MAPPING ROUTES TO A SUSTAINABLE BLUE ECONOMY

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ABSTRACT

This research study delves into the concept of the Blue Economy (BE) and its potential to drive sustainable economic growth, particularly in the context of Pakistan's maritime sector. It explores the role of the blue economy in the framework of sustainable development, concentrating on the Sustainable Development Goals (SDGs) of the UN. To maximize ocean resources for economic growth, the paper places a strong emphasis on preserving the health of ocean ecosystems. It also includes an economic and financial analysis, shedding light on the need for sustainable funding models and the potential for green financing to drive the blue economy. It also provides a comprehensive overview of Sustainable Development Goal 14, "Life below Water," and its associated targets, highlighting the importance of marine conservation and sustainable use of marine resources. This paper emphasized the need for public-private sector collaboration and green financing options to achieve the economic and environmental goals associated with sustainable blue economy development in Pakistan.

KEYWORDS: Blue Economy, Sustainable Development, Economic growth, Sustainability, CPEC, Pakistan, Marine, Ocean, Sustainable Development Goals (SDGs)

Introduction

The Blue Economy (BE) is an approach to economic growth that incorporates technological advancements with sustainable use of ocean resources to enhance livelihoods and meet the increasing need for employment while preserving the well-being of the marine environment. The blue economy has a lot of potential to increase employment and economic growth. It also fosters food security and maintains and safeguards the ocean environment in addition to generating new job possibilities and diversifying the economy to add new resources for energy, medicines, chemicals, food, and minerals for human welfare (Choudhary, 2021) In other words the sustainable industrialization of the ocean to the benefit of all. (Smith-Godfrey, 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 health of the ocean ecosystem." (Bank, n.d.)

Even though BE is a relatively new idea, the marine and its resources have enormous economic benefits for humankind. Over 70% of the planet's surface is made up of oceans, which provide an abundance of economic prospects that go well beyond traditional marine sectors. As more countries realize how much potential there is for economic activity in the ocean, the idea of the "Blue economy," which is based on the sustainable and ethical use of marine resources, has gained popularity. (.Portman, 2014)

Blue Justice

Sustainable maritime commercial operations are essential to the world's prosperity as we navigate the 21st century. It is imperative to maintain a balance between environmental stewardship and economic growth to guarantee the preservation of maritime resources for future generations. (Ehlers, 2016) In addition to being a potential area for economic growth, the blue economy offers us a chance to show how committed we are to sustainable environmental practices and resource management. (S., 2014)

Globally, businesses focused on water-related activities are estimated to be valued at USD 500 billion. According to OCED's Ocean Economy Database, the economic value of ocean outputs in 2010 was 1.5 trillion USD, or almost 2.5% of the world's gross domestic product. Furthermore, in 2010, the blue economy generated around 31 million direct full-time jobs, or 1% of all jobs worldwide. (OECD, 2017). Since the idea of BE has roots in several academic fields, including sociological and culture studies, economics, geo-economics, and political studies, we find that the development ideas exceed planetary boundaries and ecological boundaries, with tipping points creating a renewed sense of necessity for reevaluating the environment, economy, and marine/bio economic relationship globally. It can be difficult to connect BE with the UN's Sustainable Development Goals (SDGs), particularly when there are possible conflicts or competitions

between individual or industrial goals like energy provision and the reduction of carbon emissions resulting from the use of fossil fuels. A Multi-stakeholder agreement between nations produced the SDGs and its associated 17 goals, 169 targets, and 232 indicators. It is intended to reduce unsustainable development and promote sustainable development on a global scale. (Smith-Godfrey, 2016) Determining the boundaries and extent of the BE by the UN's SDGs is, nevertheless, ambiguous and difficult. More importantly, the responsibilities and interests of the major BE stakeholders are not clearly defined. To facilitate robust social progress and establish acceptable ranges for the biosphere, it is necessary to identify the key stakeholders and set appropriate and achievable goals and targets. (Christie, 2017)

Pakistan's Blue Economy and Sustainable Development

In 2015, the significance of the BE was reaffirmed. The World Bank estimates that the value of the blue economy globally is $1.5 trillion per year and is projected to quadruple by 2030. In order to address life below water, the UN included BE as United Nations SDG Goal 14. With 1050 km2 of coastline, Pakistan has a wealth of blue natural resources. The majority of the towns along the shore are impoverished. The rural communities' economy and means of survival are closely linked to the mangroves, swaps and streams, fisheries, cattle, and fish farming that up their immediate surroundings. According to ADB, 54% of these localities fall into the category of the lowest of the miserable, with 79% of the population classified as miserable. It is the government's responsibility to encourage investment in the industry so that Pakistan may benefit from its wealth of blue resources. Effective action must be taken by the Ministry of Maritime Affairs (MoMA) to improve the fishing industry's productivity and value addition (Ali, 2022).

Significance of the Study

The importance of the study is, that it focuses on the Blue Economy's potential which may support economic expansion and better living standards. The paper emphasizes the critical significance of sustainable development, especially in light of the UN's Sustainable Development Goals (SDGs). It raises attention to the consequences of the oceans' decreasing health on people, their livelihoods, and entire economies, especially local communities that depend on the ocean for their supplies.

Methodology

The primary focus of the research approach applied in this study was the comprehensive body of literature review which was carried out with an emphasis on BE, blue justice, CPEC, and sustainable development, collectively with the related management challenges and limitations within the context of Pakistan. As a key component, the study utilizes descriptive research techniques, which are considered to be important in social science research (Ramdhani, 2014) accompanied by the critical analysis of the body of existing literature.

Literature Review and Background of the Study

Pakistan's Maritime Sector

Pakistan is fortunate to have a coastline that stretches 1,050 kilometers. Out of the 142 Coastal states, Pakistan comes in at number 74 in terms of "coastline length" (Waseem, 2009). The foundation of Maritimes policy is geography, and the fortunate are those countries that have access to wide waters. Pakistan is a significant maritime nation in the Indian Ocean due to its closeness to the oil-rich Gulf area. Due to its geographic location, the nation has a strategic edge when managing transit commerce for Central Asia and landlocked Afghanistan. Nonetheless, to make use of this geographic advantage, clever and astute solutions must be put into place (Humayun, 2014).

As the backbone of Pakistan's economy, the maritime industry handles 100% of coal and oil by sea and facilitates 95% of commerce. Our everyday lives depend on this essential maritime link to power our homes, businesses, industries, and streets with oil carried by massive tankers. (Food and Agriculture Organization, 2007) This marine connection is vital to Pakistan, but many people don't know about it, which leads to a condition known as "sea blindness." (Faisal, 2014)

Pakistan's external trade was over $69.5 billion in the 2012-13 fiscal year, with $24.5 billion in exports and approximately $45 billion in imports. According to a World Bank estimate, 32.9 percent of the GDP was accounted for foreign trade in 2012, which is comprised of total imports and exports. Surprisingly, around 95 percent of Pakistan's commerce, or around 31 percent of its GDP travels by sea, totaling about $ 66.5 billion. Although exports grew rapidly up until 2007, increasing by 17 percent annually, there was a discernible decline after 2008. Conversely, imports continued to climb at a consistent rate of about 7 percent each year. (International Finance Corporation, 2014). Despite this downturn, there remains hope for Pakistan's seaborne commerce to increase in the future. According to reports, overall commerce is expected to expand at a real pace of 11.3 percent. This implies that Pakistan may play a major role in the world economy and achieve significant development in its marine commerce given the correct conditions (Khan, January 2011).

Sustainable Development in Pakistan

The term "sustainable development" is being now used as a catchphrase for academic and corporate circles. Throughout the previous few decades, the term "sustainability" has appeared in academic articles, corporate boardrooms, local government administrations, and public relations departments. Regretfully, although sustainability has gained popularity in principle, big businesses, enterprises, and local for federal governments still view it as prohibitively expensive to implement in real life (Paul, 2008). The development of the idea of sustainability is something that people frequently overlook or ignore. Even if a concept's past and development might not seem significant, they might aid in our ability to forecast future trends and defects. It will also

assist us in making sure that the upcoming century is known as "the Sustainability Century" (Elkington, 1997).

The term "sustainable development" (SD) has evolved into a widely used development paradigm; it is used by international aid organizations, and sustainable development is being used as a central theme in conferences and academic articles and as a slogan for environmental and development activists (Ukaga, 2011). In contrast to other development paradigms. SD has attracted a lot of attention and is probably going to be the dominant development paradigm for the foreseeable future. But despite its widespread use and appeal, there are increasing voices expressing disenchantment with the idea. Clear solutions are still elusive to the many people who continue to dispute its definition, meaning, and the implications it has for development theory and practice (Mensah, 2019). As a result, SD runs the risk of getting overused, similar to what happened to "appropriate terminology" – a fashionable and rhetorical term that receives a lot of recognition but has no clear definition (Springett, 2015).

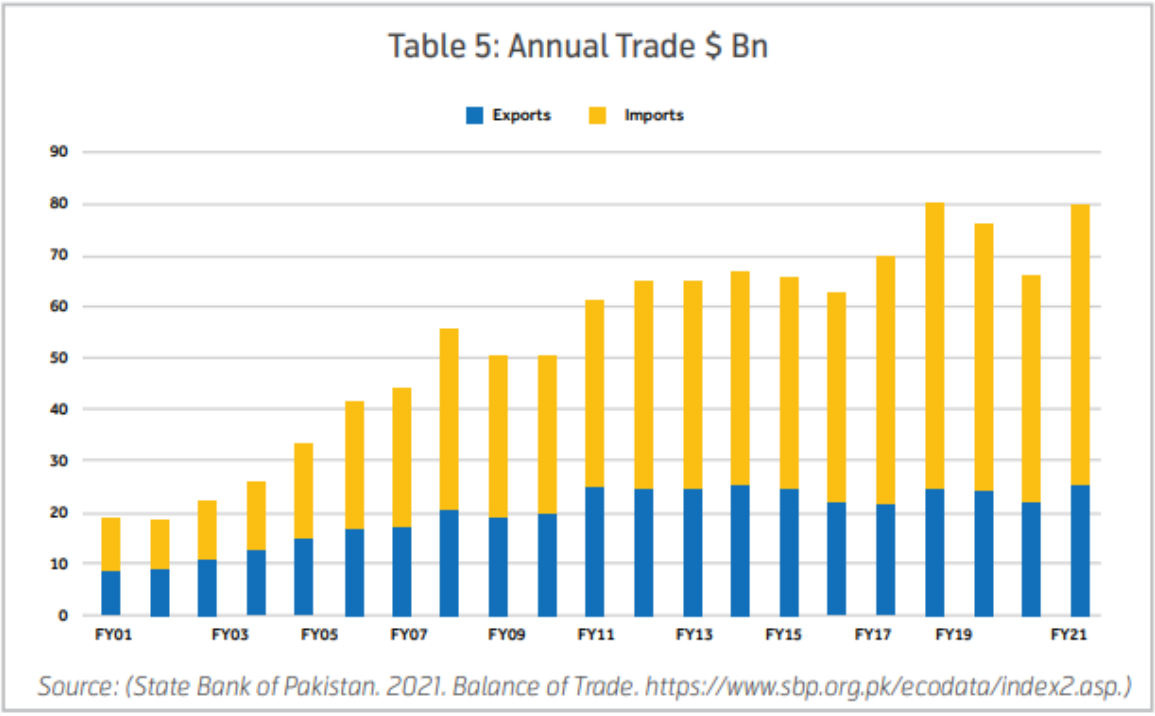
Economic Analysis & Financial Analysis

The government's effort to update current infrastructure and encourage sustainable business practices, especially in the blue economy, requires significant funding. The numbers show how sustainable debt issuance is on the rise globally, with close to USD 1 trillion in issuance by 2021 and 10% of all bond holdings. (Askari, 2020) The identification of global green financing instruments as a crucial strategy is suggested for tackling the financial obstacles linked to the establishment of a sustainable blue economy. The Paris Agreement and other initiatives have led to a significant global increase in the issue of sustainable bonds, which highlights the possibility of raising money for eco-friendly projects. China and India, in particular, have been at the forefront of the sustainable bond market, with the Indian business sector obtaining substantial sums of money through the issue of green and ESG bonds. The blue economy has potential as a result of the worldwide shift towards Environmental, Social, and Governance (ESG) financing, especially in sectors like sustainable aquaculture and renewable energy. (Ali, 2022).

In contrast to other industries, the blue economy has been slower to access ESG funding, despite its potential. The blue economy needs to catch up with new market trends, even though examples such as the sovereign 'blue' bond issued by Seychelles demonstrate creative financing for marine conservation. Pakistan must implement a comprehensive institutional approach, as recommended by the State Bank of Pakistan and the Ministry of Finance. (Ali, 2022) It will be crucial to reinforce the Green Finance guidelines and to motivate private companies to comply with the emissions standards established by COP 15.

The financial analysis highlights the need for a wider range of environmentally friendly assets, compliance with global norms, and the possibility of lowering the average cost of debt by issuing sustainable bonds. The figures that are displayed highlight the large investments that are necessary

to satisfy the global environmental targets in several sectors, including transportation, energy, and water infrastructure. To overcome financial constraints, Pakistan must learn from successful situations such as Mauritius, Kenya, and Bangladesh, where creative funding sources have been exploited. (Ehlers, 2016). The economic and financial analysis concludes by highlighting the blue economy's transformative potential through sustainable debt issuance. Adopting creative financing models and strategically aligning with global trends is necessary to strike a balance between the demands of economic uplift, sustainability, and modernization. Realizing the economic and environmental goals specified for a sustainable blue economy in Pakistan will depend heavily on public-private sector cooperation and an emphasis on green financing options.



SUSTAINABLE DEVELOPMENT GOAL

Sustainable Development Goal 14 – Life below Water

The seven SDG targets are closely linked to the three topics of SDG 14: sustainable use of marine and ocean resources, ocean and climate, and marine pollution. The review focuses on three themes that we have grouped the seven objectives under; marine pollution (target 14.1), ocean and climate (target 14.2, 14.3, 14.5), and the sustainable use of marine and ocean resources (targets 14.7, 14.4, and 14.6) (Lee, 2020).

SDG 14: Preserve and responsibly utilize marine resources, the oceans, and the seas for Sustainable Development:

Targets	Details	UN Definition
14.1	Prevent Marine Pollution	Prevent and drastically decrease marine pollution by 2025, especially those caused by land-based activities, such as nutrient and marine debris contamination. Determined by the density of floating plastic trash and the coastal eutrophication index.
14.2	Conserve and rebuild ecosystems	To attain healthy and productive seas by 2020, manage marine and coastal ecosystems sustainably, safeguard them, and take steps to restore them. Determined by the percentage of a country's exclusive economic zones that are run with an ecology in mind.
14.3	Prevent Marine Acidification	Reduce the effects of marine acidification and deal with it, especially by improving scientific collaboration across all domains. Determined by taking an average measurement of the pH of the marine environment at a set number of representative sample stations.
14.4	Ecological Fishing	In order to quickly rebuild fish supplies, harvesting should be properly managed by 2020. Illegal, unreported, and unregulated fishing should also be stopped. If at all possible, to the extent that their biological traits permit them to yield their maximum sustainable production. Expressed as the percentage of fish stocks that remain within biologically viable levels.
14.5	Conserve coastal and marine areas	In compliance with local, state, federal, and international legislation, preserve at least 10% of coastal and marine regions by 2020. As measured by the amount of protected area covered in connection with maritime regions.
14.6	Eliminate incentives that fuel overfishing	By 2020, outlaw subsidies related to overfishing and overcapacity in the fisheries industry. Subsequently, remove any subsidies that support illicit, unreported, or uncontrolled fishing. Assessed by taking a close look at how successfully countries are carrying out international accords intended to put an end to unreported, unregulated, and illegal fishing.
14.7	Boost the financial gains from using marine resources sustainably	By 2030, make the benefits of sustainable marine resource use more substantial for developing countries with tiny islands and Least Developed Countries. This involves sustainable management of fisheries, aquaculture, and tourism, computed as the sustainable fisheries GDP share.

Conclusion

Seas and oceans have historically been important sources of revenue for countries. The sustainable utilization of ocean resources to support economic growth is what the World Bank refers to as the "blue economy." This report discuss the significance of blue economy in UN SDGs, and expand

its concept. Additionally they discuss about the growth through green financing and sustainable livelihoods, and policy recommendations. The UN's adoption of Blue Economy in the Sustainable Development Goals (SDGs) as UN SDG Goal 14, which is focused on life below water, in 2015 served as more evidence of the blue economy's significance. With 1050 kilometers of coastline, Pakistan is endowed with an abundance of blue natural resources. The blue economy contributes $1 billion, or about 0.4%, of the nation's GDP. The majority of this contribution comes from marine revenue, coastal tourism, and fishing. The blue environment currently lacks the more technologically advanced industries, such as energy, medicines, and minerals. The majority of the towns along the shore are impoverished. Fish farming, fisheries, subsistence farming, livestock rearing, and mangrove swamps and streams are all integral parts of these rural communities' economies and ways of life. According to ADB, 54% of these localities are among the lowest of the poor, with 79% of the population classified as poor. The establishment of sustainable fishing methods, supportive bank finance, and coastal tourism amenities may all significantly reduce the poverty of these people. In order for Pakistan to profit from its abundance of blue resources, the government ought to promote investment in the sector. It needs to work with SBP to provide loans with straightforward credit and no interest.

Policy Recommendation

To improve the standard of living in the community, the research also offers policy recommendation that are intended to increase investment, improve the sustainability of economic activity, and establish new economic activity cluster. In order to boost coastal tourism, need to encourage private sector investment, in form of public-private partnerships, and provide tax relief to support these initiatives. Collaborate with the

State Bank of Pakistan to provide microloans with no interest rates and incentives to boost the growth of the fishing industry. Utilize electronic and automated technologies for consignment tracking and auctions. Sustain mutually beneficial relationships with surrounding nations to protest national interest in the Indian Ocean and facilitate easy access into Exclusive Economic Zones.

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