

Aquaculture and Maritime Tourism: Contribution Blue Economy Driving Social-Economic Development in Mainland Tanzania and Zanzibar

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ABSTRACT

The concept blue economy is on the rise in developing countries economies recent and has caught attention for a lot of nation's leaders. Most of the developing countries are trying their level best ensure the resource in this sectors are well utilized. This research paper aimed to research on the two dimensions in under the umbrella of blue economy that if well utilized may contribute to the success and sustainability in ocean economy. The research objectively focused on aquaculture and maritime tourism as contributors to the success of blue economy as related to social and economic development of Mainland Tanzania and Zanzibar in the United Republic of Tanzania. The study used cross-sectional survey and employed descriptive analysis. The study employed purposely sampling procedures and data were collected from experts in aquaculture, maritime tourism and ocean economy governance. The sample size was 200 participants calculated using Cochran formula of unknown population, the results indicated that aquaculture activities and maritime tourism if well utilized may contribute to social and economic development. Aquaculture and maritime tourism emerges as crucial drivers for a thriving blue economy in Tanzania, contributing to economic growth, environmental conservation, poverty reduction, and social development. In the idea to harnessing the potential of these sectors (Aquaculture and maritime tourism), while ensuring sustainability measures are in place holds the key to achieving a vibrant blue economy that benefits both present and future generations, for the communities leaving on coastal areas and as a nation at large. As this study delved into the dynamics of aquaculture and maritime tourism within Tanzania's blue economy, it provides valuable insights into the multifaceted interplay of the sectors. This study on aquaculture and maritime tourism in Tanzania's blue economy yields valuable insights; it is providing a foundation for informed decision-making and sustainable development for the nations. There are recommendations to policy makers, to the governments and responsible ministries. In collective consideration to these recommendations, the stakeholders can actively contribute to the establishment of a thriving and sustainability of the blue economy in Tanzania

Keywords: Blue Economy, Aquaculture, Maritime Tourism, Tanzania and Zanzibar

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INTRODUCTION

The concept of the blue economy, denoting the sustainable utilization of ocean resources for community or national development, intertwines two mutually reinforcing developmental dimensions. The first of the two dimensions focuses on enhancing the sustainability of the ocean resources, which involves initiatives like protecting, restoring, and maintaining the diversity, the productivity, and resilience of ocean ecosystems (World Bank, 2017). This illustrates that adopting the sustainable practices for utilization ocean resources, integrating safe methods, renewable energy, and circular materials flow to minimize waste and encourage recycling (IUCN, IMO, FAO, UNDP, UNEP, GRID-Arendal, 2012). On the same instances, the blue economy emphasizes amplifying economic and social benefits by building enhanced economic and social opportunities for the coastal communities, ensuring equitable distribution across societal strata and generations. The interdependence of the two dimensions necessitates their simultaneous and comprehensive implementation in fully realizing their potential benefits (World Bank, 2017), marking a paradigm shift from medieval perspectives that viewed the ocean simply as a resource for free extraction and waste disposal. The blue economy integrates ocean values and the services into resource management, that aim to improve livelihoods while safeguarding ocean resources (UNEP et al., 2012). In alignment with the UN 2030 Agenda for Sustainable Development, the blue economy emerges as an essential component of this global initiative, emphasizing the greening of coastal and marine resources (UNEP et al., 2012; World Bank, 2017).

Furthermore, as comprising a diverse array of established and emerging sectors, the blue economy positioned as a pivotal driver of development, recognized for its social, economic, and environmental impact (UNECA, 2020). Focusing in African coastal regions, the blue economy plays a crucial role, it serves as a primary source for energy, food, cosmetics, minerals, medicines, and supporting industries like tourism, transport, and recreation (Familoni, 2015). According to UNECA, (2020), more than 90% of Africa's exports and imports conducted by ocean, the continent's aquatic and marine spaces hold a lot of potential, emerging as a central theme in political discourse and recognizing their contribution to inclusive and sustainable development.

Africa's rich aquatic and marine resources, largely untapped until now, present an opportunity for a sustainable blue development paradigm, challenging illegal practices and environmental degradation (FAO, 2014b; Hunt and Vicent, 2016). If effectively managed, Africa's blue

economy can significantly contribute to the continent's wealth and economic prosperity (Maggs et al., 2013; Mahanta, 2019). Amidst Africa's growing economies, the blue economy offers a unique avenue for quality growth, job creation, and the harnessing of ocean renewable energy, potentially exceeding global energy demand (Percy, 2016; Rimmer, 2017; McKnight and Hirsh, 2012).

Tanzania, endowed with diverse water bodies, is positioned to unlock the immense potential of the ocean-based blue economy, emphasizing the interconnectedness of sectors and addressing critical social considerations like gender mainstreaming, water security and food, alleviation of poverty, retention of wealth, and creation jobs (OECD, 2016). The blue economy is poised to play a central role in Tanzania's structural transformation, contributing significantly to GDP, investment, tourism, and employment opportunities.

Many coastal nations in Africa, including the United Republic of Tanzania, fall under the category of the least developed countries (LDCs) and/or small island developing states (SIDS). Within Tanzania, the archipelago of Zanzibar, comprising the main islands of Pemba and Unguja along with the neighboring islands, functions as a semi-autonomous region. When considered independently, Zanzibar exhibits characteristics akin to a Small Island Developing State. Notably, the activities that are ocean-based constitute more than 28% of Zanzibar's GDP, providing employment for approximately 33% of its workforce (RGZ, 2020b). Given these economic contributions, formulating a robust blue economy strategy for Zanzibar, as well as the coastal regions of Mainland Tanzania, emerges as a crucial imperative for overall national development.

The timely consideration and prioritization of the Blue Economy as a strategic move for fostering rapid and sustainable development in Africa warrant significant policy attention. Within the Blue Economy framework, both land-locked and coastal States have the potential to exploit opportunities that offer mutual benefits, facilitating coordinated and efficient services exchange as well as access to vital resources. The potential for innovation in policy development and implementation within the Blue Economy can be derived from global shifts, creative multi-stakeholder and multisectoral policy processes aimed at instigating change, and redefining how progress is measured (Seneque and Bon, 2012; Scharmer and Kaufer, 2013).

The Tanzanian region is currently at a pivotal juncture, presenting an opportunity to reassess its developmental course within the framework of the Blue Economy, considering political, socio-economic, and environmental dimensions. Societies reliant on marine and aquatic resources and ecosystems must prepare for a developmental trajectory prioritizing both human and ecosystem well-being. It should be noted that, there is a scarcity of innovations, experiences, and practices within the Blue Economy context that can guide this transformative journey. To chart its unique course, Tanzania must articulate its vision of prosperity and progress, fostering innovative thinking and practices that contribute to the enhancement of both human and ecological well-being (The World Bank, 2011).

Given this context and aligned with the African Union Agenda 2063, it should be noted that there is a burgeoning opportunity to craft a Tanzanian Blue Economy narrative that more aptly aligns with the development goals, partnerships, and social reciprocity needed by Tanzanian societies in the 21st century. Formulating an aquatic and marine-focused Tanzanian vision that gives expression to novel forms of knowledge and social narratives holds significant potential for both Africa and the global community. Within the Blue Economy framework, Africa stands to play a role to a robust cadre of policymakers, activists, scientists, and the business leaders genuinely committed to exploring, advocating for, and implementing innovative approaches toward sustainable development (World Bank, 2011; UNDP, 2023).

In addition, the comprehension of the Blue Economy in the realm of development policy is quite limited, necessitating widespread efforts to enhance knowledge and awareness at the policy level. An integrative and strategic framework demands a fresh perspective on emerging avenues for development opportunities, prompting a need for transformative policy thinking and the formulation of innovative and viable policy instruments. Bridging awareness gaps and addressing knowledge deficiencies might enrich the strategy and vision for socioeconomically transformative processes driven by the Blue Economy (WB, 2011). Another challenge lies in delineating the Blue Economy under the umbrella of the Green Economy, a concept that is broadly understood and esteemed for its intrinsic value. Despite the distinctive spatial focus of the Blue Economy, there exist significant synergies between these conceptual frameworks that demand recognition (UNDP, 2023).

Investigating on the existing literature, for instance the research conducted by Lyimo (2021) on the determinants and challenges of blue economy growth in Tanzania, this study

demonstrate a notable gap in understanding of specific contributions of aquaculture activities and maritime tourism to the growth of the blue economy in the region. In other instance, according to Anami (2023), the author has delved into the concept of sustainable blue economy and its impact on economic growth in Africa, he has given specific focus on Zanzibar, the study primarily relies on secondary data, based on its stand it is imperative to extend the investigation, by incorporating insights from practitioners views and professionals views, where this extended learning will provide a more comprehensive perspective on roles of aquaculture activities and maritime tourism in the blue economy which may lead to economic growth.

On the terms of practices and efforts so far, despite Zanzibar's commitment to responsible marine resource management and recognizing the role of blue economy for inclusive development, there exist a critical knowledge gap regarding the nuanced contributions of aquaculture and maritime tourism to the Blue Economy, considering the manageable narratives (Mussa, 2021; Tegar, 2018; Charisiadou, 2022). To bridge this gap, primary data collection becomes essential, recognizing that unlocking the full potential of the Blue Economy requires a thorough examination of the specific roles played by these two sectors in Zanzibar's economic landscape (Tegar, 2018).

On the other instance, as Tanzania has experienced rapid economic growth, with an impressive 5 - 7 percent GDP increase in the past five (5) years (UNECA, 2019), various sectors contributed to the Blue Economy, such as fishing, maritime transport, tourism, aquaculture, shipbuilding, and more. However, the specific dynamics of aquaculture and maritime tourism remain relatively unexplored in previous researches. Acknowledging the influential role of the presidents of Tanzania and Zanzibar in the promotion of tourism industry provides a strategic opportunity to integrate these unique aspects of aquaculture and maritime tourism onto the broader cultural and economic narratives. This study focuses onto address this research gap by focusing specific on these two aspects, thereby contributing valuable contribution to the existing body of knowledge on the blue economy.

RESEARCH METHOD

Methodology Overview

This study employed a mixed-methods research approach, descriptive analysis was adopted by skillfully blending quantitative and qualitative data, quantitative and qualitative data collection methods were used to offer a thorough comprehension of the dynamics within aquaculture and

maritime tourism in Tanzania's blue economy. By employing a cross-sectional survey, the research acquired quantitative insights by gauging attitudes and perceptions toward the sectors. At the same time qualitative interviews and focus group discussions were utilized to unveil nuanced opinions and experiences from participants.

Sampling and Data Collection Approach

This study employed a purposive sampling technique, used a representative sample size of 150 participants, it encompassed diverse expertise in aquaculture, maritime tourism, and ocean economy governance. Structured surveys employing Likert-scale (5 point) questions were conducted to assess participants opinions. Additionally, the in-depth interviews with key stakeholders, including industry experts, government officials, and local practitioners, were conducted.

Grounding Theory

According to Holling, (1978), the development of adaptive management approach for natural resources management is traced back to the 1970s, with its roots in Austria (Laxenburg) at the International Institute for Systems Analysis (IIASA). This approach, drawing from various disciplines, is inherently interdisciplinary, encompassing concepts from industrial operations theory, ecosystem dynamics, macroeconomics, decision theory, organizational behavior, and policy analysis. Adaptive management aims to gain insights into human-utilized ecosystem behavior, incorporating theories from economics, ecosystem sciences, engineering, social sciences, and more, with applications within the Corps of Engineers primarily focused on aquatic and systems in hydrologic

According to Holling (1978), unlike traditional approaches, adaptive management does not wait for complete knowledge before taking action but supports action despite scientific limitations and the complexities of the large ecosystems. It seeks onto enhancing the scientific knowledge, onto reducing uncertainties arising from stochastic behavior and natural variability, and address social and economic changes affecting natural resource systems. The approach encourages the creation of flexible policies, social learning process, subject to adjustment in an iterative, , aiming to facilitate timely responses in the face of uncertainties.

Adaptive management is not all about making precise predictions but it also acknowledges the uncertainties associated with forecasting of the future outcomes (Marmorek, 2003). It emphasizes on the flexibility and policy adjustment through a continuous learning process, it recognizes the dynamic nature of ecosystems and the need to act on imperfect information. This approach fosters stakeholders' engagement, and aid in helping bound disputes and encourages orderly discussions while uncertainties are being investigated (Lee, 2000; Jacobson, 2009).

In the context of this specific study about the blue economy in Tanzania and Zanzibar as in relation to the narrated aspects of aquaculture activities and the marine tourism, the theory, Adaptive Management Theory (AMT) is critically very relevant as it dwells of flexibility and collaboration. As AMT emphasizes on flexibility and the engagement of stakeholder, it aligns with the dynamic and interconnected nature of the subject matter, the blue economy. As the theory incorporates Systems thinking, it is quite open that the theory recognizes the interdependencies within the blue economy; the theory ensures a holistic understanding of ecological, social, and economic aspects (Macusi et al, 2014). The theory as it stands, it promote adaptive learning and collaboration, it intensify the importance of addressing issues that might benefit the local communities and companies with vested interest of the these economic activities in coastal areas or regions.

RESULT AND DISCUSSION

The Concept of Blue Economy in Africa

As per the United Nations Economic Commission for Africa (2016) publication titled "Africa's Blue Economy: A Policy Handbook," the "Blue world" encompasses vast lakes, rivers, and an extensive ocean resource base. Out of the fifty-four (54) African States, thirty-eight are coastal, conducting more than 89 percent of the continent's exports and imports by sea, emphasizing Africa's geopolitical significance. With maritime zones under the Africa's jurisdiction totaling about thirteen (13) million-square kilometers, that includes territorial seas and with approximately 6.5 million-square kilometers of continental shelf, the Blue Economy is aptly referred to by the African Union as the "New Frontier of African Renaissance." This expansive concept covers aquatic and marine spaces, such as lakes, rivers, oceans, seas, coasts, and underground water, engaging in various productive sectors like

aquaculture, fisheries, , tourism, shipbuilding, transport, energy, bio-prospecting, and underwater mining (FAO, 2014).

The Blue Economy in Africa is aligned with the United Nations' Sustainable Development Goals (SDGs), particularly SDG-14, which particularly emphasizes the sustainable development through the conservation and the sustainable use of oceans, seas, and the marine resources. This approach acknowledges the productivity of healthy ocean ecosystems and freshwater as a pathway for the maritime-based economies and aquatic, ensuring that coastal countries, islands, and landlocked States benefit equitably from their resources. To achieve this, an integrated, holistic, and the participatory approach is required, focusing on the sustainable use and the management of Blue Economy resources for societal progress in the diverse African context. The United Nations recognizes the interconnectedness of the Blue Economy with the majority of the SDGs, emphasizing its pivotal role in supporting economic sectors, providing livelihoods, and creating employment opportunities to alleviate poverty.

Concept of Blue Economy in Mainland Tanzania

The coastal resources of Tanzania play a crucial role in various social and economic sectors, including shipping, agriculture, tourism, trade, fishing, settlements, and industrial development. Supporting a population of nearly 16 million people, these resources are integral to their livelihoods. The UN FAO's review of Tanzania's Ocean Economy in December 2007 highlighted the Fisheries Sector's critical role in employment generation, with 149,946 artisanal fishermen and related employment in boat building along the coastline. This underscores the significant link between Tanzania's coastal resources and the socioeconomic well-being of its coastal communities.

The management of Tanzania's Ports and Harbours Infrastructure falls under the Tanzania Ports Authority (TPA), overseeing both inland waterways and sea and ports. Dar es Salaam, the principal port, handles over 92 percent of the total maritime ports' throughput, serving as a crucial gateway for land-linked countries. In terms of natural resources, Tanzania has been a longstanding natural gas producer, with recent discoveries in northern Mozambique representing a significant global find. The country also boasts diverse multi-species fish stocks, with over 1,700 recorded species, and aquaculture, including seaweed production, holds substantial untapped potential.

The full resource potential of the blue economy is challenging to ascertain due to information scarcity, especially in Least Developed Countries (LDCs) where informal activities dominate. However, advancing technologies are making the exploitation and exploration of ocean resources more economically viable, showcasing the economic and social benefits of embracing the blue economy. This paper aims to contribute knowledge, focusing on aquaculture and maritime tourism, to address existing gaps in understanding and harness the potential of the blue economy.

The world's oceans, constituting 97% of the Earth's water resources, are vital for sustaining life. Referred to as the Blue Economy or Ocean Economy, oceans and seas provide oxygen, support diverse life forms, and nourish nearly half the global population. The contemporary global blue economy includes diverse industries related to seas, coasts, and oceans including shipping, fishing, and production of renewable energy, aquaculture, ports, tourism, research, and education. In Africa, the Blue Economy plays a crucial role in sectors such as fisheries, tourism, aquaculture, transportation, energy, bio-prospecting, and underwater mining. The AU recognizes the Blue Economy as the "new frontier of African Renaissance," aligning with the AU's Agenda 2063.

Zanzibar recognizes the potential of the Blue Economy as a catalyst for socio-economic development. With an 880 km coastline, Zanzibar envisions thriving fishing industries and has prioritized the Blue Economy for economic growth, social inclusion, and environmental sustainability. This sector encompasses traditional activities like fisheries and tourism, alongside emerging ventures such as aquaculture and offshore renewable energy.

Objectively, this paper looks on two aspects to smooth blue economy (aquaculture and Maritime Tourism). The study use participants from mainland Tanzania and Zanzibar with vast knowledge and experience in ocean economy and those engaged locally in the sector and the officials in Ministry of Livestock and Fisheries. The blue economy advocates for the responsible utilization of ocean resources to foster economic growth, improve livelihoods, and preserve the environment. In the identified regions, the contribution of aquaculture activities and maritime tourism activities are quite essential in driving blue economy success and the prospects. As this papers concentrate on the significance of these two sectors in blue economy, emphasizing is given to the activities as the primary contributors to sustainable development and economic growth.

Aquaculture in Tanzania’s Blue Economy

Aquaculture activities and its standard as fish farming can be explained as the important aspect to the regions' blue economy. Aquaculture activities as it involves the cultivation of aquatic organisms, such as fish and seaweed in controlled environments. The controlled environment may involve the usage of tools and equipment like tanks, ponds, or cages. The significance of aquaculture is highlighted in this study, concentrated on the analysis of the contributions of the marine-based activities alongside fisheries and coastal tourism. The questions that were structured for respondents to respond were based on the narrations explained above, the respondents were provided with agreement statements where they were required to respond in a 5-point Likert scale as presented in the table below.

S/N	Items	(SA) Strongly Agree (%)	(A)Agree (%)	(N) Neutral (%)	(D) Disagree (%)	(SD) Strongly Disagree (%)
1	Aquaculture activities enhance food security	78.7	19.3	2.0	0.0	0.0
2	Aquaculture activities promote economic growth	76.0	21.3	2.7	0.0	0.0
3	Aquaculture activities mitigate overfishing pressures	79.3	18.7	1.3	0.7	0.0
4	Aquaculture activities contribute to export revenue	75.3	23.3	1.3	0.0	0.0
5	Aquaculture activities support rural development	77.3	20.0	2.7	0.0	0.0

With the provided statement, the respondents provided their responses as on the provided statement, from the above table, the terms “Strongly Agree” and “Agree” were highlighted in the paper to narrate positive responses from the participants in the study, and from the statistics most of the responses lie on these two categories, as the majority of the responses were on

strongly agree and agree, and few are neutral and there are those who disagreed with the provided statements.

This presentation provided clear perception and opinions of the respondents, it illustrated that most of the respondents agreed that there is a positive impact of the illustrated activities in relations to aquaculture, the aspects of food security, export revenue, overfishing mitigation and rural development.

This nuanced exploration of respondents' perspectives contributes to a comprehensive evaluation of the role of aquaculture activities in driving positive social-economic development, aligning with the broader theme of fostering a sustainable "New Frontier of African Renaissance" in mainland Tanzania and Zanzibar.

From literature, according to Bryceson (2003), the author highlights the socio-economic benefits of the seaweed farming, while in the other contribution Kaliba (2007) underscores the potentials for aquaculture expansion to reduce poverty. Furthermore according to Edwards (2000) and Finegold (2009) the authors further emphasize the role of aquaculture in rural development and its role in meeting growing fish demand. The findings from these authors collectively underscore the positive impacts of aquaculture on food security, in economic growth, overfishing mitigation, export revenue, and rural development. Aquaculture has been shown to have a positive impact on food security, economic growth, overfishing mitigation, export revenue, and rural development (Olaganathan, 2017; E-Jahan, 2010; Edwards, 2000; Halwart, 2003). It is extended that aquaculture also provides employment and income opportunities, specifically for the poor, and contributes to the livelihoods of the rural communities (Olaganathan, 2017; Edwards, 2000). According to E-Jahan, (2010), aquaculture development projects have been found to positively influence on employment, income, and consumption.

To elaborate more on the above, according to Olaganathan, (2017), E-Jahan, (2010) Edwards, (2000), and Halwart, (2003). aquaculture has been shown to have a positive impact on growth, food security, economic, and overfishing mitigation, export revenue, and rural development. It provides employment and income opportunities, particularly for the poor, and contributes to the livelihoods of rural communities (Olaganathan, 2017; Edwards, 2000). Aquaculture development projects have been found to positively impact employment, income, and consumption, particularly among the poor (E-Jahan, 2010). However, the expansion of aquaculture is constrained by various factors (Edwards, 2000). Despite these constraints,

aquaculture has the potential to significantly contribute to rural development, particularly in countries where it is not a traditional practice (Edwards, 2000; Halwart, 2003).

Maritime Tourism in Tanzania’s Blue Economy

Maritime tourism encompasses diverse activities, including recreational boating, cruise ship tourism, diving/snorkeling tours, fishing charters, coastal resorts/hotels, and marine wildlife watching. Tanzania's expansive coastline along the Indian Ocean holds immense potential for maritime tourism development. Coastal and maritime tourism serve as major catalysts for multi-use opportunities within the blue economy. This sector attracts both domestic and international tourists seeking unique experiences such as exploring coral reefs, marine biodiversity, and cultural heritage. It contributes to job creation, revenue generation, infrastructure development, and community empowerment.

S/N	Items	SA (%)	A (%)	N (%)	D (%)	SD (%)
1	Maritime Tourism Showcase Tanzania’s natural beauty	85.3	13.3	1.3	0.0	0.0
2	Maritime Tourism Boots local economies	80.7	17.3	2.0	0.0	0.0
3	Maritime Tourism Preserves coastal and marine environments	82.0	16.7	1.3	0.0	0.0
4	Maritime Tourism Supports cultural preservation	79.3	19.3	1.3	0.0	0.0
5	Maritime Tourism Enhances community well-being	78.0	20.7	1.3	0.0	0.0

From the above table, the narration "Strongly Agree" and "Agree" are highlighted to emphasize that the majority of participants strongly agree or agree with the positive impacts of maritime tourism on showcasing boosting local economies, natural beauty, preserving coastal

environments, supporting cultural preservation, and enhancing community well-being. This presentation underscores the favorable opinions expressed by the participants toward the various aspects of maritime tourism.

The findings indicate a prevailing positive sentiment among respondents, as highlighted in the "Strongly Agree" and "Agree" narrations. This intentional emphasis serves to underscore that majority of participant's express strong agreement or agreement with the impacts attributed to maritime tourism. By accentuating the narrations, the presentation aims to bring attention to the favorable sentiments expressed by respondents regarding the key aspects of maritime tourism, as showcasing natural beauty, preserving coastal environments, supporting cultural preservation, boosting local economies, and enhancing community well-being. This deliberate emphasis on positive sentiments contributes to exploration of the perceived benefits of maritime tourism, aligning with the overarching theme of driving sustainable social-economic development and fostering a blue economy in mainland Tanzania and Zanzibar.

From existing literature, recalling from the study by Ngowi (2018), the author found that residents' satisfaction with tourism is influenced by their perceptions of its impacts, particularly economic and environmental. Similarly according to Sesabo (2006) and Abas (2016), these authors both highlight the positive attitudes of coastal communities towards conservation initiatives and the tourism development, respectively. Furthermore from Chiappa (2011), the author also notes a generally positive attitude towards the cruise tourism, despite concerns about its impact on the wellbeing and the environment. In summary, these findings collectively underscore the favorable sentiments that are expressed by respondents, aligning with the theme of driving sustainable social-economic development and fostering a blue economy.

Furthermore, for example maritime tourism, like in the form of nautical and cruise tourism, has been discussed to have significant economic and social benefits, as according to Sudarmo (2020) , the author found that marine tourism in the Pari Island, in Indonesia, has contributed to economic growth and development. On similar instance, Favro (2008), has highlighted the economic and social benefits of the nautical tourism in Croatia, like the attraction of high-end clients and the stimulation of the business activities. However, according to MacNeill (2018) , has cautioned that benefits of cruise tourism may not always be capitalized, with potential negative impacts on local populations and the environment, and Brida (2009) has also noted the need for carefully consideration of the costs and the benefits of cruise tourism for the local economies.

Further to that, as the blue economy, since it encompasses maritime and coastal activities, it definitely has significant economic and social benefits. Olteanu, (2019) demonstrated that blue economy generates a lot of jobs and it contribute a lot to the global economy). It should be grounded from the narrations that these activities are supported by the services marine ecosystem, which are definitely expressed to be crucial for their sustainability (Lillebø, 2017). Nautical tourism, is expressed as a key component of the blue economy, it provides employment and the business opportunities (Alempijevic, 2019).

CONCLUSION

Aquaculture and maritime tourism emerges as crucial drivers for a thriving blue economy in Tanzania, contributing to economic growth, environmental conservation, poverty reduction, and social development. In the idea to harnessing the potential of these sectors (Aquaculture and maritime tourism), while ensuring sustainability measures are in place holds the key to achieving a vibrant blue economy that benefits both present and future generations, for the communities leaving on coastal areas and as a nation at large. As this study delved into the dynamics of aquaculture and maritime tourism within Tanzania's blue economy, it provides valuable insights into the multifaceted interplay of the sectors. This research contributes valuable knowledge to inform policies (to policy makers) and practices (to practitioner and professional) that can foster a thriving and sustainable blue economy in Tanzania, together with the broader goals of economic development and environmental preservation.

Recommendations

This study on aquaculture and maritime tourism in Tanzania's blue economy yields valuable insights; it is providing a foundation for informed decision-making and sustainable development in the country. The first set of recommendations in this study focuses on policy considerations; it suggests creation and implementation of an integrated policy framework may recognize the interconnectedness of aquaculture and maritime tourism. The study in the other side recommends on the importance of emphasizing inclusivity, sustainability, and adaptability and consideration to community; there's a need to have in place the policies that actively engage the local communities in decision-making procedure, and encourage their participation.

The other set of recommendations goes to the Ministry of Livestock and Fisheries, to increase investment on these areas, particularly in capacity-building programs tailored for local fishermen and other aquaculture practitioners and there also should be regulations for sustainable practices.

The other recommendations are on collaborative governance and investments in infrastructure, to the Government of Tanzania and Zanzibar. To concentrate on intensive investments in infrastructure, like in port facilities and in aquaculture farms. The last set of recommendations is extended to research institutions, universities and other researchers, on research and knowledge-sharing on these areas. In collective consideration to these recommendations, the stakeholders can actively contribute to the establishment of a thriving and sustainable blue economy in Tanzania. The Ministries responsible for investment are encouraged to invest more in research and development initiatives in identifying innovative practices and technologies, creating an environment conducive to private investment and catalyzing the economic growth in aquaculture and maritime tourism.

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