

Making Blue Economy a Reality in the Region: Challenges and Solutions



Rear Admiral M Ashraful Haq, NUP, ndc, afwc, psc
Commander Khulna Naval Area

Introduction

The Blue Economy is a new buzzword of the 2nd decade of the 21st century which combines the aspects of economics and environment for sustainable use of oceanic resources. It bears clear testimony to its importance as an alternative economic model for sustainable development through dependence to the sea. The Blue Economy conceptualizes oceans and seas as “Development Spaces” or “Shared Development Space” (Document of the World Bank, 2011), where appropriate planning and policies assimilates conservation, sustainable use of living resources, oil and mineral wealth extracting, bio-prospecting, sustainable energy production and maritime transport. At the United Nations Conference on Sustainable Development (UNCSD) held in Rio de Janeiro in 2012, blue economy was viewed as ocean economy that aims at the “improvement of human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (United Nation, 2018). The European Commission (2012) has defined the concept of blue economy as “all economic activities related to the oceans, seas and coasts”. This includes the closest direct and indirect supporting activities necessary for the functioning of these economic sectors, which can be located anywhere, including in landlocked countries”.

Since Rio+20, the blue economy has gained momentum across the globe, the South Asian and the Bay of Bengal regional nations seem to be embarked on a pathway toward sustainable blue growth. It is presently home to around 1.4 billion people (Ahmed, 2018), which constitute around 23 per cent of the total world population. Bay of Bengal regional countries (Bangladesh, India, Myanmar, Sri Lanka, Maldives, and Thailand) bring together US\$ 3 trillion economy, which accounts for 4 per cent of the global GDP and 3.7 per cent of the global trade (UNDESA, UNCTAD and ECA, 2018). With the region’s growing population, demand for seafood, shipping traffic and tourism will continue to grow and new ocean industries will emerge. At the same time, the ecological processes of the sea will be affected significantly, due to increased human activities - resulting overfishing, poorly planned coastal development, land-based sources of pollution etc. The two overarching trends in the Bay of Bengal- growing ocean economy and declining ocean health, led countries to inquire about the blue economy concept in order to maintain a sustainable development without degrading the ocean health. However, there are challenges and opportunities both at national and regional level which emphasizes the requirement of a cooperative regional strategy for sustenance development.

The blue economy can contribute to the socio-economic development of a coastal country. However, there is a gap in awareness among the maritime related stakeholders of South Asia. Nations are concerned with the land based opportunities and development while they are not aware how enormous opportunities lies in the ocean. Even a few of the countries are interested; it may not be possible for them to go for large scale investment with huge barriers of research, technology and resources. Once, sea cannot be utilized effectively for its own benefit, long term maintenance of ocean health becomes a minor issue. Along with this, there are many other challenges that require adoption and adherence of strict policies by the regional countries. Apart from the policy issues, there are necessity of asset and infrastructure, surveillance/monitoring and appropriate control for effective governance and implementation of the plans. Such efforts will have a positive impact on an entire portfolio of other maritime economic activities. Underlining the core concept of making Blue Economy a reality, this paper will identify the challenges that impede sustenance development of ocean economy in the region and highlight some solutions for effective and sustainable use sea for common benefit.

Challenges of Blue Economy in the Region

Bay of Bengal region of South Asia comprises mostly developing countries with over population with poverty. This region is one of the highest victim areas in regard to climate change. With diversified natural and man-made limitations, the nations of this region have put good interest on Blue Economy for a hope of sustained development in future. However, with more limitations, the more challenges will arise while taking any steps towards sustained development.



Figure 1: Challenges of Blue Economy in the Region

The challenges encompass the fundamental issues of political, social, environmental, economic and security issues which are elaborated below:

a. Ocean Policy, Oceanic Data and Monitoring Facilities.

Although Rio+20 brought some awareness on sustainable development through Blue Economy, however, most of the nations are yet to formulate appropriate policy options for that. Majority of the nations of this region, lack in appropriate oceanic knowledge, policy, data and monitoring facilities and there by failed to generate effective national level steps for sustained maritime development.

b. Prioritizing Blue Economy to Green Economy.

National awareness of the regional countries is still fundamentally inclined towards land emphasizing Green Economy. Presently, it is difficult for developing nations to go for large scale investment where the immediate outcome is not visible and while the country fighting with striving people.

c. Geographical and Social Diversity.

The regional countries of South Asia possess different geographical and social opportunities and obstacles for Blue Economy. For example, ship breaking industries are well established in India and Bangladesh, disregard of their environmental and safety concern (Manikarachchim, 2014). On the other hand, Sri Lankan and Maldives coasts are not suitable for ship breaking due to low tidal level and coastal configuration (Manikarachchim, 2014). The coastal people are also diverted to certain types of jobs and activities pertinent to the natural resources of that particular region. As such, it is difficult to promulgate a common policy on all aspects where community and resources are different within the region.

d. Regional Maritime Pollution and Acidification.

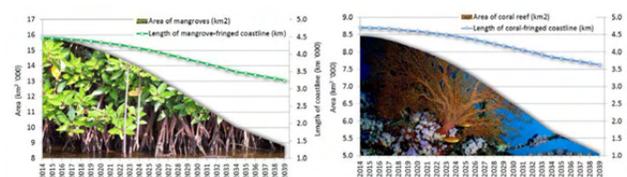
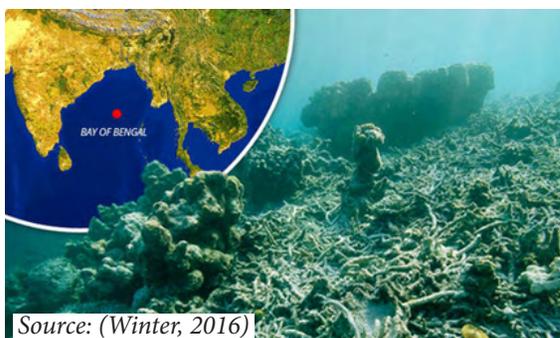
Most of the South Asian and the regional countries of Bay of Bengal possesses huge number of rivers connected to the sea. Most of these rivers are highly polluted by domestic sewages, industrial waste, ship breaking wastes

and bilges. The average concentration of nickel exceeded its {ERL (20.9 $\mu\text{g}\cdot\text{g}^{-1}$)} value and the incidence of adverse effects on biological components exceeded 16.7% (Towhida Rashid, 2015). The present study showed that the concentration of chemical (Cd, Fe, Pb and Cu) in sea water were relatively higher than the standard concentration (Towhida Rashid, 2015).

e. **Effects of Climate Change and Cyclone.** The greatest systemic threat facing the ocean in many countries is climate change (Julian Robert, 2016). Among the many challenges arising from climate change, four threats namely sea level rise, water crisis, marine environment and natural cyclone are relevant to most countries (Julian Robert, 2016) which also highly affect Bangladesh, Myanmar, part of India, Sri Lanka and Maldives.

f. **Degradation Ocean and Coastal Health including Coral Reef and Mangrove.**

It's a matter of great concern that the Indian Ocean has been declared a dead zone covering an area of more than 23,000 square miles in the Bay of Bengal (Winter, 2016). The scientists have uncovered worrying evidence that the area lacks in Oxygen and cannot support marine life. There has also been huge degradation of mangrove and coral in the Bay of Bengal region. Coral reefs in India are being damaged and destroyed at an increasing rate (Hoon, 2018). High temperatures in 2016 led to mass coral bleaching, with many reefs losing 80-95% of the branching, plating, foliaceous, and tabular corals in Maldives (Andrew Bruckner, 2018). A study shows that continuation of present degradation of Coral reef and Mangrove will almost disappear the existence by 1939 (Emerton, 2016, p. 34).



From data presented in BPS 2013; Bruno and Selig 2007; Burke et al. 2011, 2012; DNP 2013; FAO 2007; FSI 2011; Hasan et al. 2013; JPM 2013; MFARD 2013; MOECF 2014; NSO 2013; Saputro et al. 2009.

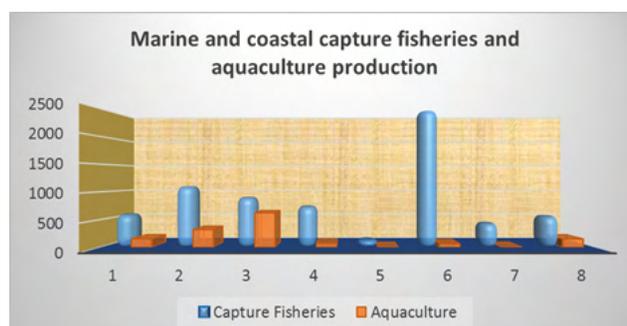
Source (Emerton, 2016, p. 34)

g. **Over Population and Increase of Maritime Tourism.**

With the increase of population and steady security environment, maritime tourism has increased much in South Asia. For South Asia as a whole, international tourists arrivals grew from 25.17 million in 2016 to 26.57 million in 2017 (The Economic Times, 2018). International tourism receipts for South Asia grew from 33.28 billion dollars in 2016 to 39.52 billion dollars last year (The Economic Times, 2018). As a part of overall increase of national tourism and due to lack of environmental awareness and there has been an increase in domestic pollution in the coastal zone of this region.

h. **Over Exploitation of Resources (Fishing and Aquaculture).**

Bay of Bengal is prone to overfished due to uncontrolled open access nature, over population in coastal area and lack of monitoring and governance. Aquaculture production of South Asian region accounted for 613, 8043 tons, at a value of 12.2 billion US\$ in 2010, which is equal to almost 8% of world total aquaculture (Manikarachchim, 2014). However, it has been observed that catching fish percentage is larger than aquaculture (as shown in the Figure) which will increase depletion of resources unless appropriate conservation is not adopted.



Source: (Emerton, 2016), graph prepared by author

Suggested Options for Making Blue Economy A Reality in the Region

To make Blue Economy a reality in the region, the regional challenges and impediments have to be illuminated. Presently, maritime characteristics of each area are so diversified and interconnected that the benefit of one may cause harm or aids to other nations. As such, a holistic approach is essential which will bring mutual confidence and benefit to all. Considering the present regional maritime environment and challenges, following actions may be taken at national and regional levels:

a. **Regional Maritime Awareness for Cooperative Engagements and Prioritizing Blue Economy for Sustainable Development.**

Although, Maritime awareness of the regional countries has increased a lot, specifically in the last few years. Efforts on Blue Economy have been endorsed in the national agenda of almost all countries. However, countries lack in awareness in regional cooperative engagements for Blue Economy development. In this regard, regional cooperative engagements have to be prioritized to achieve common goals in the region.

b. **Integrated Regional Maritime Policy and formulation of Marine Spatial Planning.**

Regional efforts on Blue Economy are directly proportional to the national oceanic policy and steps taken by the individual countries. As such, regional countries should have specified Ocean or Maritime Policy. It is well understood that the growing propensity of the ocean activities in the Bay of Bengal will have a negative impact on the marine environment, evidenced in the loss of marine biodiversity, increased pollution and habitat depletion. This issue has brought forefront the need for cross-border cooperation or trans-boundary Marine Spatial Planning (MSP) amongst regional countries for 'Stake Holder's engagements, ecosystem based management and implementation of Monitoring and Evaluation framework (Goncalo Carneiro, 2017)'.
c. **Implementation of Policy through Appropriate Regional Framework.** U p o n formulation of regional policy, it is important to have integrated plan among various entities of coastal states using institutional framework for sustainable development. It will assist multiple user countries to get benefits from trade, conservation, recreation and maritime industries while maintaining a balanced maritime environment.
d. **Transition to Regional Blue Economy and Development of Maritime Assets and Infrastructures.** Regional countries may have huge limitations with maritime infrastructures and assets to promulgate the policies for Blue Economy. In such case, effective use of available resources and cooperation for shared participation and support by the coastal states are essential. However, for effective and full-fledged transition to Blue Economy, regional countries need to develop and ensure availability and use of maritime and coastal assets.
e. **Enhancement of data availability and monitoring.** To capture the real status of the regional Blue Economy in the region, national data linked to the Bay of Bengal need to be provided according to common standards (Antoine, 2017). As long it is not really clear how much living and mineral resources is consumed or extracted from the Bay of Bengal, the policy recommendations and monitoring may not be as sound and reliable as they should be.
f. **Control of Ocean Pollution and Over exploitation.** Pollution control is essential both at national and regional level to maintain sustainable eco-system of the region. Besides, overfishing or exploitation is another area which directly effect the sustainable preservation and development of the marine environment. These require appropriate governance and the United Nations have emphasized upon sustainable ocean governance in the Ocean Conference held on June 5-9, 2017 at the UN headquarters in New York (Alam, 2018) which may given importance by regional countries.

d. **Implementation and Progress Towards Blue Economy.** Blue Economy encompasses the issues of maritime tourism, common protected areas and integrated governance under mutual bindings. This requires an enforcement of institutional frame works and international agreements. It also needs adequate regulations, laws and policies to be developed and implemented at national and sub-regional level. Stake holders involvement, open dialogues and transparent decision-making processes are also necessary to engage and commit with economic actors, local and regional authorities as well as civil society representatives.

g. **Research and Development.** Research and development is another area where regional countries may share their resources, expertise and improve overall capabilities of the maritime region. Knowledge of the marine environment is a critical need for effective decision making towards Blue Economy (Patil, 2016). By sharing the data on research and development, the regional countries may step forward towards fulfilling the objectives of Blue Economy. (Goncalo Carneiro, 2017)

Conclusion

The emergence and recent evolution of the concept of the Blue economy bears clear testimony to its importance as an alternative economic model for sustainable development through dependence to the sea. Blue Economy is very much suitable for regional countries considering the maritime area, connection with the people and their economy. It is also very important to identify the impediments to enable the region in successful implementation of blue economy and identify the policies required

to address the barriers. The present oceanic picture reflects massive degradation in various issues such as over exploitation, coral reef, mangrove, sea level, pollution etc which are hindering the sustenance development for Blue economy. With the region's growing population; demand for sea food, aquaculture production, shipping traffic and tourism will continue to grow, and new ocean industries will emerge. This influence the ecological processes of the sea - changing it significantly, mainly due to human activities, resulting from over fishing, poorly planned coastal development, land-based sources of pollution etc. All these challenges need to be resolved to make Blue Economy a reality in the region.

The primary and fundamental requirement for Blue pathway is the 'policy'. Adoption of policy for Blue Economy needs awareness at national and regional level. In regard to the regional countries and the region, what is most important is to enact an integrated maritime policy focusing on maritime security; maritime pollution; preservation and protection of marine living and non-living resources; maritime scientific research and transfer of technology; protecting marine environment; global climate change, etc and then find the common interest and common threats for the region and mitigate the later with a cooperative engagements where appropriate. The policy can be formulated on consensus basis taking into consideration UNCLOS 1982, the conventions adopted by International Maritime Organization (IMO), conventions adopted by United Nations Environment Program (UNEP) etc. All these may instigate a regional cooperative engagement with mutual trust for shared maritime benefits and open a greater pathway that may lead us to sustainable use of maritime resources.

BIBLIOGRAPHY

Ahmed, H. U., 2018. *Making the most of Blue Economy*. [Online] [Accessed 14 September 2018].

Alam, M. A., 2018. *Harnessing ocean resources*. [Online] Available at: <https://www.thedailystar.net/opinion/harnessing-ocean-resources-1523536> [Accessed 16 september 2018].

Andrew Bruckner, G. C., 2018. *Finding solutions to the global coral reef crisis: Corporate Social Responsibility (CSR) programs*. [Online] Available at: <https://sevenseasmedia.org/finding-solutions-global-coral-reef-crisis-corporate-social-responsibility-csr-programs/> [Accessed 18 September 2018].

Anon., 2017. *Oceans and Sri Lanka's future: Towards a blue economy*. [Online] Available at: <http://www.ft.lk/article/620407/Oceans-and-Sri-Lanka-s-future--Towards-a-blue-economy> [Accessed 15 september 2018].



- Antoine, F. J. G. J.-P. L., 2017. *Towards a blue economy for a sustainable Mediterranean: Indicators and recommendations*. [Online] Available at: <http://planbleu.org/en/publications/towards-blue-economy-sustainable-mediterranean-indicators-and-recommendations> [Accessed 14 september 2018].
- Bangladesh Institute of International and Strategic Studies (BIISS), 2015. *Marine Resource Management of Bangladesh in the*. [Online] Available at: http://www.biiss.org/proceedings_2015/proceedings_26_feb_15.pdf [Accessed 14 september 2018].
- Dedi Dinarto, R., 2017. *Security challenges to Indonesia's 'blue economy'*. [Online] Available at: <http://www.eastasiaforum.org/2017/12/14/security-challenges-to-indonesias-blue-economy/> [Accessed 15 september 2018].
- Divya Hundlani, A. D. Z., 2018. *Sri Lanka and the Bay of Bengal Initiative: Opportunities to grow a vital region*. [Online] Available at: <http://www.ft.lk/opinion/Sri-Lanka-and-the-Bay-of-Bengal-Initiative--Opportunities-to-grow-a-vital-region/14-662074> [Accessed 17 september 2018].
- Document of the World Bank, 2011. *World Bank Document*. [Online] Available at: <http://documents.worldbank.org/curated/en/910131468013493301/pdf/639390PRSP0P110e00nly0900BOX361532B.pdf> [Accessed 12 September 2018].
- Doyle, T., 2018. *Blue Economy and the Indian Ocean Rim*. [Online] Available at: <http://www.tandfonline.com/loi/rrior20> [Accessed 16 september 2018].
- Emerton, L., 2016. *Assessing, demonstrating and capturing the economic value of marine & coastal ecosystem services in the Bay of Bengal Large Marine Ecosystem*. [Online] Available at: <http://aquaticcommons.org/19294/> [Accessed 16 september 2018].
- Goncalo Carneiro, H. T. S. O. D. B. S. F. S. M. R. D. S. S., 2017. *Cross Border Cooperation in Maritime Spatial Planning-Final Report*. [Online] [Accessed 11 september 2018].
- Hoon, V., 2018. *Coral Reefs of India: Review of Their Extent, Condition, Research and Management Status*. [Online] Available at: <http://www.fao.org/docrep/X5627E/x5627e06.htm#TopOfPage> [Accessed 17 September 2018].
- Julian Robert, A. A., 2016. *The Blue Economy and Small States. Common Weath Blue Economy Series - 1*. [Online] Available at: www.thecommonwealth.org/publications, [Accessed 13 September 2018].
- Manikarachchim, I., 2014. *'Stepping up from Green revolution to Blue Economy: A new paradigm for poverty eradication and sustainable development in South Asia*. [Online] Available at: https://commons.wmu.se/cgi/viewcontent.cgi?article=1472&context=all_dissertations
- Patil, P. G. V. J. D. S. M. R. J. S. A., 2016. *Toward a Blue Economy : A Promise for Sustainable Growth in the Caribbean*. [Online] Available at: <https://openknowledge.worldbank.org/handle/10986/25061> [Accessed 15 september 2018].
- The Economic Times, 2018. *International tourists arrivals grew from 25.17 million in 2016 to 26.57 million in 2017*. [Online] Available at: <https://economictimes.indiatimes.com> [Accessed 15 September 2018].
- Towhida Rashid, S. H. S. A., 2015. *Pollution in the Bay of Bengal: Impact on Marine Ecosystem*. [Online] Available at: <http://www.scirp.org/JOURNAL/PaperInformation.aspx?paperID=53127&> [Accessed 15 September 2018].
- UNDESA, UNCTAD and ECA, 2018. *World Economic Situation Prospects 2018*. [Online] Available at: https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/WESP2018_Full_Web-1.pdf [Accessed 21 September 2018].
- United Nation, 2018. *Sustainable Development Knowledge Platform*. [Online] Available at: <https://sustainabledevelopment.un.org/index.php?menu=1446> [Accessed 18 September 2018].
- Winter, S., 2016. *INDIAN OCEAN DEAD: New zone covering 23,000 square MILES found in threat to marine life*. [Online] Available at: <https://www.express.co.uk/news/nature/740946/dead-zone-miles-bat-bengal-scientists> [Accessed 15 september 2018].