



Original Article

Blue Economy in India and Government initiatives for its development

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Abstract

According to UN report 2022, 2/5th of population in the world settle adjoining to coastal areas, over 3 billion people use the oceans for their occupation, and 80 per cent of international trade occurs utilizing the seas. Blue Economy, in Indian perspective includes "the complete system of ocean resources and economic linked infrastructure prepared by man in marine, maritime and onshore coastal areas within national legitimate jurisdiction, assisting in the generation of goods and services and have robust bonds with economic growth, sustainability of environment and security of nation" as presented by NITI Aayog. Indian coastline provides around 95 per cent of size of trade and 68 per cent of worth of trade. This picture presents a rising prominence to the blue economy of the country. India, with a coastline spanning over 7517 kms, has gained a significant position in the world maritime industry which helps it to develop as a blue economy. The country with 12 major ports and about 200 non-major ports transporting around 1550 million tons of cargo per year. Blue economy has a significant role to play in sustainability of India. It can speed up growth in economy along with ensuring environmental protection. The Maritime Amrit Kaal Vision 2047, a flagship programme of India whose initiative is to modernise ports, expand shipping infrastructure and stimulate renewable marine energy. An investment target of INR35,000 crore has been earmarked by 2047. The future of India's blue economy pivots on innovative practices, operative policies, and responsible development, safeguarding a prosperous and sustainable ocean economy. This paper tries to attempt various initiatives taken by Government of India for growth of blue economy in India and some recommendations for its development.

Keywords: Blue Economy, Challenges, Development, Government, India, Initiatives, Sector-wise.

Introduction

The 'Blue Economy' notion was first pronounced by Gunter Pauli in 2010. It was later discussed at the United Nations Conference on Sustainable Development, Rio + 20 in 2012 (ORF, 2019). The SDG (Sustainable Development Goal) 14 of United Nations aims to "Conserve and sustainably utilize the oceans, seas and marine resources for sustainable development". According to UN report 2022, 2/5th of population in the world settle adjoining to coastal areas, over 3 billion people use the oceans for their occupation, and 80 per cent of international trade occurs through the seas.

India's blue economy is growing at a rapid pace as a vital engine for development of nation, with its extensive 11,098 km-coastline and a vast 2.4 million square km Exclusive Economic Zone (EEZ). The Ministry of Earth Sciences (MoES) in its capacity as Nodal Organization taken the responsibility of developing blue economy in India. It designed a Draft Policy at National level for blue economy. Apart from the Ministry of Earth Sciences, the blue economy consists of 24 other ministries such as the Ministry of Ports, Shipping and Waterways; Ministry of Fisheries; and Ministry of Environment, Forest and Climate Change. These ministries are taking various initiatives in this regard. The Blue Revolution in 2020 and the Deep Ocean Mission in 2021 are comes under this initiative. Besides, several other programs are also being undertaken under the Maritime India Vision 2030. Several initiatives were being at state level by nine coastal states and four coastal union territories.

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Blue Economy, in Indian perspective includes “the complete system of ocean resources and economic linked infrastructure prepared by man in marine, maritime and onshore coastal areas within national legitimate jurisdiction, assisting in the generation of goods and services and have robust bonds with economic growth, sustainability of environment and security of nation” as presented by NITI Aayog. Blue economy has a significant role to play in sustainability of India. It can speed up growth in economy along with ensuring environmental protection.

Scope and Need of the Study

This study assesses the Blue Economy in India as multi subject approach. It covers marine living resources, maritime transport and shipping, Offshore renewable energy coastal tourism and heritage conservation, marine biotechnology, blue innovation and non-living resources. It also includes initiatives taken by Government of India for the development of blue economy and various challenges involved in it.

The blue economy presently contributes around 4 per cent to India's Gross Domestic Product (GDP) and has capacity for exponential growth. It is very essential to give priority to this sector. Climate change poses a great risk to low-lying coastal areas. This has a great impact on millions of people who depend on marine resources for their livelihoods. Taking initiatives by Government can boost blue economy and thus economic growth.

Wide-ranging Coastline and Economic Zone: India's blue economy has a wide-range 11,098 km-coastline and enormous Exclusive Economic Zone of 2.4 million square km.

Share in GDP: The share of India's blue economy in its GDP is around 4 per cent and has capacity for exponential growth.

Source of livelihood: According to UN report 2022, 2/5th of population in the world settle adjoining to coastal areas, over 3 billion people use the oceans for their occupation.

International trade: 80 per cent of India's international trade occurs through the seas.

Economic Perspective: From the reports of Economic Survey (2020), there is a projection that the contribution of Blue Economy in GDP of India could spread up to \$1 trillion by 2030.

Environmental Sustainability: There is a great threat to marine biodiversity due to overfishing, plastic and chemical pollution, oil spills, and loss of habitat.

Viksit Bharat 2047: The Maritime Amrit Kaal Vision 2047, a flagship programme of India whose initiative is to modernise ports, expand shipping infrastructure and stimulate renewable marine energy.

Vision of New India: To accomplish the vision of New India by 2030, with a target of US\$100 billion blue economy.

Objectives of study

1. To study initiatives taken by Government of India for the development of blue economy.
2. To study the challenges faced in the development of blue economy.

3. To make suggestions for the development of blue economy.

Research Methodology

The present study is based mainly on the secondary sources of data which is collected from various websites relating to blue economy and initiatives taken by Government of India for the development of blue economy.

Hypotheses

H0: The Government initiatives has no significant impact on development of blue economy.

H1: The Government initiatives has significant impact on development of blue economy.

Sector-wise government initiatives

Marine living resources

Objectives

1. Increase fish production and exports
2. Diminish post-harvest losses
3. Enhance sustainable aquaculture or mariculture
4. Conserve ecosystems in Oceans.

Key government initiatives

PMMSY (Pradhan Mantri Matsya Sampada Yojana) (Rs. 20,050 crore, period from 2020 to 2025): Its aim is to encourage sustainable fisheries and aquaculture

FIDF (Fisheries and Aquaculture Infrastructure Development Fund) (Rs. 7,522 crore): The chief object behind the allocation of this fund is modernization of landing centres, besides providing cold storage facilities.

National Fisheries Policy, 2020: This policy aims to cut down postharvest losses and promote sustainable practices in fisheries.

Blue Revolution (Rs. 3,000 crore): Its main aim is to support seaweed farming and mariculture

CRZ (Coastal Regulation Zone) Notification, 2019: The object of this notification is to regulate fishing in sensitive regions.

Maritime transport and shipping

Objectives of this initiative

1. Modernize infrastructural facilities of ports
2. Cut down in logistics costs
3. Encourage domestic shipbuilding
4. Transition to green shipping

Key government initiatives

Sagarmala Programme (Rs 5.79 lakh crore): This programme is aimed to increase port-led development.

Maritime India Vision 2030: The Vision has an aim of 2,500 MTPA (Million Tons Per Annum capacity), green shipping.

National Logistics Portal (Marine) (2023): This Portal aims to streamline trade related facilities.

Ship Building Financial Assistance Policy, 2016: It is started to promote Indian vessels.

Harit Sagar Guidelines of 2023: The main object of these guidelines is to develop green ports (a target of 60 per cent RE by 2030).

Offshore renewable energy**Objectives**

1. Develop 30 GW offshore wind capacity
2. Encourage tidal or wave energy pilots
3. Promote data-driven planning
4. Support clean energy goals.

Key government initiatives

National Offshore Wind Energy Policy, 2015: Its Nodal Organization is MNRE (Ministry of New and Renewable Energy) whose target is to produce wind energy in offshore areas.

VGF (Viability Gap Funding) scheme, 2024 (Rs. 7,453 crore): The chief motive of this scheme is to assist one GW offshore wind.

Strategy for Offshore Wind (Revised 2023): The aim of this strategy is 30 GW by 2030.

Guidelines for Offshore Wind Assessment, 2018: The Assessment is planned to Standardize data

OTEC (Ocean Thermal Energy Conversion) Pilots of Deep Ocean Mission: It targets to achieve 10 MW OTEC by 2027.

Coastal tourism and heritage conservation**Objectives**

1. Encourage tourism in coastal and heritage regions
2. Conservation of maritime cultural assets
3. Development of cruise infrastructure
4. Promote sustainable tourism.

Key government initiatives

Swadesh Darshan Scheme (Rs. 1,200 crore, 2014—2024): The scheme develops coastal circuit areas.

PRASHAD (Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive) Scheme (Rs. 300 crore): The scheme encourages heritage sites.

CRZ Notification, 2019: The Notification facilitates sustainable tourism.

Iconic Tourist Sites Initiative, 2020: It restores tourist sites.

Sagarmala Programme (Cruise Tourism): This Programme has a target for the development of five cruise terminals.

Marine biotechnology and blue innovation**Objectives**

1. Promote marine biotech R&D (Research and Development)
2. Commercialize bio-resources
3. Streamline rules and regulations
4. Foster startups about blue technology.

Key government initiatives

National Biotechnology Development Strategy, (Rs. 2,000 crore, 2021—2025): The strategy grants funding to marine biotech.

Deep Ocean Mission (Bioprospecting) (Rs. 500 crore): Its main target is to categorize novel compounds.

BioRRAP Portal, 2023: The Portal simplifies regulatory approvals.

Blue Revolution Scheme (Seaweed): It encourages seaweed farming.

Atal Innovation Mission: The aim of this Mission is to assist 25 blue technology startups (Rs. 50 crore).

Non-living resources**Objectives**

1. Boost offshore oil or gas production
2. Encourage deep-sea mining capacity
3. Guarantee sustainable extraction
4. Strong port logistics.

Key government initiatives

HELP, 2016 which stands for The Hydrocarbon Exploration and Licensing Policy provides approval permission to offshore blocks.

Deep Ocean Mission (Mineral Mapping) (Rs. 4,000 crore, from 2021 to 2026): The Mission maps polymetallic nodules.

National Mineral Policy, 2019: Its motive is to enhance sustainable seabed mining.

Sagarmala Programme (Port Projects): This Programme helps hydrocarbon logistics.

CRZ Notification, 2019: This Notification prepares Regulations for offshore extraction.

Challenges in the development of Blue Economy in India

- Overfishing adversely affects fish stocks and thus it causes threat to biodiversity. Marine pollution is the source of damage to marine ecosystem, for instance, mangroves and coral reefs. Climate change has its impact on fish produce in tropical waters.
- Port pollution affects coastal ecosystems. Climate change has its impact on existing port infrastructure. IMO (International Maritime Organization) carbon intensity regulation causing higher compliance cost for vessels.
- Environmental risks like seabed disruption affect marine habitats. Climate change resulting in cyclones lead to operational risks. Comprehensive EIA (Environmental Impact Assessment) s are also not conducting as per requirement.
- Coastal erosion causing threat to many heritage sites. Few heritage sites have climate adaptation plans. Over-tourism and pollution causes harm to a significant portion of protected beaches and oceanic ecosystems. Unplanned development in coastal parts caused these regions exposure to risk.
- Ecological stress in key marine zones affects bio-resource potential. Pollution has its adverse impact on quality and availability of marine bio-products. Climate change reduces access to valuable ocean based resources.
- Oil spills and activities in seabed regions causes threat to marine ecosystems. Assessment is not possible for most of the EEZs (Exclusive Economic Zone). Deep-sea mining risks damaging ocean habitats, with limited mitigation plans in place. Climate change heightens risks for offshore infrastructure and operations.
- Low investment in private sector restraining infrastructure development. Further, insufficient insurance for high seas ventures discourage capital

intensive operations. There is also shortage of credit facilities for small scale fishing traders or startups.

- Biotech startups are facing shortage of venture capital. Public grants are the major source of funding, with few committed blue biotech funds. There is also high dependence on imported specialized equipment. Research commercialization is not at required rate.
- There are significant infrastructural gaps in coastal destinations. Many coastal destinations do not have even proper sanitation and transport. Cruise infrastructure has limited terminals and underdeveloped. Most of the heritage sites do not possess digital tools such as AR or VR and online booking platforms.
- Cold chain facilities are limited causing in post-harvest losses. There is also limited implementation of modern fishing technology.
- There is low investment in Swadesh Darshan projects by private sector. Coastal heritage sites under the management of ASI facing the problem of insufficient and fragmented funds. Further, there is limited access to financing for community centred tourism cooperatives.

Suggestions and Policy Recommendations

1. There is an opportunity to further improve inter-ministerial coordination to assist the effective implementation of sustainable fishing regulations in the country.
2. There must be improved collaboration between Union and State Government port authorities. This may lead to smoother and more timely implementation of projects.
3. A more consistent policy structure across relevant agencies should be framed. This could assist efficient implementation of projects, especially in areas like seabed leasing.
4. Opportunities exist to boost more arrangement among tourism, cultural, and environmental bodies. This could strengthen planning in coastal regions and heritage conservation efforts.
5. Regulatory processes should be streamlined and stronger inter-agency cooperation should be fostered. These measures could help speed up marine research, environmental permitting, and commercialization of pathways.
6. Clarifying regulatory frameworks and advancing deep-sea mining governance may assist more strategic alignment and improve overall project efficiency.
7. Investment in Swadesh Darshan projects should be made by not only private sector but also to be made by Government. Sufficient funds to be provided for coastal heritage sites under ASI.
8. Cold chain facilities are to be improved, reducing to post-harvest losses. Modern fishing technology should be implemented widely.
9. Over-tourism and pollution must be checked which plays a significant role in protected beaches and ecosystem in oceans. Besides, there must be planned development in coastal parts leading to less exposure to risk in these regions.

Conclusion

The government initiatives contribute to develop infrastructure, boost key sectors, attract adequate private investment and alleviate environmental degradation. As a whole, the blue economy offers substantial opportunities for economic growth and job creation. India's blue economy signifies a dynamic opportunity to transform oceanic resources of the nation into a powerful engine for sustainability in economic growth, resilience in environment and social inclusion. The future of India's blue economy rests on innovative practices, operative policies, and responsible development, leading to a flourishing and sustainable ocean economy. Hence H₀ (The Government initiatives has no significant impact on development of blue economy) is rejected and H₁ (The Government initiatives has significant impact on development of blue economy) is proved and accepted.

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Conflicts of interest

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References:

1. Department of Biotechnology (DBT). (2021). National Biotechnology Development Strategy (2021–2025). Government of India. Retrieved from <https://dbtindia.gov.in/schemes-programmes/national-biotechnology-development-strategy>
2. Department of Fisheries (DoF). (2020). Pradhan Mantri Matsya Sampada Yojana (PMMSY). Government of India. Retrieved from <https://dof.gov.in/pmmsy>
3. Department of Fisheries (DoF). (2020). Fisheries and Aquaculture Infrastructure Development Fund (FIDF). Government of India. Retrieved from <https://dof.gov.in/fidf>
4. Department of Fisheries (DoF). (2020). National Fisheries Policy, 2020. Government of India. Retrieved from <https://dof.gov.in/policies>
5. Department of Fisheries (DoF). (2017). Blue Revolution Scheme. Government of India. Retrieved from <https://dof.gov.in/blue-revolution>
6. Ministry of Earth Sciences (MoES). (2021). Deep Ocean Mission. Government of India. Retrieved from [<https://moes.gov.in/programmes/deep-ocean>



- mission](<https://moes.gov.in/programmes/deep-ocean-mission>)
7. Ministry of Earth Sciences (MoES). (2025). *White Paper on Blue Economy. Government of India. Retrieved from [https://www.moes.gov.in/sites/default/files/2025-05/White-Paper_Blue_Economy.pdf](https://www.moes.gov.in/sites/default/files/2025-05/White-Paper_Blue_Economy.pdf)
 8. Ministry of Environment, Forest and Climate Change (MoEFCC). (2019). Coastal Regulation Zone Notification, 2019. Government of India. Retrieved from <https://moef.gov.in/coastal-regulation-zone/>
 9. Ministry of New and Renewable Energy (MNRE). (2015). National Offshore Wind Energy Policy. Government of India. Retrieved from <https://mnre.gov.in/offshore-wind/>
 10. Ministry of New and Renewable Energy (MNRE). (2018). Guidelines for Offshore Wind Assessment. Government of India. Retrieved from <https://mnre.gov.in/offshore-wind-strategy/>
 11. Ministry of New and Renewable Energy (MNRE). (2024). Viability Gap Funding (VGF) Scheme for Offshore Wind. Government of India. Retrieved from <https://mnre.gov.in/vgf-offshore-wind/>
 12. Ministry of Ports, Shipping and Waterways (MoPSW). (2020). Maritime India Vision 2030. Government of India. Retrieved from <https://shipmin.gov.in/maritime-vision/>
 13. Ministry of Ports, Shipping and Waterways (MoPSW). (2023). Harit Sagar Guidelines, 2023. Government of India. Retrieved from <https://shipmin.gov.in/harit-sagar/>
 14. Ministry of Ports, Shipping and Waterways (MoPSW). (2016). Ship Building Financial Assistance Policy. Government of India. Retrieved from <https://shipmin.gov.in/shipbuilding/>
 15. Ministry of Ports, Shipping and Waterways (MoPSW). (n.d.). Sagarmala Programme. Government of India. Retrieved from <https://sagarmala.gov.in/projects/>
 16. National Logistics Portal (NLP). (2023). National Logistics Portal (Marine). Government of India. Retrieved from <https://nlp.gov.in/>
 17. NITI Aayog. (2019). Blue Economy in the Indian Ocean: Governance perspectives for sustainable development in the region. Observer Research Foundation (ORF). Retrieved from <https://www.orfonline.org/research/blue-economy-in-the-indian-ocean-governance-perspectives-for-sustainabledevelopment-in-the-region-47449/>
 18. Press Information Bureau (PIB). (2023). Government initiatives on Blue Economy. Government of India. Retrieved from <https://pib.gov.in/PressReleaseframePage.aspx?PRID=1999344>
 19. Press Information Bureau (PIB). (2024). Maritime Amrit Kaal Vision 2047. Government of India. Retrieved from <https://pib.gov.in/PressReleaseframePage.aspx?PRID=2086628>
 20. Startup India. (2023). Atal Innovation Mission. Government of India. Retrieved from <https://aim.gov.in/>