives within 100km of the coast and derive their livelihoods there. According to the International Energy Agency (IEA) by 2025 the annual economic value of energy activities related to maritime affairs will reach EUR 2-5-3.0bn

Out of the 54 African countries,34 are coastal countries and over 90% of African exports and imports are transported by sea. The territorial waters under African jurisdiction cover a surface area of 13millionsqkm with a continental shelf of some 6.5millionsqkm comprising of exclusive economic zone (EEZ). The continent covers 17% of the world's surface water resources.

The strategic dimensions of the blue economy is an indisputable reality for African countries. It is for this reason that it has been included in the Africa Union's Agenda 2063 and that a practical handbook on the Blue Economy was prepared by the United Nations Economic Commission for Africa in March 2016.

3. Challenges Facing the Blue Economy

The potential to grow the blue economy is limited by a series of challenges. For much of human history, aquatic ecosystems have been viewed and treated as limitless resources and largely cost-free repositories of waste. These resources, however, are far from limitless and we are increasingly seeing the impacts of this approach. The narrow coastal interface is oversubscribed by myriad sectors, and increasingly impacted by climate change. Rising demand, ineffective governance institutions, inadequate economic incentives, technological advances and insufficient management tools have led to inefficiently regulated or unregulated competition among users.

This in turn has resulted in excessive use, and in some cases irreversible change, of valuable aquatic resources and coastal areas. In this increasingly competitive space, the interests of those most dependent and vulnerable (for example small scale artisanal fishers) are often marginalized. Most significant human impacts have been from: Overfishing as a result of technological improvements coupled with poorly managed access• to fish stocks and rising demand. The FAO estimates that approximately 57 percent of fish stocks are fully exploited and another 30 percent are over-exploited, depleted or recovering. Fish stocks are further exploited by illegal, unreported and unregulated fishing, responsible for roughly 11 to 26 million tons of fish catches annually, or US$10-22 billion in unlawful or undocumented revenue.

Habitat degradation due largely to coastal development, deforestation, mining, and unsustainable fishing practices as well as pollution, in the form of excess nutrients from

untreated sewerage, agricultural run-off and marine debris such as plastics. Coastal erosion also destroys infrastructure and livelihoods.

Climate change related phenomena both slow onset events like sea level rise and more intense and frequent weather events. Long term climate change impact on ocean systems is fraught with uncertainty, but it is clear that changes in sea temperature, acidity, and major oceanic currents, among others, threaten marine life and habitats. Unfair trade: Exclusive Economic Zones (EEZ), zones in which a state has special rights over exploration and use of marine resources, are crucial to the economies of island states, and often dwarf their corresponding land mass and government's administrative capacity. (In Tuvalu, for instance, the size of the EEZ is more than 26,000 times that of the land mass.) Moreover, much of the value from international seafood trade does not remain in developing countries of origin, let alone in fishing communities.

Ad hoc development: Unplanned and unregulated development in the narrow coastal interface and near shore areas have led to significant externalities between sectors, 4 suboptimal siting of infrastructure, overlapping uses of land and marine areas, marginalization of poor communities, and loss or degradation of critical habitats.

Despite a range of actors and large investments, current attempts to overcome these challenges have mostly been piecemeal, with no comprehensive strategy (for example fisheries governance; improving ports; marine litter efforts).

Even when one sectoral policy achieves some success, these results are often undermined by externalities from activities in another sector. Often, for example, coastal zone management efforts, or support to coastal fishers, are undermined by unbridled sand mining, ill-sited ports or aquaculture farms or unregulated tourism development. In coastal zones, declines in mangrove forest habitat resulting from wood harvest, sea level rise, and changes in sediment and pollutant loading from river basins combined with land reclamation for agriculture or infrastructure negatively impact fisheries by reducing or degrading spawning and feeding habitats. Loss of mangrove forests, for example, threatens profits from seafood harvests exceeding US$4 billion per year. In Belize, mangrove-rich areas produce an average of 71 percent more fish biomass than areas with few mangroves. How can we overcome these challenges effectively, and at scale?

A more systematic approach, based on a better understanding of nationally defined priorities, social context and resource base, can guide sustainable and inclusive blue growth. Countries increasingly recognize that they need more knowledge about the biophysical characteristics, carrying capacity, synergies or trade-offs between sectors to ensure an efficient and sustainable management of different activities. Marine and coastal spatial planning and integrated maritime surveillance are needed to give authorities, businesses and communities a better picture of what is happening in this unique space.

Digital mapping of maritime and coastal space and natural assets can form the basis for cross-sector analysis and planning in order to prevent conflicts and avoid externalities. Similarly, the growing science of data-limited stock assessments can provide critical information needed for improved fisheries management. In places such as South Africa and Indonesia, mobile technology is being tested to gather previously unavailable data, for example on fishery landings and fish stock health.

Integrated coastal zone management can enhance the protection of coastal and near shore resources while increasing the efficiency of their uses. Coastal zones are among the most productive areas in the world, offering a wide variety of valuable habitats and ecosystems services that have always attracted humans and human activities. Coastal zones are also among the areas most vulnerable to climate change and natural hazards. Risks include flooding, erosion, sea level rise as well as extreme weather events. These impacts are far reaching and are already changing the lives and livelihoods of coastal communities. Unlike sectorial approaches that can lead to disconnected decisions, inefficient resource use and missed opportunities, integrated coastal zone management (ICZM) seeks to coordinate the application of different policies affecting the coastal zone and maritime activities. ICZM is an iterative process which includes a variety of approaches, from mapping, delineation and demarcation of the hazard lines and coastal sediment cells, to building the capacity of agencies, institutions and communities to make informed decisions about growing the blue economy within the carrying capacity of its living natural resource base. Growing the blue economy requires assessing the value of marine resources. Not only are marine living resources poorly measured and understood, they are also rarely valued properly. In Mauritania, for instance, a study showed that the value of fisheries and other renewable marine resources was much greater than that of the minerals upon which the Government had previously based most of its marine resource management decisions. Understanding that in comparison with mineral resources, marine living resources are; a) of much higher total value, and b) renewable, the Government adopted an alternative approach to development based on realizing the long-term potential for blue growth.

New data can also sway decision-makers. Well managed, the goods and services produced from aquatic ecosystems could make a much greater contribution to reducing poverty, building resilient communities, fostering strong economies and feeding over 9 billion people by 2050. For example, the World Bank's 2016 Sunken Billions Revisited study shows that fisheries properly managed, with a significant reduction in overfishing, could provide an additional US$83 billion to the global economy each year. That amount represents about two-thirds of official development assistance in 2012 and almost 30 times the annual net benefits currently accruing to the fisheries sector.

4. Opportunities in Investing and Change the Blue Economy

Armed with data and political goodwill, countries have different options to tap into the growth potential of the blue economy. The World Bank sees four key entry points for creating comprehensive change: investments in governance, technology, markets, and finance.

Investing in improved governance will create a pipeline of investable opportunities to grow the blue economy in a way that benefits national economies and local communities, while protecting resources for future growth.

Effective governance is an essential condition to promote sustainable management of aquatic resources and environment, and ensuring biodiversity and ecosystem resilience, which in turn contribute to building community resilience against various shocks, including climate change.

Effective governance will also help create an enabling environment for responsible private sector investments throughout the value chain by reducing risks and providing incentives for innovation. Finally, effective governance will enhance the contribution of fisheries, aquaculture

and mariculture to the macro-economy, which will help improve the visibility of the sector and consequently resource allocation. Governance enhancements should include a focus on including and empowering local communities. Analysis and results of fisheries rebuilding efforts around the world have demonstrated that when local communities and fishers have a voice in setting policy and management guidelines, these rules are much more likely to be followed and create lasting change. Empowering local communities also means clarifying tenure and resource access privileges, but in order to be effective, these must be accompanied with the capacity and resources to take advantage of these clear rights.

The use of science, data and technology is critical to underpin governance reforms and shape management decisions.

Without credible information on the state of the resource in a given fishery, and how quickly a population can be expected to grow and recover, it is impossible to design effective and defensible fisheries conservation and management measures. Similarly, for aquaculture to be sustainable, its environmental impacts must be measured, understood and limited. Without data, it is impossible to discern the impact of any management changes. This basic knowledge about the status and potential for recovery of a fishery or the sustainable expansion of aquaculture is essential for decision-making and to facilitate private investment.

Improving market infrastructure and access can create more sustainable outcomes that benefit the poor.

Building on market demand for sustainable seafood can create incentives for good practices and drive new investment opportunities related to sustainably managed fisheries and aquaculture. Buyer demand for sustainable seafood in Western Europe and North America has driven substantial change in large fisheries that supply these markets. There is ample opportunity to use this same market demand to drive a shift towards best practices in developing world fisheries. This also helps reduce the risk, real and perceived, of investing in fisheries and aquaculture. Another critical step is to coordinate among investors, public funding agencies, and philanthropic donors to develop new deal structures that sequence or layer investments so that those with greater risk tolerance can begin to engage with fisheries.

With improved governance and incentives that align natural capital with investment capital, responsible finance can secure returns and contribute significantly to building the blue economy.

To date, the transition to more sustainable fisheries has been largely funded by development agencies and philanthropic sources of money. However, these types of capital alone cannot support the rate and scale of fisheries reform that is required on a global level. A growing number of investors are looking for opportunities that support positive social and environmental impacts. Good governance, including sustainable harvest levels, secure tenure, and robust monitoring and enforcement are required to reduce risk and encourage the development of bankable investments.

5. Conclusions and Recommendation

Blue Economy is increasingly being proposed by scholars and policy makers as a blueprint for promoting economic development aimed at GDP growth, poverty reduction (income and employment) and a concept for conserving the world's ocean and the inherent resources.

Oceans hold vast economic development potential, but they are also fundamental to maintaining human life on this planet. Fortunately for us, economic growth does not require environmental degradation. In fact, protecting fully functioning marine ecosystems may be the smartest investment of capital that we as a society can make. The way forward is an economic development of the oceans that is both comprehensive and environmentally stable ought to be undertaken in a way that does not drain the natural resources that societies including local communities rely upon in the long term. To balance the economic, social and environmental dimensions of sustainable development in relation to oceans are the driving considerations behind blue economy. To sum up, the potentials for the Tanzania to succeed in blue economy are boundless but to achieve long-term sustainable prosperity needs political commitments, plenty of researches, societal awareness

References

1) UNDESA, (2018) World Urbanization Prospects 2018.
2) UN Department of Economic and Social Affairs. Retrieved from: https://population.un.org/wup
3) Dar es Salaam and Central Coast Sea Ports (2020). Retrieved from: https://www.ports.go.tz/index.php/en/ports/ports 3. World Bank. (2017)
4) Baker, J. L. (Ed.). (2012). Climate change, disaster risk, and the urban poor: cities building resilience for a changing world.
5) Towards Growth of Blue Economy in Zanzibar, Potentials and Challenges
6) The New blue economy: The future of Sustainability
7) Realizing the Blue Economy in Zanzibar, Potentials, Opportunities and Challenges
8) Overview/Miles stones of Blue Economy in Tanzania towards implementation of SDG14
9) Assessing the value of Blue Economy in employment creation in Tanzania the case of Dar es Salaam Port
10) Harnessing the potentials of the blue economy for Kenyan's Sustainable development
11) Coastal cities of the Western Indian Ocean Region and the Blue economy city case study Dar es Salaam
12) Blue economy sharing success stories to inspire change
13) Zanzibar Blue Economy Policy October 2020
14) Financing the blue economy for sustainable development
15) Growing the blue economy to combat poverty and accelerate prosperity
16) The blue economy-cultural livelihood-ecosystem conservation triangle: The African experience
17) Ministry of Agriculture, Livestock and Fisheries (2016). The Tanzanian Fisheries Sector: Challenges and Opportunities. Retrieved from: https://www.wiomsa.org/download/the-tanzanian-fisheries-sectorschallenges-and-opportunities/
18) World Bank (2017). Dar es Salaam Maritime Gateway Project: Fact Sheet. Retrieved from: https://www.worldbank.org/en/country/tanzania/brief/dar-es-salaam-maritime-gateway-project-fact-sheet
19) World Bank. Port Development and Competition in East and Southern Africa, p. 128. Retrieved from https://openknowledge.worldbank.org

20) World Bank (2017). New Financing to Improve Efficiency and Improve Capacity at Port of Dar es Salaam. Retrieved from: https://www.worldbank.org/en/news/press-release/2017/07/02/new-financing-to-improve-efficiency-and-improve-capacity-at-port-of-dar-es-salaam . 32.
21) The World Bank (2017). Dar es Salaam Maritime Gateway Project: Fact Sheet. Retrieved from: https://www.worldbank.org/en/country/tanzania/brief/dar-es-salaam-maritime-gateway-project-fact-sheet 33.
22) The World Bank (2017). Dar es Salaam Maritime Gateway Project: Fact Sheet. Retrieved from: https://www.worldbank.org/en/country/tanzania/brief/dar-es-salaam-maritime-gateway-project-fact-sheet 34.
23) World Bank. Port Development and Competition in East and Southern Africa, p. 107. Retrieved from https://openknowledge.worldbank.org/