Policy Brief, No. 2, April 2017

Blue Economy, Ocean Development and SDG-14

Implications for the Marine Ecosystem

BLUE ECONOMY FORUM

Introduction

Blue Economy is emerging as a new development paradigm which is more just and acceptable to both developed and developing countries. Spotty evidences demonstrate that the ocean-driven segment of 'Blue Economy' is one of the most dynamic segments of the economy in several countries, irrespective of their economy sizes. The challenges faced with the oceans lead to a new wave of global governance efforts such as the forum of Global Ocean Governance which cover issues related to goods and services provided by the ocean ecosystem. There are immense potentials with the oceans not only in the aqua sector, as viewed traditionally, but also with other sectors including those of mining, energy, construction, manufacturing and services (Mohanty *et al.*, 2015). Realisation of these potentials for economic development is not automatic in nature, rather appropriate strategies are to be evolved in order to harness those.

The importance of oceans to mankind was known for centuries, but the relevance of global governance for development of ocean health came to the fore in the 1990s.

The Earth Summit in 1992 highlighted ocean as the target for environmental protection. The Summit emphasised on sustainable use of marine living resources and conserving them in the high seas. Ten years later, the Earth Summit for Sustainable Development in Johannesburg drew a detailed action plan for implementation of ocean and coastal sector development as proposed in the earlier Rio Earth Summit. As a follow-up action, the Millennium Development Goals (MDGs), further widened the unfinished agenda of sustainable development in 2000 and provided a wider space for the global policy action. MDG-7 focused on environmental sustainability and also had specific focus related to oceans like Targets 7.4, 7.6 and 7.7, as shown in Table 1.

However, the MDG targets and indicators emphasised on various human dimensions including poverty, hunger, education and health, where the marine-related issues were inappropriately blended, leading to failure of the strategies to integrate ocean conservation issues effectively with social, environmental and developmental aspects (Houghton, 2014 ; Cicin-Sain *et al.*, 2011).

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Table 1: MDG Targets and Indicators Related to Oceans

Targets	Indicators
Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	**Indicator 7.4:** Proportion of fish stocks within safe biological limits
	Indicator 7.6: Proportion of terrestrial and marine areas protected
Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	**Indicator 7.7:** Proportion of species threatened with extinction

Source: Compiled from Official List of MDG Indicators, United Nations, 2008, web link: http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm

The Rio+20, the Third Earth Summit conference organsied by United Nations on Sustainable Development in 2012 focused on expanding the green economy in the blue world. With the leadership of Small Island Developing States (SIDS), the coastal nations advocated Blue Economy as a paradigm for sustainable use of ocean resources. The basic inferences emanating from the High-Level Plenary Meeting of the UN General Assembly in 2010 and the Rio+20 conference have shepherded the global thinking to evolve a composite global development plan of action as the Universal Sustainable Development Agenda during the high level summit in September 2015. In the Summit, a separate goal, i.e SDG-14, was included in the Sustainable Development Goals (SDGs) as a guiding path for global governance for sustainable use of ocean resources. With the recognition of the SDG Goal-14 as a global action plan for ocean development, the relevance of the Blue Economy as a global strategy for sustainable development is reinforced in the world economy. The purpose of this policy brief is to examine protection of ecosystem as an integral part of the Blue Economy and discuss the manner in which SDG-14 aims at full-grown development of the ecosystem. While referring to development of the ecosystem, SDG-14 refers to issues relating to sustainability of fisheries, mangroves, carbon sequestration, maritime protected areas, fresh water flows, etc. and regulating acidification, marine pollution and debris, IUU, fishing, etc. to protect marine coastal ecosystem.

Debating SDG-14

Towards a Stand-alone SDG

During discussions in the framework planning of SDGs, there were two streams of views which had different perspectives on the role of SDG-14 as an independent goal for oceans. While one group of countries proposed a stand-alone SDG for the oceans, others argued in favour of having an integrated goal for natural resources[1]. Most of the SIDSs[2], particularly Pacific Small Island Developing States, Pacific Islands Forum, Romania, Poland, Maldives, New Zealand and others, favoured a stand-alone SDG for ocean development. It was argued that oceans have large potential which can greatly influence the lifestyle of people in the littoral countries. Following the current trends in the world economy, the ocean development may not be assured automatically, rather concentrated efforts will have to be made to reap huge gains from the oceans. Separate SDG for the oceans could provide justifications for countering the existing challenges that are being faced in the way of proposing a plan of action for ocean development.

Another group of countries such as France, Germany, Switzerland, India, Pakistan, Sri Lanka, etc. was not in favour of pursuing a separate SDG for the oceans . Pakistan, on behalf of India, and Sri Lanka presented the view that "lone, singular and numerous SDGs removed from their entire context are not likely to produce desired result".[3] However, prolonged debate on the issue made the global community to realise that ocean sector is going to play an important role in the economic development

of littoral countries. Further, the unsustainable use of ocean and its resources need to be put under the purview of the global governance.

Issues with SDG Targets

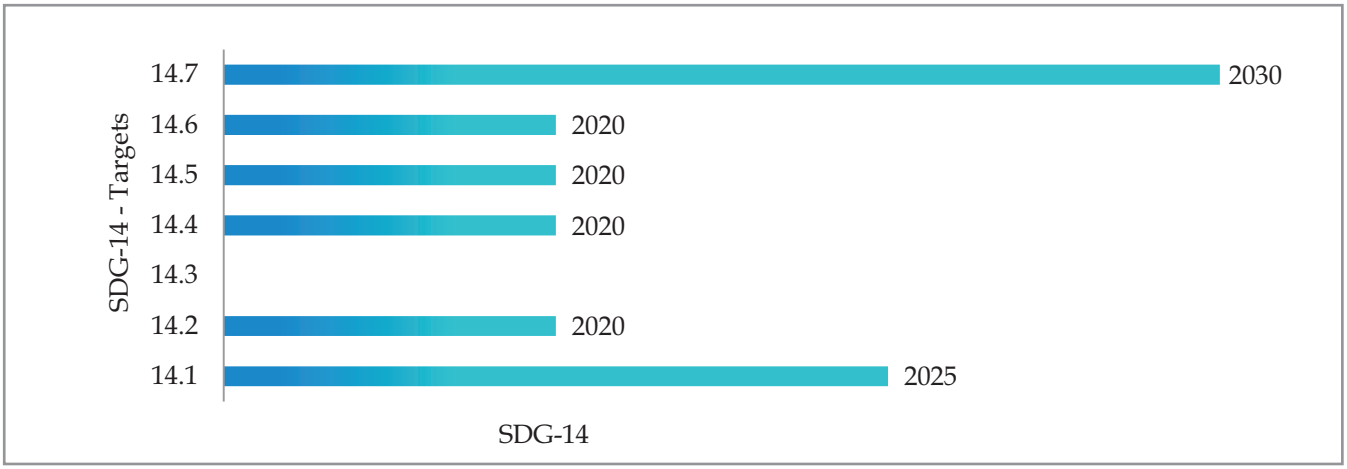
Sustainable development has three pillars which include economic, environment and social dimensions. Of the three, SDG-14 is heavily skewed towards the environmental dimension and is loosely-defined for the other two dimensions. According to German Council of Sustainable Development (2015), SDG-14 can be distributed on sustainable development dimensions with 67 per cent accounting for environment dimension, and 5 per cent and 29 per cent for social and economic dimension, respectively. SGD 14 also focuses more on the sustainable environment for protecting the ocean resources and reducing marine pollution. In the present format, ocean development agenda of SDG-14 is more tilted towards environmental rather than economic issues.

Although inclusion of SDG-14 is an implicit recognition of the growing importance of ocean development for humanity, most issues concerning the global ocean governance are not rightfully covered in the SDG-14. It therefore fails to make a balance between reaping economic benefits from oceans and its conservation.[4] Further, problems relating to estimation of indicators remain a major gap in SGD-14. SDG-14 is targeting on specific issues, like reducing marine nutrient pollution and marine debris, management of marine and coastal ecosystem sustainably for achieving healthy and productive oceans, reducing the impact of ocean acidification to the minimal levels, effectively using fisheries and regulating on IUU fishing and removal of certain fisheries subsidies, protecting and conserving marine and coastal areas and sustainable management of aquaculture, amd tourism and fisheries especially for SIDS. These issues are scheduled under 7 targets and 3 means of implementation. While some of the targets have a poor track record of quantification like SDG- 14.2, others like SDG-14.1 and SDG-14.4 suffer from baseline data issues which are yet to be addressed.

SDG-14 has different time-lines for different targets which may lead to uncertainty in fulfilling the goal itself. The time line for achieving various targets for SDG-14 ranges from 2020 to 2030 as shown in Figure 1.

SDG-14 leans more towards environmental aspects of ocean development, which may affect marine ecosystem in littoral countries. Betterment of the marine and coastal marine ecosystem would generate more marine resources which eventually support expansion of the blue economy on a sustainable manner. This would bring competitiveness in blue economy with achievement of SDG-14 targets.

Figure 1: Time Line for SDG-14 Targets



Source: Compilation from United Nation (SDG-14), 2015.

Empirical Results on Issues Concerning Marine Ecosystem

That SDG-14 accords priority to sustainability of oceans, and protection of marine environment has been highlighted in the agenda of policy action. The manner in which sustainability aspects of oceans is maintained by various countries, assessment of efficiency of the sector becomes an empirical question. Since there is consensus about indicators for the SDG-14 targets we have taken some indicators to seek their relevance in the world. Some of the empirical issues relating to experiences of countries in relation to fisheries management (14.6 and 14.4), protection of mangroves (14.2 and 14.5), conservation of marine protected areas (14.5), etc. are discussed below.

Fishery Subsidies

Discussion on subsidies in fishing sector figured prominently in the WTO Ministerial in Nairobi, 2015. The level of distortion caused by subsidy to the fisheries sector is unparalleled in depleting fisheries stocks across the globe. For example, in an effort to increase productivity in fish catch, subsidising fuel for the larges fish catching vessels created disastrous consequence for managing fish stocks.

However, subsidy as such is not always bad. Fishery subsidies are broadly classified into three categories: (1) beneficial or good subsidies, which enhance the investment in natural fish stock; (2) capacity enhancing or bad subsidies, which are mainly leading to dis-investment in fish stock and overcapacity and un-sustainable use of fishes; and (3) ambiguous subsidies, which may lead to investment or dis-investment in the fish stock.[5] On reviewing the fishery subsidies globally, we find that more than 41 per cent of the total fisheries subsidies are beneficial to the fisheries sector and less than 50 per cent have been accounted to have a deteriorating effect on fish stock for the year 2009. For conservation and sustainable use of fish resources, the global situation of fishery subsidies has improved in the 2000s. For instance, the global beneficial subsidies as a percentage of total subsidies has increased from 37 per cent in 2003 to 41 per cent in 2009, and bad subsidies have fallen from 50 per cent to 46 per cent in the corresponding years. In this regard, some of the better performing countries are Argentina, Bangladesh, Iran, Myanmar, Philippines, Somalia, Vietnam, etc among others.

The beneficial fisheries subsides include subsidies for: (i) fisheries management and services, (ii) fishery research and development, and (iii) maintenance of Marine Protected Areas (MPAs). Of the three sub-categories of the good subsidies, fisheries management and services constituted 64 per cent of the total global good subsidies in 2009. Moreover, with a share of 23.5 per cent in the good subsidies globally in 2009, R&D is emerging as one of the most important sectors in the category of beneficial fishery subsidies. But in terms of allocation, it differs significantly from one Regional Trading Arrangement (RTA) to another. The share of good subsidies in the world decreased from 5.6 per cent in 2003 to 4.8 per cent in the EU in 2009. However, one can observe significant improvement in good subsidies in case of NAFTA.

On the contrary, developing country groupings have demonstrated better performance than those of RTAs of developed countries. To mention specifically, for MERCOSUR 54.2 per cent of total fishery subsidies are good subsidies. More or less, similar trends are observed for other RTAs. The proportions of good subsidy in SACU, ASEAN, SAARC and IORA, are 45.8 per cent, 31 per cent, 27.5 per cent and 26 per cent respectively in 2009. Taking into account the track records of developing countries in allocating good fishery subsidy, it may not be argued convincingly that fish subsidies are detrimental to developing countries.

Nearly 20.5 per cent of global bad subsidy is by the EU, whereas it is below 3 per cent for SAARC, ECOWAS, MERCOSUR and others. When fisheries subsidy is considered detrimental to sustainability of fisheries , the EU and a few other developed countries may be held responsible for it. Bad subsidies include: (i) boat construction, renewal and modernization, (ii) fishery development and support services, (iii) fishing port construction and renovation, (iv) foreign access agreements, (v) fuel subsidies, (vi) marketing support and storage infrastructure, and (vii) tax exemption. Fuel

subsidy constitutes the major portion of the total bad subsidies in the fisheries sector. Over the years, regional groupings like IORA and ASEAN have shown significant reduction in the share of their bad subsidies. In this category of fishery subsidy, the highest CAGR of 39 per cent during 2003-09 was registered by the EU, which leaves other RTAs behind in providing fuel subsidies to the fisheries sector. For marketing support and infrastructure subsidies, the NAFTA subsidies grew at the rate of 33 per cent during 2003-09.

The other fishery subsidies, having ambiguous effects, include: (i) fisher assistance, (ii) rural fisheries community development, and (iii) vessel buyback. These subsidies may not be categorized as either good or bad subsides since their impact on fishing sector can go in any direction. The major proportion of such subsidies is appropriated by regions like the EU and NAFTA, accounting more than 43 per cent of the world. A major chunk of such ambiguous global subsidies comes from vessel buyback (57 per cent) and fisher assistance (41 per cent).

Marine Protected Areas

Several initiatives including the Plan of Implementation of the World Summit on Sustainable Development in 2002, the 5th World Parks Congress in 2003 and 8th Ordinary Conference of the Parties to the Convention on Biological Diversity (CBD) in 2006 have aimed at protecting 10 to 30 per cent of marine habitat in the next five years. Global situation for Marine Protected Areas (MPAs) has improved during 2000s. The empirical estimates indicate that the situation has started improving since 2002 following recovery of the global economy. Similar trend continues during the entire period of global buoyancy. After a temporary setback in the event of double dip recession during 2007-09, the world economy witnessed proliferation of MPAs since 2010.

Regionally, Oceania, Caribbean and Europe have maintained large proportion of world's MPAs during the period 1990-2014. However, the situation improved significantly in continents like Africa, Asia and developing Europe. Some of the sub-regions like Western Africa, Western Europe, Southern Africa and Central America have experienced large concentration of MPAs. Rising coverage of the MPAs and balanced spread of such areas are encouraging signs for the world economy.

Threatened Fisheries

The loss of marine fisheries stock has been a global concern. Overfishing, IUU fishing, invasive species, climate change and coastal development are main contributors to the loss in marine species (Polidoro, *et al.*, 2009). Around 2.5 per cent of the global marine fish species are threatened.[6] From the total uniquely threatened marine fish species, vulnerable, endangered and critically endangered species share 69 per cent, 18 per cent and 13 per cent respectively in 2015.

However, the proportion of threatened marine fish species in the total marine fishes is relatively high in the regional groupings like EU (4.62 per cent) and ECOWAS (5.22 per cent). The corresponding ratios for other less affected groupings like IORA, ASEAN and SAARC are 2 per cent, 2.32 per cent and 2.53 per cent respectively. Similar trend continues for critically endangered and endangered species for the corresponding regions. For the critically endangered marine fish species, the EU accounts for 23 per cent of the total threatened marine fish species in the region, whereas the corresponding ratio for groupings like IORA, ASEAN, SAARC, and MERCOSUR ranges from 8 to 12 per cent in 2015. The current trends indicate that the concerns relating to endangered species are relatively less severe for the developing countries rather than for the developed countries.

Protection of Mangroves

Mangroves, the marine tidal ecosystem inherent to tropical regions, are productive ecosystems which provide numerous goods and services as well as various marine activities for marine organisms and human beings. They support in stabilizing the shoreline and reducing the impact of natural disasters like hurricanes, tsunami, etc. among others. They also provide food, fuel, and medicinal

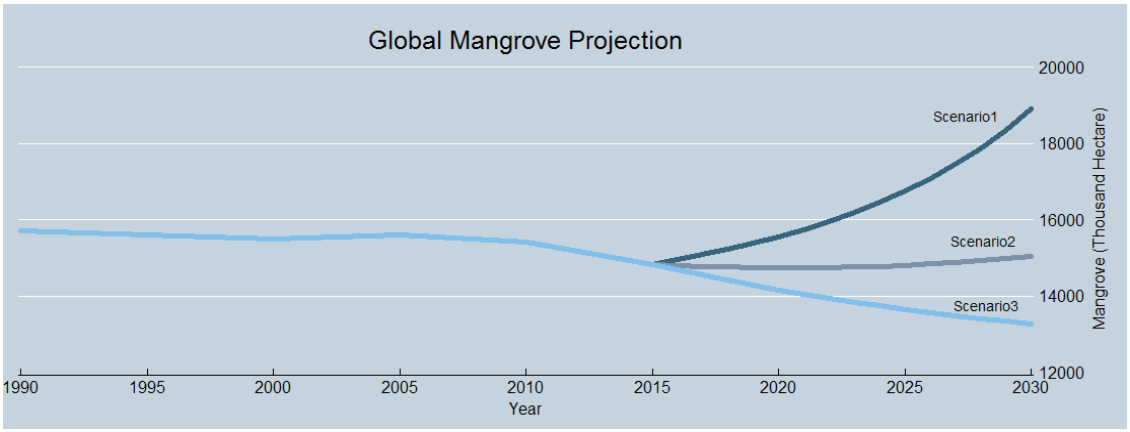
resources to local people and provide breeding space to marine species (Giri *et al.,* 2011).

Despite its growing importance in global ecosystem, mangrove cover in the world has been declining at an increasing rate during the last decade. Regional approaches play an important role in maintaining high mangrove cover in the region. Empirical evidences suggest that such trend prevailed during the period 1990-2005. This syndrome is equally applicable to certain RTAs of both developed and developing countries like NAFTA, IORA, ASEAN, among others .

However, area under mangroves has been declining alarmingly in the world for the last two and half decades, and situations has become acute since 2005. The big policy dilemma arises whether this trend can be reversed. What would be the consequences if the present trend continues? For answering these questions, a simulation exercise is undertaken for the world up to 2030. Figure 2 presents the projection estimates of mangroves under three different scenarios. (Scenario I: When best practices from top countries with mangroves are taken into account, how the world economy would respond to the situation. Scenario II: predicting the global situation where moderate estimates are being used, and. Scenario III: where the worst scenario has been accounted for to estimate global stock of mangroves by 2030. Total mangroves of the world declined to 4.8 thousand hectares in 2015 from 15.6 thousand hectares in 2000, raising deeper concern for the world economy. Countries have demonstrated varying experiences in regard to conservation of mangroves. Based on the experiences of littoral countries, we have identified three sets of growth performances for each country:- best, worse and moderate, during the period 1990-2015. Projections of mangroves up to 2030 are made on the basis these parameters. According to the present estimation, global stock of mangroves could reach to the extent of 13.3 thousand hectares in the worst scenario. With a moderate performance of the world economy, it could be increased up to 15 thousand hectares by 2030. In a situation where countries adhere to their best practices in the past, area under mangroves would increase up to 18.8 million hectares by year 2030. The simulation results indicate that deteriorating situation of the world mangroves can be reversed effectively by learning from the experiences of these countries.

With consolidation of global initiatives and growing concerns on global governance, world marine ecosystem is gradually picking up and these efforts would enable littoral countries to boost their blue economies. Adoption of good fisheries subsidy, better management of the Marine Protected Areas by regional groupings of developing countries, and making efforts to

Figure 2: Global Mangrove Projection



Source: Compilation from FAO Forestry Statistics, 2016

conserve threatened species may enhance efficacy of global maritime ecosystem. Global efforts to increase the size of mangroves could be a stark reality. However, strong global agenda to improve the performance of the ecosystem can immensely contribute to blue economy.

Initiatives from IORA Countries

There is large potential that can be extracted from the oceans; however, strategic policies are needed to harness these potential. Various countries in IORA like Australia, Mauritius, Seychelles, etc. have made significant ocean development plans at the national level. These plans are closely linked with various targets of SDG-14.

The National Marine Science Plan 2015-2025 of Australia identifies a number of policy initiatives for future investment in marine and coastal sector ranging from National Blue Economy Innovation Fund to National Ocean Modelling Program. The Government of Mauritius (2013) launched its roadmap for Blue Economy to present ambitious targets for major areas covered by the oceans. Mauritius and Seychelles have designed their long term development strategies in the framework of ocean development. A number of RTAs have given priority to ocean-linked strategies as the basis for regional economic strategies. Australian Marine Science Plan focusses on target 14.2, 14.4 and 14.5; Mauritian Ocean initiatives on 14.4, 14.6 and 14.7; and Seychelles programmes on 14.2, 14.4, 14.5, 14.6 and 14.7. Several programmes in India have been initiated by the Government of India with regards to ocean and coastal management. The Ministry of Environment, Forest and Climate Change (MoEF & CC), Department of Ocean Development and regional organizations have started several programmes like the Bay of Bengal Large Marine Ecosystem project. Another initiative of the Integrated Coastal Zone Management Project has been commenced in three states – West Bengal, Odisha and Gujarat. The project focuses on conservation of coastal and marine resources, pollution management, and improving livelihood opportunities for coastal communities. The Society of Integrated Coastal Management has been set up for the implementation of the project which is led by MoEF & CC at the National level and Department of Forests and Environment at the state level. Due to these national level policies, IORA is emerging as a major crusader for promoting the idea of Blue Economy in the world.

Way forward

Blue Economy holds the mandate of integrating the twin objectives of growth and sustainability for fostering development in the realm of ocean development. The opportunities stemming from the Blue Economy are so much that the latter has become a major issue for global governance. A stand-alone SDG for ocean development is the testimony of the recognition of Blue Economy by the global community. SDG-14 has focused on the conservation and sustainability of the marine and coastal ecosystem. From Rio Summit to the SDGs, the Blue Economy as a major development strategy has travelled a long way in establishing its relevance in the world economy.

Blue Economy is not only concerned with the growth dimensions, but also covers cost of environmental damage, particularly injury to the ecosystem. SDG-14 has the unilateral focus on development of ocean health which can contribute enormously to the mankind and prevent damage in ecosystem.

So far as environmental disquiets are concerned, the world economy has receives mixed responses. It is important to note that the Marine Protected Area is expanding globally amidst global recession. There is potential threat to global fisheries stock due to rise in threatened species. In terms of threatened species, the situation is more acute in Europe than in the developing countries including the IORA countries. This is, perhaps, due to excessive use of bad subsidies in the fisheries sector to raise productivity of fish catch. Bad subsidies in the fisheries sector are more acute in Europe, but good subsidies are largely prevalent in developing countries. Thus, this is making a case for subsidy in fisheries sector to promote Marine Protected Area, initiating R&D activities, etc. in developing countries.

Fisheries sector is adversely affected due to steep decline of mangroves which is the natural habitat

of fisheries. Global outlook on conservation of mangroves indicates that the present grim situation can be reversed with a strong global governance initiative. IORA initiatives in these areas are forward looking and several regional countries including Mauritius, Seychelles, Bangladesh, etc. have evolved numerous strategies to promote Blue Economy in the region. Some IORA countries equally campaign for the strategy at different global forums. Therefore, there is a pressing need for emphasising on conservation and sustainable use of ocean resources for providing impetus to marine ecosystem, which is becoming vital for the success of Blue Economy.

Endnotes

[1] https://sustainabledevelopment.un.org/owg8.html

[2] https://sustainabledevelopment.un.org/content/documents/6040PSIDS%20SDG%20OWG%208%20Statement%20with%20Oceans%20and%20Seas%20Draft%20SDG%20Annex%20(1).pdf

[3] https://sustainabledevelopment.un.org/content/documents/6075india.pdf

[4] Several issues concerning SDG-14 are given prominence in other SDGs, thus undermining the relevance of SDG-14. It is observed that some of the important issues are discussed in SDGs 8, 12, 13, 15 and 16 (German Council for Sustainable Development, 2015).

[5] Sea Around Us (2016), http://www.seaaroundus.org/

[6] Data Source: http://www.fishbase.org/search.php, 2015

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