



The Blue Economy: Sustainability, Opportunity and Future.

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Abstract

The ocean is likely to become an economic force. Ocean offers numerous activities like trade and commerce, fishing, coastal tourism, power generation, industrialisation etc. and as a major part of the environment of our 'Blue Planet' its role is highly important. Since long past the ocean was perceived as zones of free resource extraction and waste dumping ground with costs excluding from economic calculation as a 'Brown Development Model' in business economics. Such an unwise use of ocean resource it is became polluted day by day. Opposed to that, Blue economy is a sustainable ocean economy emerges when economic activity is in balance with the long term capacity of ocean ecosystems to support this activity and remain resilient and health. Resource use is evaluated with environmental and ecological parameters. The Blue Economy concept, first time, separated from socio-economic development from environmental degradation. It is a developing world initiative mostly initiated by the small island developing states (SIDS) and finally adopted by UNO. To offer numerous opportunities for future generation it works through formation of different national and international regulations and laws, sustainable research, re-planting, re-cycles, campaign and movement. Role of technologically advanced nations should be more positive and pro-active to ensure a 'Clean Blue Planet'. The first section of the paper is about the concept of 'Blue Economy' while the second section deals with the historical development of this very conceptual agreement. And the third section analyzes the opportunities of Blue Economy. The article ends with a conclusion.

Keywords: Blue economy , sustainable economy

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Introduction

The ocean and human civilization is interwoven with each other since historic past and now it is likely to become an economic force. Oceans cover about 72 percent of the surface of the earth. The first sign of life finds its genesis in the ocean and more than 95 percent of biosphere is related with ocean. Ocean as a resource of subject with numerous activities like trade and commerce, fishing, coastal tourism, power generation, industrialisation etc. As a major part of the environment of our 'Blue Planet' the role of oceans probably more important, because, CO₂ cycle, global temperature, wind flow, moisture, precipitation and pollution controlled by it. But the ever increasing economic and industrial activities after the second half of the 20th century, has led to unprecedented changes in ocean ecosystem.

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‘Blue Economy’ is not a new concept in human civilization but it is an institutionalization of the idea framed with public policies and rules adopted by UN plan action agenda 2012-16. It is as yet a new paradigm by nomenclature only. Blue economy is a sustainable ocean economy emerges when economic activity is in balance with the long term capacity of ocean ecosystems to support this activity and remain resilient and healthy. (Economist Intelligence Unit, Gordon and Betty Moore Foundation, 2015).

The introduction of Blue Economy concept made its first appearance during the ‘preparatory process’ for ‘Rio + 20’, United Nations Conference on Sustainable Development, which took place in Rio de Janeiro, Brazil on 20-22 June 2012. The members decided to launch a process to develop a set of Sustainable Development Goals (SDGs), which would build upon the Millennium Development Goals and converge with the post 2015 development agenda. In the ‘preparatory process’ for ‘Rio + 20’ adopted ‘Green Economy’ agenda which strongly questioned by many coastal countries as their relation and applicability to Green Economy and demand for an approach and implementation of Blue Economy. Finally the Blue aspect of Green Economy embodied in the ‘Green Economy in a Blue World’.

The Blue Economy and Concept of Sustainable Development.

The Blue Economy concept, first time, separated from the socio-economic development from environmental degradation. It is a developing world initiative mostly initiated by the Small Island Developing States (SIDS). The ocean was perceived as zones of free resource extraction and waste dumping ground with costs excluding from economic calculation as a ‘Brown Development Model’ in business economics. Where, the Blue Economy includes the value of the ocean and environment in economic modelling. Resource use is evaluated with environmental and ecological parameters. Blue Economy makes an emphasis on the efficient and wise usage of resource with a renewal model underneath, surface and contiguous to the ocean. It is also noteworthy that, UNDP (2013) has declared the goals “Improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”

Opportunities.

Blue economy offers a large number of traditional and emerging opportunities in the sectors of fishing, shipping, port facilities, aquaculture, tourism, mining, energy resources, biochemistry etc. The blue economy is not just about market opportunities; it also provides for the protection and development of more intangible ‘blue’ resources such as traditional ways of life, carbon sequestration, and coastal resilience to help vulnerable states mitigate the often devastating effects of climate change. (Commonwealth Blue Economy, 2012. Serial No-1).

The Economist Intelligence Unit Limited, 2015, has depicted the opportunity and scope of Blue Economy with the help of following table -

Type of Activity	Ocean Service	Established Industries	Emerging Industries	New Industries	Drivers of Future Growth.
Harvesting of living resource	Sea food	Fisheries	Sustainable fisheries		Food security
			Aquaculture	Multi-species aquaculture	Demand for protein
	Marine Bio-technology		Pharmaceuticals, Chemicals		R & D in health care and industry
Extraction of non-living resource, generation of new resource	Minerals	Sea bed mining			Demand for minerals
			Deep sea bed mining		
	Energy	Oil, gas			Demand for alternative energy resource
			Renewable		
	Fresh water		Desalination		Fresh water shortages
Commerce & trade in and around the ocean	Transport & Trade	Shipping			Growth of seaborne trade
		Port infrastructure and service			International regulations
	Tourism and recreation	Tourism			Growth of global tourism
		Coastal development			Coastal urbanisation
			Eco-tourism		Domestic regulation
Resource to ocean health challenges	Ocean monitoring and surveillance		Technology and R & D		R & D ocean technologies
	Carbon sequestration		Blue carbon (i.e. Coastal vegetated habitats)		Growth in coastal and ocean protection and conservation activities
	Coastal protection		Habitat protection, restoration		
	Waste disposal			Assimilation of nutrients, solid waste	

Source: The Economist Intelligence United Limited. Briefing paper for the World ocean summit-2015.

Activities that can contribute to the ocean health.

- About 80% of global trade by volume is seaborne and the trade commodities of developing countries mostly transferred via sea route. World seaborne trade grew at 4% average rate in each year during the last decade. There is an immense scope to develop the socio-economic status of coastal countries and small islands developing states (SIDS) using their locational importance in the era of rising seaborne trade. The International Maritime Organisation (IMO) has started a mechanism to regulate the pollution of the vessels but more effort should be required to the related issue of ballast water and hull fouling but even with these challenges maritime trade offers expansion of Blue employment opportunities and economic growth.
- Fishing is a major sector where more than 350 million jobs are linked. Fishing within the EEZs is the right of the coastal nations. High profits attract commercial fishers to explore deep-sea fishing which often leads to illegal, unregulated and unreported fishing. (Mohantiet, all, 2015). Human activities are directly and markedly reduced ocean productivity. (Commonwealth Blue Economy, Serial No-1). The projection model of Global Ocean Observing System (GOOS), 2040-2060, forecast a steady decline in ocean productivity. As a major part of Blue economy ecosystem based approaches is introduced in fishing. Implementation of good management measures and national, international law of fishing may secure livelihoods and food security for future world along with employment opportunity.
- Coastal tourism, a major sector of blue economy, presents huge potential for job creation and economic growth. This sector registering an average growth rate of 3.3 per cent over the period 2010-15. At present, the size of tourism sector is US\$7,863.5 billion which accounts for 9.9 per cent of world GDP (Based on data from World Travel and Tourism Council). It is the biggest maritime sector in terms of gross value

added and employment generation. The importance of marine or coastal tourism is relatively higher for a successful blue economy (UNEP, 2009). At the same time, the adverse effects of expanded tourism activities should be monitored regularly in a frame of Blue economy.

- The Blue economy is emerging as a large reservoir of clean energy. Ocean renewable energy in the form of wave energy, solar energy, tidal energy, hydroelectric energy would reduce the burden on conventional sources of energy production. Conventional energy production related with pollution and economic burden. There is an ample scope for coastal and SIDS countries to flourish their energy sectors using ocean power. Though, actual production of Blue energy is insufficient (29GW) but huge potentiality is waiting to meet future demand. Larger goals of the blue economy may be satisfied by using the cleaner and environmentfriendly ocean energy technologies in future.
- Worldwide crude oil and Methane hydrate reservoirs are abundant in off shore region and in ocean floor. About 32.6% crude oil has extracted from the offshore mines. (IEA). At present deep water mining is restricted and protected by law but large reservoirs of the ocean floor will be the major sources in future energy.
- Rapid urbanisation along the coast line is sufficiently influenced by Blue economy. In place of uncontrolled urbanisation the Blue economy promoting coastal urbanisation by subscribing to the core principles of sustainable, low-carbon and eco-friendly processes and technologies would eliminate the established fears associated with the business-as-usual approach toward city planning. (Mohanti et al. 2015). There is a need to switch from production-led urbanisation to tourism-led urbanisation in which a city would rather serve as a space for consumption and leisure than for production, (Qian et al. 2012). Coastal countries must capture the opportunity by investing in the blue city.
- Marine biotechnological products grew in a faster rate. Worldwide the contribution of such product 4.6 billion US Dollar in 2017. Marine biotech has the potential to address a suite of global challenges such as sustainable food supplies, human health, energy security and environmental remediation (The European Bioinformatics Institute, 2010). It is a reach source of potential drugs. Currently 39 marine derived drugs are available for clinical treatment. Among these drugs 15 drugs are used for cancer treatment. European Science Foundation has estimate 20-80 litres of bio fuel may be extracted from one hectare area by microalgae culture.
- Sea bed is the potential riches of polymetallic nodules, cobalt crusts and massive sulphide deposits, yttrium, dysprosium and terbium. The International Seabed Authority has developed the Mining Code regulations and issue licenses for the exploration of the international sea floor to avoid dispute. A large scope is waiting for coastal countries to develop their industries as well as economy.

Conclusion.

The relationship between human civilization and ocean is historical. Advancement of technological progress since mid 20th century oceans became polluted and considered as waste dumping ground. It is really landmark step to evaluate the Blue Economy to the

international sustainable development agenda adopted by UNO. It will be wrongdoing if we forget the effort of Small Island Developing States (SIDS) and agenda of Third International conference on in 2014, for framing Blue Economy. 'Improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities - is a challenge of blue economy'. Technologically advanced and develop nations should take 'proper' initiatives in this regard. Otherwise law or regulations cannot satisfy the goals of Blue Economy.

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