

Blue Economy as Emerging Development Paradigm: A Policy Framework for IORA



BLUE ECONOMY FORUM

Introduction

The emerging development paradigm of Blue Economy that nests the essential features of ocean economy, green economy, coastal economy and marine economy seems to possess a great potential for higher GDP growth in the Indian Ocean Region. Blue Growth focusing on the long-term sustainability of oceans has become a realistic policy frame within Indian Ocean Rim Association (IORA) during the last two years. Oceans are essential to human life as they provide food, nutrition and income for millions of people, and act as highways to global trade. Technological innovations are paving the way for deeper interactions of human beings with the oceans. It drives economic growth and brings enormous benefits to the society. Approximately, 350 million jobs are linked with the oceans and international trade in fish products spans across 85 nations and worth US\$102 billion per annum.¹ Moreover, the range of eco-tourism activity related to coral reefs is worth of US\$9 billion. Blue Economy advocates similar outcome as the green economy, namely improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. This policy brief provides an account of the ongoing

developments on blue economy in the Member States of IORA with a view to recommend a policy framework for achieving sustainable development in the Indian Ocean region.

Principles of Blue Economy

Blue Economy is slowly emerging as a development paradigm in the IORA region. The core principles of Blue Economy are to maximize economic gains from marine resource use and ensure environmental and ecological sustainability.² There is no dearth of forward thinking by businesses, industry groups, scientists and governments, and ocean advocates are putting their minds to settle broad sectors of Blue Economy. The main factors that govern the success of Blue Economy are: Good Governance, Technology, Resource Management, Monitoring & Surveillance, Institutional and Regulatory Reforms (see Figure 1).

The questions that need to be answered in order to implement the Blue Economy are: estimation of the size of the blue economy, nature of risks involved, understanding of investment opportunities in the oceans, available capital for investment and scaling up of blue industries. In order to answer these



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Figure 1: Factors Governing Success of Blue Economy



questions, it is imperative to evolve a national accounting framework within IORA. In some countries Blue Economy plays an important role like USA, China, South Korea, EU, Australia, Canada, France, the United Kingdom, Ireland and the Philippines. The importance of measuring the contribution of the Blue Economy to the gross domestic product of a country is viewed with utmost priority.³

Within IORA two member states including Mauritius and Seychelles have made substantive progress on sensitizing the merits of blue economy. In Mauritius, ocean economy has been identified as one of the pillars of economic development that will lead to its transformation into a high income economy by 2025. At present, Blue Economy contributes to around 10 to 11 per cent of its gross domestic product. On the other hand, Seychelles has a separate Ministry of Finance, Trade and Blue Economy. Highlighting the importance of ocean development, a budget of SCR 796.5 million (US\$58.8 million) has been approved by the Government of Seychelles in December, 2016 for the year 2017. These selected policies are important for promoting ocean development for encouraging Blue Economy activities in the country.

Coverage of Blue Industries

The ecological health and economic productivity of marine and coastal ecosystems can be enhanced by shifting to a more sustainable economic paradigm that taps national potential of IORA countries ranging from generating renewable energy and promoting eco-tourism to sustainable fisheries and transport. At the global level, the potential economic gains from reducing fishing capacity to an optimal level and restoring fish stocks⁴ is in the order of US\$50 billion a year. Apart from fishing, there is ample potential for harnessing renewable energy in the Indian Ocean Region. According to the Inter-governmental Panel on climate change, the technically exploitable potential for marine-based renewables excluding offshore wind would reach 7400 exajoules per year, exceeding the current global energy needs. However, marine-based renewable energy represented less than 1 per cent of all renewable energy production in 2008. Marine-based renewable energy also carries significant potential for green job creation. This will involve the transition from a conventional economy to a Blue Economy. This could be a big economic and investment opportunity, but there

are great risks and challenges. A new and intensive phase of economic activity in the oceans needs to be linked with the scientist's warnings that seas are facing unprecedented pressures from human beings with their over-exploitative activities. The gap between economic activity and ocean health needs to be bridged soon; otherwise 'Blue Speak' in terms of a sustainable ocean economy may recede rather than advance or flourish for common good.

Economic activities in the oceans are expanding rapidly driven primarily by global population growth, economic development, trade, rising income levels, climate and environment, and technology. Looking to 2030, many ocean-based industries have the potential to outperform the growth of global economy as a whole, both in terms of value added and employment. The projections suggest that between 2010 and 2030 on a "business-as-usual" scenario basis, the ocean economy could more than double its contribution to global value added, reaching over US\$3 trillion. In particular, strong growth is expected in marine aquaculture, offshore wind, ship building and repairs, port activities and seafood processing sectors. Ocean-based industries identified as traditional and emerging are presented in Table 1.

Coastal and marine areas support a wide variety of traditional industries such as shipping, fisheries and coastal tourism, and technological advancement makes it possible to access new resources through emerging industries such as renewable energy, marine aquaculture,

offshore wind energy, marine biotechnology and seabed mining. These Blue Economy industries contribute significantly to creation of employment opportunities and economic output.⁵ It is to be noted that these industries vary from one country to another. The industries mentioned above contribute roughly US\$1.5 trillion (2.5 per cent) to global gross value added. Calculations on the basis of the OECD's Ocean Economy Database value the ocean economy's output in 2010 (the base year for the calculations and subsequent scenarios to 2030) at US\$1.5 trillion in value added, or approximately 2.5 per cent of world gross value added.⁶ The Blue Economy industries contribute some 13 million full-time jobs in 2010 constituting around 1 per cent of the global workforce (and about 1.5 per cent of the global workforce actively employed). Blue Economy for the next 20 years is being driven primarily by developments in the global population growth, urbanization and coastal development.

Initiatives by IORA Countries

There are some common concerns faced by the IORA countries with regard to ocean resources management. Some of those including sea level rise; climate change; sea-borne terror; piracy; natural disasters like tropical storms, droughts, tsunami, cyclones, etc; land degradation; coastal erosion; illegal, unreported and unregulated (IUU) fishing, and degradation of mangroves and sea grass are viewed as immediate threats to Blue Economy in the Indian Ocean region. Along with

Table 1: Ocean-based Industries

Traditional	Emerging
Capture Fisheries	Marine aquaculture
Seafood Processing	Deep-and-ultra-deep water oil and gas
Shipping	Offshore wind energy
Ports	Ocean renewable energy
Shipbuilding and Repair	Marine and seabed mining
Offshore oil and gas (shallow water)	Maritime safety and surveillance
Marine manufacturing and construction	Marine biotechnology
Maritime and coastal tourism	High-tech marine products and services
Marine business services	Others
Marine R&D and education	
Dredging	

Source: OECD (2016).

Table 2: Policy Initiatives on Blue Economy by IORA Countries

Country	Measures
India	<ul style="list-style-type: none"> • Niti Aayog initiated a consultation process for integration of defense and internal security with a 15 year vision. • Niti Aayog started discussion to leverage India's status as a Maritime Nation with a long coast line and the potential to become a significant Blue Economy. • India is keen to jointly promote Blue Economy in collaboration with Mauritius, Seychelles, Sri-Lanka and Maldives (Likely to be IORA Member, focusing on environment and ecology). • Aims to help increase Africa's maritime capabilities through "sagarmala" project focusing on coastal area development, port infrastructure buildings, connectivity and sea-bed capacities, sea-air transportation, fisheries, marine sciences, renewable energy and hydrography.
Mauritius	<ul style="list-style-type: none"> • Government of Mauritius has established a separate ministry for marine resources, fisheries, shipping and ocean related activities. • DOWA obtain valuable resources through the deep sea waters by making use of the coldness and nutrient rich properties to develop commercial activities. There are currently two DOWA projects in Mauritius based near the airport and port which will be implemented in July 2017 for downstream projects. • Fisheries Training and Extension Centre (FITEC) invests in training programmes to educate local fishermen in various fields such as fish handling. • Mauritius has adopted 'a plastic bag-free Mauritius' scheme. • University of Mauritius organized a capacity building workshop on the ocean economy on Tuesday, 1st of September 2015. • The Budget of Mauritius 2016-17 makes a provision to contribute to the Blue Economy programme by developing aquaculture and incentives for setting up infrastructure for fish processing. • Two studies are being concluded with regard to generating electricity through ocean waves and offshore wind. • A Memorandum of Understanding will be signed with the National Institute of Oceanography, Goa for the setting up of a world class Research Institute of Oceanography in Mauritius. • As regards the fisheries sector, a total of Rs 20 million has been earmarked for the acquisition of a multi-purpose vessel which will be used for research, surveys and training of fishermen and skippers. • A grant of 50 per cent up to a maximum of Rs 4 million, will be made available to cooperative societies to acquire semi-industrial vessels. Provision is also being made for Rs 12.5 million to finance the purchase of 10 floating cage structures to Fishermen Cooperatives to promote small-scale aquaculture. In a bid to provide shelter for approximately 120 fishing vessels the Mauritius Ports Authority will undertake the construction of breakwaters at Fort William. • A new incentive scheme comprising an 8-year tax holiday will be offered to attract industrial fishing companies to operate from Mauritius and contribute to the development of seafood hubs. To address the human resources constraint, the Mauritius Maritime Training Academy will increase its intake by 50 per cent to bring it to 1,200 trainees annually. • The Mauritius Ports Authority (MPA) launched in December 2016 a project named 'Tree-Planting Month' as part of their ongoing projects to make the harbor in the capital city of Port Louis a Greener Harbour. This initiative is focused towards the "Embellishing and Greening Mauritius, Africa and Planet Earth" Campaign of the Ministry of Environment, Sustainable Development, and Disaster and Beach Management.

Seychelles	<ul style="list-style-type: none"> • The Government of Seychelles is embracing Blue Economy as a framework with main goals of food security, economic diversity, creation of jobs, and sustainable management of the marine environment. • Under the current 'National Development Strategy' and the 'Seychelles Sustainable Development Strategy' (SSDS), 2012–20, fisheries and marine resources have been identified as the most important keys that must underpin all future development in Seychelles. Projects such as Fisheries Management Plans and Aquaculture Master Plan are being developed to contribute toward the national development process.
Bangladesh	<ul style="list-style-type: none"> • Bangladesh organized the first ever international workshop on Blue Economy in Dhaka in September 2014. • Bangladesh has established an Oceanographic Research Institute in the Maritime University, and a National Adaptation Programme of Action as part of developing a strategy to better govern marine resources under its 7th five-year development plan, SDGs Implementation Strategy and Climate Change Resilience Action Plan. • The Blue Economy Initiative – the maritime pillar of the future strategy –emphasizes upon promoting smart, sustainable and inclusive growth and employment opportunities in the country.
Indonesia	<ul style="list-style-type: none"> • The Government of Indonesia has implemented district level programs for shrimp and seaweed aquaculture and grouper & lobster mariculture. • The Government has committed to creating a Blue Economy Zone with integrated land- and ocean-based development, applying integrated coastal management (ICM) with pilot projects on the islands of Bali and Lombok.
South Africa	<ul style="list-style-type: none"> • In October 2014, "Operation Phakisa", a maritime project aimed at specifically unlocking and developing ocean economy, was initiated with the objective to promote economic growth and jobs in the country in four priority sectors including maritime transport and manufacturing activities such as coastal shipping, transshipment, boat buildings, repair and refurbishment; offshore oil and gas exploitation; aquaculture and marine protection services, and ocean governance. • Creation of coherent maritime system achievement agenda – 2063 of African Union.

Source: Author's compilation.

country initiatives, the best way to promote and develop Blue Economy in the region is to adopt a sub-regional approach; initiating development cooperation among the like-minded member states who have been able to identify common areas of interests. IORA countries have unilaterally taken a number of concrete steps to develop Blue Economy in their economies. The initiatives undertaken by select member states such as India, Mauritius, Seychelles, Bangladesh and Indonesia in the areas of capacity building and technical cooperation are presented in Table 2.

Conclusion and Policy Recommendations

The success of Blue Economy in the IORA is contingent upon two integral components: - a paradigm shift in thinking concerning the vitality and potential of ocean resources and mainstreaming of Blue Economy activities in national economic policy. Specific policy measures incorporating the above mentioned two components may be adopted by the IORA countries to kickstart Blue Economy in the region. The bilateral cooperation initiatives taken by India, Mauritius, Seychelles,

Thailand and Bangladesh for the promotion and strengthening of Blue Economy may be extended to the sub-regional and regional levels. Certain sectors of Blue Economy such as fishing & aquaculture, ocean renewable energy, coastal tourism, ports & shipping, deep sea mining, marine biotechnology and marine services can be considered as priority sectors for the IORA region. The primary economic goal of Blue Economy in the regional economies should focus on job creation. For systematic assessment of the size of blue economy in the region, a joint study group may be constituted by the IORA countries for developing a proper accounting system for recording blue economic activities. Blue Economy policies should be holistic and inclusive so as to realize the benefits of untapped ocean resources for higher economic growth and development. Universities in the region may offer specialized academic programmes on blue economy for creating the skill pool to be required by the blue industries. In addition, capacity building programmes in fishing, mining, drug development & pharmaceuticals, tourism and other areas may be conducted from time to time. The major barriers facing some emerging blue industries particularly SMEs such as lack of finance, lack of entrepreneurship and regulatory uncertainty need to be effectively addressed through a coordinated regional framework.

Endnotes

- ¹ See OECD (2016).
- ² Mohanty, Dash, Gupta and Gaur (2015) present the essential features, definitions and methodologies for measurement of blue economy in great detail.

- ³ Colgan (2016) is of the opinion that the measurement of sustainable blue economy will depend as much, or more, on building the capacity to undertake that measurement, as it will depend on resolving the theoretical, empirical, and practical issues.
- ⁴ Currently, 32 per cent of global fish stock is estimated to be overexploited, depleted or recovering from depletion.
- ⁵ See UNCTAD (2014) and Morrissey et al. (2010) for more details.
- ⁶ See OECD (2016).

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