
HARNESSING INDIA'S BLUE ECONOMY FOR NATIONAL DEVELOPMENT

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ABSTRACT:

India's Blue Economy is a subset of the country's economy that includes the entire gamut of maritime resources and man-made economic infrastructure within India's legal jurisdiction's maritime, and onshore coastal zones, which facilitate in the development of goods and services and have direct links to economic growth, environmental sustainability, and national security. The enormous potential of the oceans has yet to be completely realised. Having said that, this capacity must be harnessed in a balanced manner, with due consideration given to the protection and wellbeing of the oceans, as well as adherence to the United Nations Sustainable Development Goal 14: "Conserve and sustainably use the oceans, seas, and marine resources for sustainable development."

Keywords: blue economy, environment, maritime biodiversity, national development, sustainability.

In 1994 Dr. Gunter Pauli, a renowned economist, had conceived and enunciated the concept of 'Blue Economy' amidst the impending peril of climate change, an economic design based on the principles and values of the Sustainable Development Goal 14 that endeavours to conserve and sustainably use maritime and oceanic resources for a sustainable economic order (Pauli, n.d.). Keeping in true spirit with the philosophy of sustainability, this economic model lays particular emphasis on the "no waste and no emissions" policy while encouraging the use of innovation, technology and economic competitiveness for the development of trade and commerce around the coastal communities (*United Nations Conference on Sustainable Development, Rio+20, n.d.*).

Although the concept was first introduced at the turn of the 20th century, it gained significant relevance and impetus only post the 2012 United Nations Conference on Sustainable Development, Rio+20, wherein the respective Member States envisaged a political decree, comprising of an action plan for implementing and promoting sustainable development, globally. In pursuance of the sustainable discourse, there were significant revisions made to the Green Economic policies, too. The United Nations has widened the ambit of the Green Economy by incorporating Blue Economy. (*India's Blue Economy, 2020*). The most notable event of the Summit was the deliberation over the formulation of the Sustainable Development Goals (SDGs) that were scheduled to ensue upon the expiration of the Millennium Development Goals (MDGs) in 2015.

In the recent times, there has been a growing interest in maximising ocean revenues. The Indian Ocean contributes significantly to the economy in terms of livelihoods, cultural identities, fisheries, offshore oil and natural gas deposits, tourism, and maritime industries, among other things. New opportunities for commercialization and industrial growth exist in developed sectors of capture and exploitative resource industries, necessitating the need for sustainable development through the sharing of expertise, information, and governance. India has the opportunity to create skills and expertise to reinforce the practice of sustainability in the Indian Ocean.

The Indian Ocean Rim area is gaining popularity because it has a diverse range of biodiversity resources, including coral reefs, mangroves and seagrass beds, as well as deep oceans that provide high-value goods and nutritious food. Moreover, it has the potential for economic development, job creation, and livelihood maintenance. Fish production from the estuarine and pelagic zones is very high in the Indian Ocean. The current focus is on marine materials such as metals and minerals, as well as other non-living commodities. The focus of developmental activities is likely to expand to the maritime area in order to provide shipping services and improve land-based infrastructure for maritime trade and commerce. The diverse maritime opportunities available in the Indian Ocean is key to global geopolitics. With proper long-term efforts and strategies in place, the potential is enormous and highly beneficial in meeting both current and future human needs and national interests.

In 2019, the Government of India (GOI) unveiled a 'New India' agenda, identifying ten dimensions to enhance the country's socio-economic sustainability model. These include *the Physical and Social Infrastructure, Digital India, Energy Security and Pollution Control, Expanding Rural Industrialisation, Clean Rivers, Blue Economy, Space Programme, Food Self-Sufficiency, A Healthy India, and Minimum Government and Maximum Governance*. The agenda views the Blue Economy as an economic catalyst for national development. While

India aims to achieve its \$10 trillion economic aspiration by the year 2030, the government has identified Blue Economy as a promising driver of change.

The Indian Ocean Rim Association (IORA) summit held in Jakarta in 2017 referred to the Blue Economy as a “driver of inclusive and sustainable economic growth and development in the Indian Ocean Region (IOR)”. It also emphasised the importance of promoting the Blue Economy as a key source for inclusive economic growth, job creation, and education based on evidence-based sustainable marine resource management (FICCI, 2017).

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India has a coastline of 7516 kms which is home to nine coastal states and 1382 islands. 95% of Indian business transits through the oceans and seas. The country has established 12 major ports and 187 non-major ports that handles almost 1400 million tons of cargo each year (Maini & Budhreja, n.d.).

India’s vision of Blue Economy is multi-dimensional. It comprises of ocean resources, physical infrastructure for maritime economic development, marine facilities and coastal management services for ensuring economic growth and sustainability and providing national security. To meet the national economic goals, there is a need to emphasise on sustainability and efficiency in ocean resource-use, to capture opportunities in emerging ocean industries, to harness offshore renewable energy along with exploring seabed mineral resources and to focus on developing trade in services (EAC, n.d.) Despite the fact that the Indian Ocean is rich in natural resources, it has yet to be completely exploited for economic growth.

In order to achieve its vision of Blue Economy, India has been working incessantly since 1981, when it created a Department of Ocean Development currently known as the Ministry of Earth Sciences (MoES), to reap and manage the country’s water resources. India also commenced several programmes like *Deep Ocean Mission*, *Oceanography from space* and *Launching of the data buoys* to buttress its Blue Economy.

The MoES is also working with the United Nation Environment’s Clean Seas Campaign to reduce the marine litter in the oceans, which is also an initiative under SDG-14. To fulfil the various facets of Blue Economy, the country has engineered a comprehensive strategy to envisage its maritime interests, for which it has prioritised seven crucial areas (*India’s Blue Economy*, 2020):

- i) National Accounting Framework for Blue Economy and Ocean Governance
- ii) Coastal Marine Spatial Planning and Tourism
- iii) Marine Fisheries, Aquaculture and Fish Processing
- iv) Manufacturing, Emerging Industries, Trade, Technology, Services and Skill Development
- v) Logistics, Infrastructure and Shipping (including transshipments)
- vi) Coastal and Deep-Sea Mining and Offshore Energy
- vii) Security, Strategic Dimensions and International Engagement.

National Accounting Framework for Blue Economy and Ocean Governance: At present maritime economic activities stand at 4.1 % of India’s economy. In order, to augment the revenue shares of Blue Economy, there is a need to boost various commercial activities such as sea energy, fields of shipping, offshore oil and gas, fishing and tourism. The Indian Government should coordinate with various arms of the Federal Structure and use the inter-ministerial data for managing various attributes of the Blue Economy (*India’s Blue Economy*, 2020).

Coastal Marine Spatial Planning and Tourism: As far as spatial planning is concerned; India could assimilate the Coastal Marine Spatial Planning (CMSP) approach of the Inter-governmental Oceanographic Commission (IOC)- UNESCO (2009) guidelines to meet its national needs. A national level authority should be established to define the scope of CMSP and while various sectors of economy need to be integrated which are relevant for coastal planning. India should also enhance its human resource domestic capacities for operationalising the CMSP as the Indian Coast houses 30% of the country’s total population. For mapping, the policy report suggested to frame a new National Map and Data policy to have a transparent and secure data base.

In order, to develop the scope of tourism, the Ministry of Tourism should collaborate with the Ministry of Environment, Forest and Climate Change (MoEF & CC) and the MoES, to ensure that the environmentally sensitive tourist areas are protected from degradation and pollution while promoting tourism to boost the Blue

Economy. Bearing in mind the increasing oceanic pollution, there is a need for developing a comprehensive Plastic Elimination and National Marine Litter Policy (PENMLP).

Marine Fisheries, Aquaculture and Fish Processing Sector: To maintain and safeguard the marine biodiversity, ocean health should be constantly monitored. For the sustainability of marine fishing, there is a need to prevent adversative impacts on Vulnerable Marine Ecosystems (VMEs) to achieve Potential Yield Estimates (PYE)(*India's Blue Economy*, 2020). Also, regular patrolling should be undertaken to regulate fishing practices to ensure that the maritime eco-system is not completely exploited and destroyed.

Mariculture is an emerging sector in Blue Economy which needs special attention. To enhance the production of mariculture, a comprehensive National Mariculture Policy should be commissioned. Research and Development should be given precedence for promoting sustainable development of mariculture. Speaking of fish processing, the Fishery Management Regions (FMRs) need to establish a Code of Conduct for Responsible Fisheries (CCRF) for accountability and transparency.

Manufacturing, Emerging Industries, Trade, Technology, Services and Skill Development: The Indian economy benefits greatly from marine biology and biotechnology. By 2025, India expects to generate \$100 million in revenue from biological and biotechnology industrial development, implying that ocean-based resources have enormous potential. The Department of Biotechnology has taken the lead in establishing a cutting-edge institute of ocean biology and biotechnology to address a variety of marine biotechnology concerns and approaches with a focus on Research and Development (R&D) (Ninawe & Indulkar, 2019). This will include science, education, and knowledge-sharing programmes, as well as advanced trainings. The promotion of a blue economy centred on ocean resources and conservation will present new India with both challenges and opportunities.

Project Sagarmala is an endeavour to not only improve the coastal shipping and to develop the inland waterways but to also transform the maritime logistic system in the country which would reduce logistics costs and simultaneously offer millions of new jobs (*India's Blue Economy*, 2020).

Logistics, Infrastructure and Shipping (including transhipments): The government should formulate a 30-year shipbuilding programme under Atmanirbhar Bharat (self-reliant India) to bolster the shipping industry. Under the system of logistics, Energy Efficient Design Index Standards should be followed for building ships. Also, a Maritime Development Fund should be formulated for shipbuilding, ship repair and ship recycling and for all forms of technology development in the maritime industry. To maintain the environmental regulations, sustainable port development through renewable use of energy, water conservation, modern waste management based on zero waste and energy efficiency should be ensured.

The Indian government has already adopted Sagarmala Project for the strategic developments of ports. It focuses on the development of inland waterways and coastal shipping by which it facilitates in the development of coastal communities and people for sustainably using the marine resources.

Coastal and Deep-Sea Mining and Offshore Energy: In order to develop manned submersibles which is a major requirement before mining, the government should commence a manned submersible mission by 2023. For the Mission Offshore Wind Energy, various national institutions should work in partnership through a Mission Mode project under the New & Renewable Energy, Government of India.

Security, Strategic Dimensions and International Engagement: The Indian Ocean Rim Association (IORA) and individual countries such as Seychelles, Mauritius, India, and Australia have well-developed the concept of blue economy for expansion in the Indian Ocean, based on its enormous potential. The countries of the Indian Ocean have the potential to develop skills and experience to support long-term blue economic development and sustainability. The sector is expanding and has the capacity to maintain the ecosystem. Maritime transport is the cornerstone of the blue economy at a global level, responsible for over 80% of global trade and exceeding 10 billion tonnes of oil production. For international engagement, India should identify its international partners. For instance, the emerging Seychelles- Singapore- Samoa (SSS) axis could be considered as a strategic axis for its economic development (Ninawe & Indulkar, 2019). In order to meet its security and strategic dimensions, India should train diplomatic cadre to operationalise 'Blue Diplomacy'.

CONCLUSION

Ocean-based industries such as fisheries, shipping, tourism, deep sea mining, offshore energy resources, marine exploration, ocean conservation, and ocean sciences generate millions of jobs and have the potential to create even more. Furthermore, India's blue economy platform lays out a clear path for all stakeholders to explore opportunities and invest in these sectors for long-term benefits.

For India, the blue economy entails a huge ocean of economic opportunities that play an equal role in creating and maintaining livelihoods. India is also the third largest fish producing and second largest aquaculture fish producing country in the world (NFDB (National Fisheries Development Board) (2020a), *Introduction to Fish and Fisheries*, NFDB: National Fisheries Development Board, 2020). Therefore, all the sectors across Blue Economy have the potential to engage a large workforce and have been doing so from the past many decades at least in sectors such as fishing, aquaculture, fish processing, marine tourism, shipping and port activities. Now, engagement in new sectors such as offshore wind, marine biology, biotechnology, and other activities like ship building and ship breaking is also rising extensively (Juneja, n.d.).

Among these, the fisheries sector alone provides livelihood to about 16 million fisherfolk and fish farmers at the primary level and almost twice that number along the value chain. The government envisions this sector to have immense potential to more than double the fisherfolk and fish farmers' incomes. The shipping sector is also one of the primary livelihood providers in the blue economy as India has one of the largest merchant shipping fleets among the developing countries and ranks 17th in the world (Juneja, n.d.).

Seaports also have a significant amount of jobs. Unlike India's major ports, minor ports have seen a rise in jobs, from 1,933 in 2003 to 19,102 in 2017 (EAC, n.d.). Minor ports have surpassed the big ports in terms of cargo volume growth over the last five years. This is due to the fact that they are located in more strategic positions, have modernised infrastructure, and run more efficiently. Marine tourism is also one of the fastest growing industries in the world, as well as in India. Coastal tourism has made a significant contribution to the economies and livelihoods of coastal states like Kerala, Karnataka, and Tamil Nadu. However, due to pandemic outbreak in 2020, this industry has been among the worst hit, but coastal states are now revisiting their strategies to draw local and domestic visitors, focusing on adventure and eco-tourism (Juneja, n.d.).

The world is looking to the oceans for a variety of new emerging opportunities and sectors, but the success of these new sectors, would be solely dependent on the health of the maritime eco-system and the long-term sustainability of their brittle natural habitat, for which it is critical to boost blue economy to devise the right course of action to strike the right balance between economy and environment.

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