DOES BLUE ECONOMY WORK IN AFRICA?

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ABSTRACT

Globalization, economic development, human development, and the free access to marine, lake and river resources has exerted pressure on these ecosystems through increased resource exploitation, alterations of ocean zones, and overfishing. Comprehensive essential blue economy sustainable targets and indicators would aid on examining the risk management trends and provide way forward for sustainable development and utilization of marine resources in developing countries. Despite the potential of the blue economy to contribute to the economic development of countries, Kenya's blue economy is poorly developed in regard to marine research activities, aquaculture and fishing. The general objective of the study is to investigate the relationship between risk and sustainability of blue economy projects. The study's specific objectives were to determine the influence of political risk, economic risk, social risk, technological risk, environmental risk and legal risk on sustainability of Blue Economy projects. The study was based on the resource dependency theory, stakeholder theory, project risk management process theory and contingency theory. This study was a descriptive desktop review. This study applied a critical review of research through the desk research method. This involved collecting information from earlier studies, publications and online materials. The study established that sustainability of blue economy projects in Kenya was affected by weak legal, policy, regulatory and institutional framework and poorly planned and unregulated coastal development. Other critical; risks included militarization of oceans, marine insecurity, lack of political support for the projects, poor funding, and inadequate research and development. The study recommends that Kenya should focus on developing marine fishery, marine transportation, tourism, energy and material production industries based on the blue economy concept. Further, the country should improve and coordinate marine and land economy national policies, develop blue economy demonstration zone, strengthen connections between trade and infrastructure and promote the development of technology and human resources. In addition, Kenya should set up blue economy demonstration zones in the coastal regions, for exploring the blue economy model featured with marine industry, fishery, breeding, seaside tourism industries, small island collective, regional and bay development.

Key words: Risk, Risk management, Sustainability, Blue Economy Projects

INTRODUCTION

The world is facing challenges associated with land-based exploitation which include the rising human population. As the pressure on land resources increase, countries have embarked on exploiting the blue economy as a vital reserve for sustainability (Norton, 2019). Markedly, oceans have become a center of attraction as states focus on exploiting the larger part of the world. The blue economy makes provision for strategic opportunities for developing countries

to achieve a more sustainable future. With intensified consensus on emergent need of protecting the dwindling ocean resources, blue economy risk management has become a driving force for a viable future. According to Kathijotes (2013), globalization, economic development, human development, and the free access to marine resources has exerted pressure on the marine environment through increased resource exploitation, alterations of ocean zones, and overfishing. Comprehensive essential blue economy sustainable targets and indicators would aid on examining the risk management trends and provide way forward for sustainable development and utilization of marine resources in developing countries.

Sustainability is the prevention of the exhaustion of natural resources in order to preserve an ecological balance (Geissdoerfer, Savaget, Bocken, & Hultink, 2017). This entails utilizing of the natural resources to provide benefits in the present without compromising the ability of the resources to provide benefits for the future generations. According to Patil, Virdin, Diez, Roberts and Singh (2016), sustainability has three pillars which include environmental, economic and social sustainability.

Risk and Risk Management

Risk is the likelihood of occurrence of a condition or event which may have a positive or negative effect on project objectives. There is no clear cut, definition of risk and uncertainty. Many scholars look at it from different perspectives. However, it is generally agreed that, in risk and uncertainty, the outcome or activities are likely to depart from expectations. In projects, there are three categories of risks which are project risks, product risks and business risks. Every project must learn to adapt against the emergence of risk, business changes, and investments in anticipation of its likely futuristic occurrence. Blue economy projects should be well managed to overcome and mitigate the potential effects of risk which may be negative alongside their related opportunity.

Sustainability of Blue Economy Projects

Sustainable development is a macro as well as a societal-level construct. The most well-known definition of sustainable development comes from the Brundtland Commission which depicts that sustainability is meeting the needs of the present generation without compromising the capacity of future generations to meet their needs (World Commission on Environment and Development, 1987). Therefore, sustainable development generally refers to environmental, social and economic development approaches and policies and approaches of governments and their interaction with the natural environment.

Sustainability in the context of this paper is the ability of the blue economy projects to continue their programs or mission into the foreseeable future. All blue economy projects have to end eventually, but the project impact should continue. Stakeholders seek to understand how the projects benefits and impact would outlive the current generation long after involvement of the current stakeholders

Sustainability in the short-term provides solutions to a limited problem and in the long-term presents solution pertaining to a wider set of challenges (Okland, 2015). A blue economy project can be sustainable in three main categories: human, financial, and community sustainability.

Problem Statement

Blue economy includes all the economic sectors related to seas and coastal areas, rivers and lakes including tourism, shipping, fishing, mining, and biotechnology, among others. All these sectors are valued, according to the European Union (EU) approach, considering their contribution to gross value added (GVA) and employment. Emphasis is on the growth of all sectors as a whole, rather than on the maximization of only one sector's objectives. Furthermore, to achieve positive long-term results, economic activities and ecosystem potential must be in equilibrium. The blue economy contributes around 43% of EU GDP and sustains around 214 million people. In Australia, the blue economy generated around US $207 million in 2017 and $107 million in Mauritius in the same year. In China, the blue economy contributes on average 6.03% of GDP in the past five years and provides employment to 9.25 million. In these countries, development in blue economy has been achieved following investments in marine information and communication technology (ICT), research and development and innovation.

In African countries including Kenya, the blue economy only contributes around 1.26% of the GDP or about $24 billion. Fishery is the only sector which has experienced marked improvements in the African blue economy. The other sectors such as marine research and development, aquaculture, marine transport (shipping) and marine ICTs are not developed. As the ocean sector continue to expand beyond the established industries of shipping and fishing, it is important to consider the clustering of all relevant activities, especially within the emerging sectors, for effective management and development of policies for their overall development. This clustering effort would achieve, at least, two goals; complementary development of all sectors and coordination of management and policy framework (Visbeck et al., 2014). This integration should align comprehensive management with the coordination of the human activities while considering the long-term sustainability and competing uses of the ecosystems, goods and services. To this end, it is crucial to initiate a coordinating framework for the ocean affairs for the effective implementation of policies and sustainable use of the marine and coastal resources.

The goal of this paper is to add to the discussion on how to integrate sustainability into the blue economy projects by improving risk management. This paper also aims to give blue economy project managers and other project related stakeholders insight in their perceived influence towards adhering to sustainability in blue economy project results.

Theoretical Review

The study will be guided by a number of theories which include the resource dependency theory, stakeholder theory, project risk management process theory and contingency theory.

Resource Dependency Theory

The theory was developed by Pfeffer and Salancik (1978) and it postulates that an institution must engage in transactions with other actors and organizations in its environment in order to acquire resources. The RDT framework offers an understanding of organization environment relationships and outlines the associations (and dependencies) amongst resources, power and organization-environment. Davis and Cobb (2010) isolate three main concepts of the RDT framework: social context matters; organizations have strategies to improve their independence and follow their interests; and power (not just rationality or efficiency) is vital for comprehending internal and external activities of organizations.

In relation to blue economy projects, the RDT will be applied to underscore the importance of a country relating with and creating partnerships with other countries in implementing blue economy projects. In effectively implementing blue economy projects, Kenya needs to co-operate and create bilateral or multilateral relationships with other countries to effectively implement sustainable blue economy projects

Stakeholder Theory

Freeman (1984) was the pioneer of the stakeholder theory. The theory is a view of capitalism that stresses the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization. The theory argues that a firm should create value for all stakeholders, not just shareholders. According to Miles (2012), the stakeholder theory affirms that those whose lives are touched by a corporation hold a right and obligation to participate in directing it.
Regarding blue economy, the theory is relevant in that it explains that multiple constituencies that are affected by the blue economy projects must be incorporated in project planning and implementation for sustainability.

Project risk management process theory

The Project Management Institute (PMI) developed the project risk management process theory to explain the role played by risk management and project success and sustainability (PMI, 1996). In the theory, risk management should incorporate risk assessment and mitigation. Risk assessment entails identification of potential risk and the evaluation of the potential impact of the risk. This includes assessing all the social, economic, political, legal, environmental and technological factors and the risks that they can pose to the project .
In the study, project risk management process theory will be applied to depict how management of political, environmental, economic, social and technological risk can enhance the

sustainability of the blue economy projects in Kenya. When designing and implementing blue economy projects, the government and other stakeholders should ensure that all stakeholders of the projects are involved so that they can raise various issues in the formative stages. These can be effectively managed so that issues at the implementation stage are lessened. Spalding (2016) notes that due to lack of involvement of local communities and environmentalists, many blue economy projects are delayed due to lawsuits filed by these groups. This can be avoided if the implementers of these projects involve these stakeholders at the design stage of these projects.

Contingency Theory

The Contingency Theory was developed by Fred Fiedler in 1958. A contingency theory is an organizational theory that claims that there is no best way to organize a corporation, to lead a company, or to make decisions. Instead, the optimal course of action is contingent (dependent) upon the internal and external situation.

The theory upholds an approach to the study of organizational behavior in which explanations are given as to how contingent factors such as technology, culture and the External environment influence the design and function of organization (Bastian & Andreas, 2012). The assumption underlying contingency theory is that no single type of organizational structure is equally applicable to all organizations. Rather, organizational effectiveness is dependent on a fit or match between the type of technology, environmental volatility, the size of the organization, the features of the organizational structure and its information system. The essential feature of the theory is its behavioural approach that relates to the optimal fit of organisational structure based on contingent situations (Bastian & Andreas, 2012). It has no one best way of organising, a leadership style that proved effective in one situation may not be most successful in another.

In this study, the theory explains the importance of the external environment to blue economy projects. The external environment includes the political, economic, technological, social, legal and environmental factors. To ensure that blue economy projects are planned and implemented effectively, the government and the various stakeholders must ensure that all the external environment factors are considered and a good fit created aligning the interest of all the stakeholders.

Empirical Review

This section discusses the relevant empirical literature that supports the research problem. This ensures that the study content is informed by past studies related to the study being undertaken. The empirical review is divided into various sub-sections. These are political risk, economical risk, social risk, technological risk, environmental risk and legal risk.

A study by Waruhiu (2018) indicated that political risk is one of the greatest risks facing the blue economy projects. Most governments focus on short-term and rarely focus on the projects

that were initiated by former governments. When a government plans and initiates a blue economy project, the succeeding government may lack to provide priority to that project thus affecting its completion and sustainability. This may be through reduced funding, maritime insecurity and lack of general support. Mittra (2017) exemplifies the need to mitigate the political risks that threaten the existence of a viable blue economy ecosystem.

In the Indian Ocean Region, Van den Burg, et al. (2017) established that there are many political developments that pose risks to the marine based blue economy. Though the Indian Ocean region is one of the most promising blue economy political and economic areas of the globe, there are critical aspects that pose challenges to the development of the marine based blue economy. These include militarization of the ocean space, increasing insecurity and international border disputes.

Protecting the ocean environment is not an option but a necessity for the purpose of contributing to the economy (Spalding, 2016). The study by Spalding (2016) established that it is important to standardize the values of the coasts and oceans by viewing them as economic resources. The potential of blue economy to meet viability and sustainable development requirements are significant. The main concern relates the approaches of governing and controlling the exploitation of the ocean resources to sustain the increasing global population. Part of the issue is related to the externalities and productivity gains relating to specific economic and employment opportunities offered by the blue economy. Further, Spalding (2016) observed that the blue economy is affected by reduced investments, lack of effective cost-benefit analysis of new projects and lack of balance between exploiting the resources and providing room for conservation. The author suggests a systematic approach to use the resources in a profitable way.

According to Kathijotes (2013), developing countries have not achieved the desired approaches to enhance the yield of ocean resources for the future. With the current trends and decreasing economic viability, there is need to eradicate the current pollution levels especially plastics and the irresponsible removal of the resources from the oceans. In this case, the international engagement pays a vital role in ensuring effective technology and information is available to aid in addressing the problem. By understanding their scale and inventing better solutions, developing countries have the ability to optimize the use of blue economy. Interestingly, developing states are upgrading their strategies in response to the poor record and approaches used in the past years. As the countries struggle with the limited land resources, governments are more interested in exploiting the ocean resources as an alternative support for the economies.

Mohanty (2018) established that the blue economy emerges as a framework for contributing to the ocean-based sector which accounts for a significant share of overall economy. However, there are challenges which prevent the blue economy from contributing effectively to the economy. These include lack of consensus on shared and disputed areas, challenging trade-offs, destructive drilling, and extraction which are among the risks that conflict the objective of conservation and coastal development. This means that the blue economy is beyond the

metrics of national economic growth and requires strategic approaches to enhance sustainability. It is apparent that there are many sectors that are untapped by the developing states due to inefficiency. The blue economy concepts and directions provide the countries with an effective approach to mitigate the underlying risks (Thorne, Lawson, Ozawa, Hamlin & Smith (2018). As a vital resource, it is an alternative to achieve long-term economic growth when sustainable management strategies produce positive outcomes.

Waruhiu (2018) established that blue economy projects are affected by lack of sustainable human activities around rivers, lakes, seas and oceans. Some of these practices include overfishing. Other unsustainable practices include ocean acidification, invading natural habitats of species and pollution. These lead to food insecurity, compromises to human health and loss of biodiversity. Most of these factors emanate from unplanned developments, population growth and loss of human capacity to take care of the blue economy ecosystems.

According to Mittra (2017), developing states have a role of leveraging the blue economy by ensuring inclusivity and sustainable exploitation of the available resources. Over the recent years, developing states have been on the forefront of achieving a global consensus towards attaining a sustainable blue economy development. Countries have engaged internationally to ensure that the underutilized resources in the oceans are effectively exploited without destroying the ecosystem. The approach provides the international communities with a better approach to mitigate the risks associated and formulate effective management strategies geared towards achieving sustainability. Moreover, the primary goal of integration is to develop innovative and inclusive strategies for supporting the transformation to a sustainable ocean-based economy. This is done by balancing the population growth and the resultant negative effects with conservation. There is need for developing states to understand the strategic opportunities of optimally utilizing the oceans for a viable future (Van den Burg et al., 2017). With greater international consensus on the emerging issues of protecting and governing the water resources, the blue economy management remains to be a driving force for achieving sustainable economic development for developing states.

A study by Geissdoerfer et al. (2017) recognized that developing states are facing long-based problems which include population growth and threats to the blue economy. The ocean resources offer the countries a solution to sustainability, but there is an emerging need for effective management to avoid depletion and pollution. Being an abundant resource, it has the potential to enhance expansion of other sectors and the development of new ones. Moreover, it is conclusive that developing states have yet to maximize on the vast ocean areas available. Importantly, mutual international agreements are critical to resolve the existing challenges since the waters are shared by different communities. Risk management remains to be the only strategy to achieve social sustainability within developing states. This can be done through innovation and creation of awareness as the globe struggles to meet the rising needs of the population.

The study by Geissdoerfer et al. (2017) indicates that exploitation of blue economy ecosystems is affected by lack of adequate research and development and application of innovation. With

these risks, improvement in data collection is critical to understand the extent of the problem and enhance governments' policymaking processes. Notably, developing states are currently taking positive steps to address the problem, but relevant authorities need to implement effective strategies to ensure maximization of the ocean resources as an approach to achieve economic independence. While some of the human activities in the oceans are not illegal, there is need to establish a systematic program to enhance accountability. As institutions seeks for an understanding of all factors leading to the need for improving the blue economy, governments have a role of invest in technology, innovation and research to inform the best approaches to utilize the blue economy ecosystems (OECD, 2018). Moreover, the local and international communities have a distinct duty to pol resources and develop innovative solutions to the existing risks associated with overexploitation, pollution, and mismanagement.

Visbeck et al (2014) notes the challenges associated with achieving a sustainable future while protecting the natural resources where such development is based. According to the authors, the blue economy impact on development and wealth is global in nature but its importance in sustainable development and poverty reduction at regional levels is not acknowledged. According to Visbeck et al, (2014), the ocean has consistently been neglected in relation to achieving comprehensible sustainable strategies aimed at the marine resources. The ocean and water bodies contribute to the wellbeing of the economy in approaches that are not adequately reflected in the figures. As indicated by Visbeck et al, (2014), the importance of marine environment and associated resources have consistently been undermined and overexploited. The major problems in developing countries are coastal pollution and labor safety. Moreover, the economic growth and human activities have increased the pressure on marine ecosystems and escalated the serious risks for sustaining the blue economy. Sustainable management of the ecological risks is urgently required to protect the ocean resources and enhance rejuvenation.

A study by Kathijotes (2013) examined the ecological risk towards achieving sustainable coastal development through the blue economy model. The author noted that different ecological alterations of the oceans are contributed by nutrient inputs from storm water and wastewater discharges. The author noted that pollution can be controlled by ensuring zero-waste technology and reduction of unsustainable human activities in the oceans. Each of the economic activity must not produce emissions and waste to enhance protection of the blue economy. It is affirmed that pollution is a major threat to the existence and viable exploitation of the ocean resources. Kathijotes (2013) suggest that human needs to be the stewards of the marine environment by enhancing greening of the aquaculture sector. Moreover, they recommended the control of fishing and implementation of non-destructive fishing techniques to minimize the negative impacts on biodiversity.

A study by Golden, Virdin, Nowacek, Halpin, Bennear, and Patil (2017) examines the aspects of ensuring viability of the blue economy. The authors affirm that currently, the oceans are not viewed as sources of waterways and proteins, but also a resource for achieving economic sustainability for countries. Golden et al. (2017) focuses on the importance of promoting regulatory regime and governance of the blue economy. One role of the developing countries

is to respond to the need for protecting overexploitation of the ocean resources. The authors suggest one response to attempt to develop legally binding and new implementation agreements to achieve sustainable management of the blue economy. The ocean space and strategies to protect the diverse environment can be strengthened beyond the national level (Golden et al, 2017). There is need to enhance the exploitation of ocean resources and achieve sustainability for developing states.

Waruhiu (2018) noted a weak legal, policy, regulatory and institutional framework and poorly planned and unregulated coastal development as key factors that exacerbate existing challenges. Most developing countries are ignorant to the potential of blue economy and hence have weak laws that government blue economy ecosystems. Governments in developing countries need to appreciate the potential of blue economy ecosystems in contributing to the economic growth and development of those countries. This will enable them to drive policy and regulation that would govern use and conservation of blue economy ecosystems for sustainability.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Blue economy projects, as a macro economy concept, involve every aspect of national and global governance, economic development, environmental protection and sustainability and international communication. Blue economy projects are an integration of sustainable development and green growth. It highlights an overall-planning and coordinated development between marine ecosystem and ocean and coastal zone economic systems. Considering the above features, blue economy is a sustainable productive, service and all other related activities using and protecting coastal and marine resources. There are many risks and challenges in implementing blue economy projects which involve all sectors in the economy from private and industrial entities, research and development, NGOs to government policy. This complexity entails establishing and managing the various political, social, economic, legal, environmental, and complexity mentioned above offers both opportunities and barriers. The following sections address this from the perspective of selective use cases and experience moving forward. These perspectives are integrated near the end of the paper with approaches toward the balance of growth and ecosystem sustainability.

Overall, the blue economy is the effective alternative for developing countries to enhance global competitive advantage. From the literature, it is evident that the achievement of its goals is hindered by risks such as overexploitation, boundary conflicts, pollution, and unviable explorations. The sources also affirm the need to develop effective measures and regulations to control and govern the use of ocean resources. As countries invent new opportunities in this sector, more strategic approaches are needed to protect the underused resource. For this reason, focus on policies, international engagement, and technology have been cited as vital elements to eradicate the threats to sustainable ocean-based economies. The local and international

stakeholders have a collective role of ensuring effective implementation of management tools and programs to protect the current ocean resources for a viable future.

Recommendation

Developing states like Kenya have recognized the emerging threats towards achieving sustainability. In addition, most states view the blue economy as a viable alternative towards long-term economic growth. To achieve the goals, there is need for developing states to invest more in the ocean sector. Notably, technology remains the best solution to eradicate the risk of pollution, overexploitation, and bounder conflicts. The urgency of resolving the problems are vested in the investment in new technology and expertise available. For this reason, developing states must focus on utilizing the current advanced tools for fishing and drilling to prevent pollution and overfishing in the ocean. Achieving this means that the government has a role of ensuring reliable and sufficient finances are allocated to promote the growth and expansion of the blue economy.

Another vital element to reduce the risks associated with blue economy is the formulation of strict policies and laws. Currently, developing states lacks or gives free use of the ocean resources thus making provision for pollution and overexploitation. As a trend in developed countries, the governments have a role of ensuring strict laws are developed to reduce the problem. Moreover, there is need for international integration when developing the laws to ensure that consensus and international treaties are used to govern the resource. Importantly, regulations play a vital role in governing the use of ocean resources and boundaries between countries. Risks such s overfishing are only eradicated through strict laws and prosecution of lawbreakers. Conclusively, risk management of the blue economy can be based on firm and stringent policies that encompass inclusivity and innovativeness.

To effectively assess the various risks associated with blue economy projects, the government and its implementing partners should conduct more research and develop human capacity to have adequate knowledge and capacity to harness fully the potential of the blue economy resources. Further, the government should plan and implement marine infrastructure and technology so that marine ecosystems can be effectively conserved. Additionally, the government agencies in tourism should diversify tourism products and engage in aggressive promotion of tourism.

In political and legal factors, the government should harmonize new and existing policies and engage in effective institutional reforms to enhance blue economy sustainable development. In enhancing the economic impact of blue economy projects, the biggest risk is underinvestment. The government should engage in lobbying, multilateral and bilateral treaties to increase investments in technology, research and development and infrastructure to improve the development of the blue economy sector.

To deal with environmental risk, the government and counties should collaborate to address and prioritize urban waste management to ensure responsible use and disposal that would not

adversely affect marine resources and ecosystem. Additionally, there should be focus on balancing conservation and productivity opportunities for sustainable blue economy project development. In managing social risk, the government and all its human policy making organs should invest more in training, capacity development, education, partnerships and collaborations that are geared towards enhancing human capital. Further, the community should be involved in planning and implementation of all blue economy projects.

Kenya has proposed the principles of developing marine, coastal and fishing industries based on their blue economy concept to formulate comprehensive economy and environment protection policies, boost regional economic development, realize sustainable development by promoting clean production systems and encourage creative and innovative investment. The highlights of developing blue economy in Kenya should focus on developing marine fishery, marine transportation, tourism, energy and material production industries based on the blue economy concept. Further, the country should improve and coordinate marine and land economy national policies, develop blue economy demonstration zone, strengthen connections between trade and infrastructure and promote the development of technology and human resources. In addition, Kenya should set up blue economy demonstration zones in the coastal regions, for exploring the blue economy model featured with marine industry, fishery, breeding, seaside tourism industries, small island collective, regional and bay development.

However, in developing blue economy projects, the country should ensure sustainability of the projects such that they offer the country the opportunity to diversify from a narrow production base, invest in and develop growth and employment opportunities in a wide range of both existing and new sectors and industries, and shift away from predominantly land-based industries toward those that integrate and sustainably develop a broader range of land-based, coastal, and ocean-based sectors. This could be done by ensuring it has effective risk management strategies to manage the political, economic, social, technological, environmental and legal risk that can adversely affect the sustainability of the blue economy projects.

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