



## Fueling India's Marine Economy

This editorial is based on “[Sustaining the marine economy with blue bonds](#)” which was published in The Hindu Business Line on 18/10/2023. It discusses how India can benefit from blue bonds, as the country has a long coastline and a vast marine economy.

**For Prelims:** [United Nations Environment Programme](#), [Blue bonds](#), [United Nations Convention on the Law of the Sea](#), [Sagarmala Project](#), [International North-South Transport Corridor](#), [Indian Ocean Rim Association \(IORA\)](#), [Indian Ocean Naval Symposium \(IONS\)](#), [Malabar Exercise](#), [Exclusive Economic Zone \(EEZ\)](#), [coral bleaching](#), [ocean acidification](#)

**For Mains:** Marine Economy: Significance, Prospects, Challenges and Way forward; Blue Bond and how can they help India

The [Indian Ocean](#) is home to a vast array of marine life but is also under increasing pressure from pollution, overfishing, and climate change. A new set of guidelines released by the [United Nations Environment Programme](#) Finance Initiative (UNEP FI) could help unlock the financing needed to protect and restore the Indian Ocean. [Blue bonds](#) have the potential to make a significant contribution to the sustainable development of the Indian Ocean.

[SEBI](#) is developing guidelines for blue bonds in India. Once the policies are in place, blue bonds can finance many projects that benefit the Indian marine environment and economy.

### What is the Significance of the Marine Economy in India?

- **Food Security and Livelihood:** It can contribute to **food security, poverty alleviation, and employment generation** for millions of people who depend on ocean resources for their livelihoods.
- **Energy Security and Environmental Sustainability:** It can help India achieve **energy security and reduce carbon emissions** by harnessing the potential of renewable energy sources such as wind, wave, tidal, and [ocean thermal energy](#).
  - India has set a target of installing 175 GW of renewable energy capacity by 2022, of which 5 GW is expected to come from offshore wind projects.
- **Trade and Connectivity:** It can enhance India's **trade and investment** opportunities with other countries, especially in the Indo-Pacific region, by improving its maritime connectivity and infrastructure.
  - India has launched several initiatives such as the [Sagarmala Project](#), the [International North-South Transport Corridor](#), and the [Chabahar Port](#) to boost its maritime trade and connectivity.
- **Ecological Resilience and Climate Adaptation:** It can help India build **ecological resilience** and **adapt to climate change** by conserving and restoring its marine ecosystems and biodiversity.

- India is a signatory to various international conventions and agreements such as the Convention on Biological Diversity, the [United Nations Convention on the Law of the Sea](#), and the [Paris Agreement](#) to protect its marine environment.
- **National Security and Strategic Interests:** It can also strengthen India's **national security** and **strategic interests** by safeguarding its maritime boundaries and assets from external threats and challenges.
  - India has a strong naval presence in the [Indian Ocean Region \(IOR\)](#) and participates in various multilateral forums and exercises such as the [Indian Ocean Rim Association \(IORA\)](#), the [Indian Ocean Naval Symposium \(IONS\)](#), and the [Malabar Exercise](#) to enhance its maritime cooperation and security.
- **Mineral Resources:** [Polymetallic nodules](#) (small-ball-sized nodules; contain nickel, cobalt, iron, and manganese) that grow over millions of years on the seafloor, are often discovered at 4-5 Kms in water depth.
  - In 1987, India was granted exclusive rights to explore polymetallic nodules in the Central Indian Ocean Basin, which was extended for 5 years in 2017.
    - It has explored four million square miles and established two mine locations since then.

## What are the Prospects of the Marine Economy in India?

- India's Marine Economy **encompasses the ocean resources, marine infrastructure, and coastal zones** within its legal jurisdiction.
  - India has a **long maritime coastline of 7,500 km** with nine coastal states and 1,382 islands.
  - India's [Exclusive Economic Zone \(EEZ\)](#) spans over 2 million square km, holding valuable resources like oil and gas.
- The coastal economy **supports 4 million fishermen** and coastal communities, making India the world's second-largest fish-producing nation with 250,000 fishing boats.
- **Nine Indian states have coastline access**, and the country has 200 ports, including 12 major ones that handled 541.76 million tonnes of cargo in FY21, with Mormugao Port in Goa as the leader.
- According to the Observer Research Foundation, the Indian Ocean is the **third largest** among the world's oceanic divisions. It spans an **area of over 70 million sq km** and is known for its abundant oil and mineral resources.

## What are the Challenges faced by India's Marine Economy?

- **Lack of Infrastructure:** India needs to **invest more in ports, airports, roads, railways, and other infrastructure** in its coastal areas to improve connectivity and efficiency.
  - According to a report by the [Economic Advisory Council to the Prime Minister \(EAC-PM\)](#), India's port capacity is only 1.5 billion tonnes per annum, while its port traffic is expected to reach 2.5 billion tonnes by 2025.
- **Marine Pollution:** India's coastal waters are **polluted by various sources, such as industrial effluents, sewage, agricultural runoff, plastic waste, and oil spills**. Marine pollution affects the health of marine ecosystems and biodiversity, as well as the quality of fish and seafood products.
  - According to [United Nations Environment Programme \(UNEP\)](#), more than **15,000 MT of waste (a lot of it is plastic) per day** are dumped in the South Asian seas, generated from 60 major Indian cities.
- **Overexploitation of Resources:** India's marine resources are under pressure from **overfishing, illegal fishing, and unregulated aquaculture**. Overfishing can lead to the depletion of fish stocks, loss of income and livelihoods for fishers, and reduced food security for millions of people. Illegal fishing can also undermine the sovereignty and security of India's maritime domain.
- **Climate Change:** Climate change poses a serious threat to India's Marine Economy, as **it can cause sea-level rise, coastal erosion, storm surges, flooding, salinization, coral bleaching, ocean acidification, and changes in ocean currents and temperature**. Climate change can also affect the distribution and abundance of marine species, as well as their migration patterns and breeding cycles.
  - According to a report by the [Intergovernmental Panel on Climate Change \(IPCC\)](#), the

global mean sea level rose by about 15 cm during the 20th century and is projected to rise by another 26 to 82 cm by 2100.

## What Measures can be taken to Strengthen India's Marine Economy?

- **Developing a National Accounting Framework:** It will measure the **contribution of the Marine Economy to GDP, employment, trade, and other indicators**. This will help in assessing the value and impact of the Marine Economy and designing appropriate policies and interventions.
- **Coastal and Marine Spatial Planning:** Implementing coastal and **marine spatial planning that allocates space and resources for different activities and sectors in a coordinated manner**. This will help in avoiding conflicts, optimizing resource use, and ensuring environmental sustainability.
- **Strengthening the Legal and Institutional Framework for Ocean Governance:** It will ensure **compliance with national and international laws and regulations**. This will help in protecting India's sovereignty and security, preventing illegal activities, and resolving disputes.
- **Enhancing the capacity and technology for marine research and innovation:** It will **support evidence-based decision making and foster new opportunities for growth**. This will help in exploring the potential of emerging sectors such as offshore energy, deep-sea mining, biotechnology, and aquaculture.
- **Promoting Cooperation and Partnerships:** Promoting Cooperation with other countries and regional organizations that share common interests and challenges in the Indian Ocean region. This will help in enhancing mutual trust, sharing best practices, leveraging synergies, and addressing common threats.
- **Blue Bonds:** Blue bonds can provide funding for sustainable ocean projects in India, such as clean energy initiatives, offshore wind farms, marine conservation efforts, and pollution prevention and cleanup. These projects can create jobs, boost the economy, and contribute to environmental conservation.

## What are Blue Bonds?

- **Blue bonds** are a type of sustainable bond specifically **designed to finance projects that protect and restore the ocean** and its resources.
- Blue bonds are **similar to other sustainable bonds**, such as **green bonds** and social bonds.
  - However, they are specifically **focused on ocean conservation** and sustainable development.
- They can be **issued by governments, development banks or other organizations and purchased by individual investors, institutional investors** and other financial institutions.

## How can Blue Bonds be helpful for India?

- **Funding for Sustainable Projects:** Blue bonds can provide the much-needed funding for sustainable ocean projects in India. This **includes clean energy initiatives, offshore wind farms, wave energy converters, marine protected areas**, and sustainable fisheries and aquaculture.
  - These projects **can create jobs, boost the economy**, and contribute to environmental conservation.
- **Support for Marine Renewable Energy:** India has been actively investing in renewable energy, and its coastline offers significant potential for offshore wind and wave energy.
  - Blue bonds can **finance these projects, helping India reduce its reliance on fossil fuels** and mitigate climate change.
- **Marine Conservation:** Blue bonds can be **directed towards marine conservation efforts**, protecting coral reefs, marine wildlife, and overall ecosystem health.
  - These projects are **crucial for maintaining biodiversity and supporting tourism**, which is a significant contributor to India's economy.
- **Pollution Prevention and Cleanup:** Blue bonds can **fund initiatives to combat marine pollution** and clean up coastlines.
  - This is **essential for maintaining the health of India's oceans and beaches**, which

are vital for tourism and fisheries.

- **Awareness and Education:** Blue bonds can **increase awareness about ocean conservation and the importance of sustainable practices**. This can lead to more responsible behavior and encourage environmental stewardship among the population.

**Drishti Mains Question:**

Discuss the significance of the Marine Economy in India and the challenges it faces. How can the introduction of blue bonds contribute to strengthening India's marine economy.

**UPSC Civil Services Examination, Previous Year's Question (PYQs)**

**Q.** Defining blue revolution, explain the problems and strategies for pisciculture development in India. (2018)

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