



# SDG-14 and Blue Economy Challenges of Sustainable use of Oceans

## BLUE ECONOMY FORUM

### Introduction

The ocean is the lifeline of human-beings, and its relevance is increasingly felt now than a century ago. It fulfils not only the basic needs of the people for their survival but goes beyond these needs. Dependence of people on the ocean is paramount spreading into many areas including food, livelihood, energy, resources, and so on. Further, ocean is very essential for maritime trade, maritime security, cultural activities and all-round prosperity of nations around the globe. The relevance of the ocean is becoming increasingly vital as land resources are depleting fast and availability of non-substitutable ocean resources is critical for the survival of the people. And with the global warming and climate change, pressure is mounting on the global community to think about a scenario where there would be not abundant supply of resources, and sustainable use of ocean resources would be the only recourse available with the intensive use of technology. Thus, restraining the use of ocean resources with intensive use of technology can support sustenance of the present level of consumption of the world economy (Mohanty, Dash, Gupta, 2017). Sustainable Development Goal-14 focuses on enhancement of ocean health on a sustainable basis where conservation of ocean would play a pivotal role for the survival of the mankind.

A large number of studies have indicated conservation of ocean as essential due to many reasons, including perpetual supply of ocean resources for the economic development on a sustainable manner. For initiating a strategy for improving ocean health and sustainable use of marine resources for industrial use, 'blue tech' initiative is critical because future growth

of the world economy is decisively contingent on the innovation (Innovamar, 2011). Ocean through marine resources would act as an engine of growth in the economies of both developed and developing countries in the future. In the process, the pivotal role of 'blue tech' firms, particularly the SME sector, is likely to dominate in the technology intensive sector. The experiences of the U.S. suggest that nearly 4000 SME firms, armed with marine technology, are already engaged in the ocean sector, and there is proliferation of such tiny units in this sector. In developing countries too, the rise of the ocean sector is greatly dependent on the 'blue innovation', and support of the state is considered important for the proliferation of 'blue tech' firms. It may be noted that 'blue innovation' is the cornerstone for the growth prospects of the ocean sector (Ebarvia, 2016). The experiences of the U.S., the EU and several emerging countries indicate that generation of 'white collar jobs' is closely associated with the rise in the number of 'blue tech' firms in the ocean sector. In this context, fulfilment of the SDG-14 would bring opportunities in diversified sectors, irrespective of the nature of littoral economies. Countries are committed to integrate SDGs in their national development agenda, and there is a strong sense of ownership for such goals. Success of the ocean development strategy is mostly dependent on the technological solutions to the outstanding issues. Besides, there are several traditional sectors linked to the ocean sectors which are important for ocean development. SDG-14 has identified several key areas in the ocean sector, which are critical for improving ocean health.



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At present, the global debate on SDG-14 is focusing on: a) challenges to ocean health, b) contemporary thinking to deal with the challenges, and c) strategies to deal with SDG-14 challenges and beyond.

## SDG-14 and Sustainability of Ocean Health

While making inventory of challenges that are being faced by the oceans, the first and the foremost is about the degradation of marine and coastal ecosystem. Whatever may be the problems, they directly or indirectly impact marine ecosystem. The problems include ocean acidification, increase in marine pollution and marine debris; overfishing and IUU fishing, increase in fisheries subsidies, etc., and these issues together contribute to depletion of fish stock. All of them act as barriers to conservation and management of the ocean sustainably, and have raised need for assessment of such ocean-related activities. The assessment of ocean resources relating to its current status and future availability would support and provide direction to the role of global ocean governance. These issues are brought under the 'Life Below Water' Goal (SDG-14) in the 2030 Agenda.

Marine and coastal ecosystems are considered most productive ecosystem in the world. Millennium Ecosystem Assessment Report (2005) defines Ecosystem as "a dynamic complex of plant, animal, and microorganism communities and the non-living environment interacting as a functional unit". Marine ecosystem provides numerous benefits to mankind. It provides economic benefits like seafood, sources of energy and fuel- wood, besides services in environmental activities, cultural and recreational activities. The dependence on coastal areas for commercial activities, rising coastal population and exploitation of coastal resources for other economic activities has led to degradation of marine and coastal ecosystem. The rise in the sea level has been a major area of concern when one considers marine and coastal ecosystem. The literature suggests that it is mainly due to the three reasons – (1) expansion of warming oceans, (2) addition of freshwater from melting ice-sheets and (3) reduction of ice-mass from Greenland and Antarctica (Climate Institute, 2010). Similarly, other ecosystem resources such as mangroves, fish species and marine protected areas also need to be used efficiently and sustainably, as they are equally vital for protecting the environment (Mohanty and Gaur, 2017).

Another challenge faced while managing oceans is to control marine debris and marine pollution. Marine debris can be defined as "any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment" (UNEP, 2009). Land-based and ocean-based pollution

in the oceans, due to heavy concentration of chemicals and toxic materials, have affected marine organisms and their habitats. However, the major chunk of marine debris is considered to be the outcome land-related activities (Inniss *et al.*, 2016). Land-based debris has widely affected the coastal ecosystem, and its impact is visible in damages on the seashore and beaches; leading to losses in tourism revenue and commercial fishing. Several measures have been undertaken in many countries in the recent years— like marine debris prevention projects, marine litter solutions, etc. However, the question of marine litter is still persistent and has remained a major concern in the world economy.

The Overfishing and IUU fishing issues have been raised in the literature under the aegis of WTO. One of the major reasons for unsustainable fishing is the prevalence of fisheries subsidy in the sector. It has been widely recognized that the fisheries subsidies contribute to economic losses in the sector and also impact food security and environment. Management of the subsidies is very important for controlling depletion of fish stock and curbing the escalating number of threatened marine fish species. Not only limiting to its impact on fish stock, but also concerns have also been raised on the use of fishery subsidies. It has been observed that these subsidies are beneficial for the large-scale commercial or industrial fishing but the artisanal fishermen are devoid of benefits emanating from fishery subsidies. The emergence of international efforts to streamline environmentally harmful and trade distorting fisheries subsidies are clearly visible in the WTO regime, especially after the Doha Round.

## Strategy to Manage Ocean Wealth

About the ocean health, serious concerns were raised in the First Earth Summit in Rio in 1992, and the detailed action plans for dealing with the ocean economy were formulated in the Third Earth Summit in 2012 (UNEP, 2015). The concern about the deteriorating ocean health was partially discussed in the Millennium Development Goals (MDGs), but a solution has come more explicitly in SDG-14. In this regard, the Blue Economy is emerging as a new development paradigm, which would complement efforts of the SDG-14 and promise to take those economies on the high growth trajectory which are adhering to the set principles of Blue Economy. With its convincing theoretical disposition, it takes along both traditional and non-traditional sectors, which can generate more employment with moderately less investment along with high economic growth on a sustainable basis without deprivation of the future generation in terms of the available of natural resources. Keeping sustainable use of resources in priority, Blue Economy complements SDG-14 in fulfilling its targets.

## Blue Economy – A Framework

Blue economy focuses on sustainable use of ocean resources for optimising economic welfare of people without jeopardising efforts of SDG-14 in terms of conservation of ocean health. During the last three and half decades of debate on the ‘growth oriented strategy’ versus ‘sustainable development’, there is a growing consensus emerging around the Blue Economy in the recent years. While economic growth has been the cornerstone of the ‘growth oriented strategy’, restraints on the exhaustion of resources has been the main plank of argument of the ‘sustainable development’. The Blue Economy takes up key arguments of both the schools of thoughts and defines its strategy as one, which emphasises on high economic growth with minimal utilisation of scarce resources, which are on the verge of depletion. Solution to the outstanding development challenges through technology is a key feature of the new development strategy. Therefore, the Blue Economy postulates that the ocean can unleash colossal opportunities, but sustainability norms ‘must’ to be adhered to access these possibilities. The present trend indicates that future growth of many littoral countries would be steered by the Blue Economy.

## What is Blue Economy?

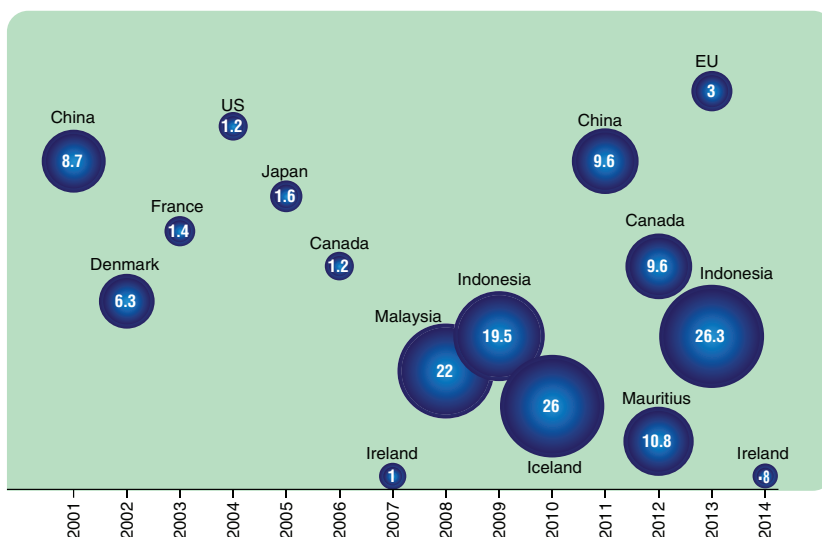
The world economy has been grappling to arrive at a comprehensive definition of the Blue Economy despite the fact that the issue concerning the subject has been under discussion during the last four decades. There are several competing concepts, such as Blue Economy, ocean economy and coastal economy, which are seen in the literature. There is considerable level of overlapping taking place in terms of scope and coverage of issues.

In the absence of global consensus on the definition of the Blue Economy, there are difficulties in comparing across different countries the contributions of the Blue Economy. Despite these shortcomings, the relevance of the Blue Economy in the overall economy cannot be undermined. Considering development thoughts in defining Blue Economy, Mohanty, Dash, Gupta and Gaur (2015) have defined blue economy as one which covers all ocean-related activities, including direct and indirect supporting activities required for functioning of those economic sectors while adjusting to the costs of environmental damage and ecological imbalance caused owing to exploitation of ocean resources for consumption.

## Contribution of the Blue Economy

The importance of the Blue Economy in terms of its contribution to the economy cannot be overlooked despite lack of consensus on a comprehensive definition. Moreover, there is lack of stylized facts on it. Specific country cases indicate that contribution of the Blue Economy has been significant for many economies, though lead sectors differ significantly from one country to another. Take for example the case of Brunei, where 36 per cent of the Blue Economy contribution is sourced from the agriculture sector. The EU receives one-third of its Blue Economy from the offshore hydrocarbon sector. While marine manufacturing dominates in China, the services sector contributes significantly in the U.S. Specific country studies indicate that the contribution of Blue Economy to the overall GDP differs widely across littoral countries, as shown in Figure 1. For countries like Malaysia, Indonesia and Iceland, contribution of the Blue Economy to overall GDP is in the range of

Figure 1: Contribution of Blue Economy: Country Experiences



Source: Mohanty, Dash and Gupta (2017)

Note: The size of the bubble represents the percentage contribution of blue economy to country's GDP



20-26 per cent of their respective GDP. In the medium range, i.e. over 10 per cent of GDP, countries like China, Mauritius and Canada are placed. From the estimates of these countries, some pattern can be chalked out, but this cannot be generalised. Size does not matter in terms of the contribution of the Blue Economy (for example, China and Mauritius) to the total economy. There is no relationship between the size of the economy and its contribution to the Blue Economy to their GDP (i.e., Japan and China; Ireland and Iceland).

In developing countries, employment generation receives the priority in the national and the regional development policies. The Blue economy offers credible solutions in terms of generating employment in the economy. Some studies indicate that prospects of employment generation are high in this sector. Country studies indicate that the Blue economy has generated significant employment in China, the United States, UK, Canada and France, and such opportunities can spur sustainable and equitable growth in the coastal regions. Inspired by the expected positive outcomes of the sector, island countries like Seychelles and Mauritius have evolved their development planning based on the Blue economy strategy. Similarly, Malaysia has planned its medium- term development strategy based on the similar strategy. India Ocean Region has witnessed growing voice in favour of Blue Economy for the region. Two Ministerial level meetings on Blue Economy were held in the region to highlight sectoral strategy for the region. The 'Blue Voice' in the region is growing fast and is becoming a major factor to integrate these economies under the common agenda of 'Blue Economy' (Mohanty, 2017).

## Conclusions

Conservation of ocean health is vital for the survival of human- beings and for the sustainability of economic development. As land resources are depleting fast, ocean sector can supply resources in a sustainable manner provided its health is maintained without over exploitation. There should be a technological solution for the optimal use of ocean resources, and therefore, innovation is required along with the large- scale intervention of small and medium enterprises (SMEs) in the sector as managed in the U.S. Conservation and management of ecosystem is critical to maintain ocean health. Further, management of fisheries subsidies

through regional and multilateral forums is essential for stopping further depletion of marine fisheries species and their stocks. Human interventions need to be restricted in unwarranted areas, such as IUU fishing, marine debris, chemicals as well as toxic materials, etc. Blue Economy can prove to be the most appropriate strategy to steer ocean-led development for which there is a growing 'blue voice' coming up from both the developed and developing countries.

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