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Marine Resources and the Challenges to Sustainability

Introduction

The oceans and seas are essential for national and global economic well-being. The global ocean economic activity is estimated to be between US\$ 3 trillion to US\$ 6 trillion. Marine transport and coastal tourism (comprise 5 per cent of the global gross domestic product) and 6 to 7 per cent of global employment and 13 of the world's 20 megacities are coastal. Further, marine bioresources supply 4.3 billion people with more than 15 per cent of annual consumption of protein, energy and nutrients. Over 30 per cent of global oil and gas produced are extracted offshore, and marine tides, waves, currents, and offshore wind are emerging non-conventional sources of energy that have significant potential to contribute to low-carbon energy in many coastal countries (Cicin-Sain, 2015). It is estimated that about 40 per cent, or 3.1 billion, of the world's population lives within 100 kilometres of the coasts in about 150 countries.

However, the focus on oceans, seas and coastal areas in achieving sustainable development has been rather limited. For example, there was no reference to oceans and seas in the Millennium Development Goals (MDGs). This necessitated countries, especially the Pacific Island States and Timor-Leste to push for a specific Development Goal on oceans and seas when negotiations began in the United Nations Open Working Group (OWG) to develop a set of Sustainable Development Goals (SDGs) a part of the post-2015 development agenda.

The SDG 14, "Conserve and sustainably use the oceans, seas and marine resources for sustainable

development", with its seven targets and three provisions on means of implementation lends a credible hand to decades of work that articulated the need for special focus on this issue. The Target 14.7 "By 2030 increase the economic benefits to small island developing States (SIDS) and least developed countries (LDCs) from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism" emphasis that enhanced benefits to SIDS and LDCs are long-overdue and will cause a profound shift in consideration of ocean management decisions to highlight their economic and social impacts. The Samoa Pathway¹, adopted by SIDS in 2014 lay emphasis on ensuring achievement of sustainable development using a range of options, including the influences SIDS can make in delivering the post-2030 sustainable development agenda.

Shifting Gears to Action

The Global Agenda

With the adoption of the SDGs by the United Nations General Assembly (UNGA) in September 2015, the focus on the 2030 Agenda and the SDGs shift to actions on the ground and national implementation to achieve the targets using the means of implementation and relevant indicators. However, it has to be emphasised that achieving SDG 14 is not possible as a stand-alone option. As noted in the introduction to the document on SDGs, the OWG noted that "These goals constitute an integrated, indivisible set of global priorities for sustainable development"².

Thus, countries need to focus on several other SDGs to achieve SDG 14 on oceans and seas, including proposed SDG 1 (on poverty), SDG 2 (on food security), SDG 6 (on water and sanitation), SDG 7 (on energy), SDG 8 (on economic growth), SDG 9 (on infrastructure), SDG 10 (on reduction of inequality), SDG 11 (on cities and human settlements), SDG 12 (on sustainable consumption and production), SDG 13 (on climate change), SDG 15 (on biodiversity), and SDG 17 (on means of implementation and partnerships).

The Summary of the First Global Integrated Marine Assessment, or World Ocean Assessment³, found that the sustainable use of the oceans cannot be achieved unless the management of all sectors of human activities affecting the oceans is coherent. Managing the human uses of the oceans and seas has to be divided among many players. In the course of their activities, individuals and commercial enterprises that use the ocean on a constant basis take decisions that affect the human impacts on the ocean. The United Nations Convention on the Law of the Sea⁴ establishes the legal framework within which all activities in the oceans and seas must be carried out. National governments and regional and global intergovernmental organisations all have their parts to play in regulating those activities.

However, each of those many players tends to have a limited view of the ocean that is focussed on their own sectoral interests. Without a sound framework in which to work, they may well fail to take into account the ways in which their decisions and actions interact with those of others. Such failures can add to the complexity of the manifold problems that exist. While there has been a lot of emphasis to focus on ecosystem services that support human well-being, it has to be understood that sustainable management of oceans and seas shall deal with both resources that are a part of market economy (fish, hydrocarbons or minerals) or the non-marketed ecosystem services that the ocean provides to the planet. Consideration has to be given for scientific understanding of those ecosystem services and the Earth's hydrological cycle, interactions between air and sea, primary production and ocean - based carbonate production and the aesthetic, cultural, religious and spiritual ecosystem services (including some cultural objects that are in trade).⁵

The governance of oceans and seas also pose significant challenges for both policy making and implementation. According to a recent report from the United Nations Environment Programme (UNEP) on the governance of marine and coastal areas, *'Marine areas and resources under national jurisdiction, on the other hand, have relatively poorly defined rights of access and use, and are rarely subject to private property rights, such areas and resources generally being recognised as state property. State ownership of marine areas and resources within the Exclusive Economic Zones (EEZ) has been legally specified under the United Nations Convention on the Law of the Sea (UNCLOS, 1982), but the reality is that marine areas and resources are subject to complex combinations of state, open access (often de facto where state capacity to regulate is lacking) and common property (often having evolved in seas subject to de facto open access) regimes, private property regimes being a rarity in our seas, hence the customary principle of the 'freedom of the seas' that UNCLOS both reinforces and challenges'* (Jones, Qiu and Santo, 2011).

The United Nations General Assembly in its resolution 70/1 mandated the UN Statistical Commission to develop and implement a global indicator framework. An Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDG) was established to develop a set of indicators for SDGs with an agreement to present the outcomes by March 2016 to the Economic and Social Council and the General Assembly. The General Assembly resolution 70/1 calls for the framework as "simple yet robust, address all Sustainable Development Goals and targets, including for means of implementation, and preserve the political balance, integration and ambition contained therein".

National Action

Historically, India's focus on oceans and marine resources management has been forward looking. With close to 129 institutions in the country working on marine and ocean related issues, largely supported by four ministries of Government of India, the challenge is the lack of coordination and cooperation among many of these institutions and programmes. Case in point is the lack of one single dataset of information

on marine resources, ocean management actions and status and trends in national and state level resource availability and use issues.

A quick assessment of the global targets and related indicators being suggested as well as under development indicate that though all of the targets and indicators may be relevant for India, it has to spend considerable efforts to collate the information and data to deal with the indicators

Examples of these include, Target 14.c where there is no single institution to deal with regional and global ocean governance and management issue. The Ministry of Earth Sciences is the focal point ministry in the country to provide input on regional and global science based issues for policy making while the Ministry of External Affairs represent the country at the international meetings and negotiations. There is need for enhanced cooperation amongst these Ministries along with Ministry of Science and Technology, Ministry of Rural Development, Ministry of Agriculture and state level counterparts to effectively realise the Goal and targets on oceans and seas. The following table highlights some options for India to realise the Oceans Goal.

Preparing India to Achieve the SDG

India's development interests and priorities seem to be going through a renewed phase of policy prescriptions directed by the new political environment in the country. The diversity of issues to be addressed, challenges to coordination, options to monitor and evaluate progress, partnerships to be created across strata of the society, emerging dimensions of bilateral and multilateral diplomacy and effectiveness of resource deployment form the core of issues that India need to address to move forward national debates related to adoption and subsequent implementation of SDGs at national level.

To support kick-starting such actions and prioritisation, the following may be not just relevant but important considerations.

Dealing with Data and Information

One of the critical needs to assess progress in implementing national actions to achieve the SDG

14 is to collate data and information related to agreed targets and indicators. Given the diversity of targets and suggestive indicators, it can be safely assumed that there will be a need for significant amount of data and information that need to be collated and analysed.

Such diversity of data and information need to be collected and collated from a wide range of actors, including civil society organisations to effectively use the data for measuring progress. Current experiences from India on such consolidated reporting using the MDG framework indicate that either data on indicators are not available and/or they are not being assessed appropriately by various agencies. The example cited on lack of reporting by India on Goal 7 is a case in point.⁶

India would need to look at the option of creating a special unit within its Statistics and Programme Implementation Department of the Government that may be mandated to work on identifying data and information gaps, suggesting options and indicators for measuring progress aligning with the global indicators, create a network of ministries, institutions and civil society organisations to generate data and assess the same. Given the expertise available in India on a range of issues relevant to the SDGs in general, such an approach could benefit planning and monitoring national and local action.

Achieving National Development as an Aggregate of State level Development

Achieving SDG 14 in India needs to be measured using metrics available at state and national levels. The Goal can be achieved if there is concerted collaboration and consolidation of actions at national and state levels.

For this to happen, it is important to inform and facilitate effective participation of all states in deciding on implementation of the SDG 14, especially in relation to using the targets and indicators. States in India offer a spread-out platform for effective and speedy realisation of the SDG 14 targets. It may be appropriate for the new planning body created in India, NITI Aayog to focus on this issue as an additional part of its cooperative federalism approach.

Financing Development

In July 2015, governments convened for the Third

Table : Tweaking the Indicators to Suit India

Targets	Indicators	Relevant National Indicator
Target 14.1: By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.	14.1.1 Index of coastal eutrophication and floating plastic debris density.	<ul style="list-style-type: none"> • Run off into rivers, seas and oceans. • Amount of waste water flows directly into the seas and oceans. • Level of eutrophication of estuaries. • Number of initiatives by state governments on protection of coastal and marine resources.
Target 14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.	14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches.	<ul style="list-style-type: none"> • Number of Marine Protected Areas designated and managed. • Extent of restored mangroves and estuaries. • Spatial planning strategies for coastal and marine areas.
Target 14.3: Minimise and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.	14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations.	<ul style="list-style-type: none"> • National climate policy that considers a measurable de-carboinisation strategy. • Reduction in the amount of CHC emissions in the AFOLU sector. • Ocean acidity measurements. • National Climate Change Action Index.
Target 14.4: By 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, to restore fish stocks in the shortest time feasible at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.	14.4.1 Proportion of fish stocks within biologically sustainable level.	<ul style="list-style-type: none"> • Sustainable harvesting practices indices for fisheries and coastal resources. • Certification schemes for sustainable fishery catch and management. • Synergies between state and national level organisations and institutions on developing and implementing sustainable bio-resource management plans and actions.
Target 14.5: By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on best available scientific information.	14.5.1 Coverage of protected areas in relation to marine areas.	<ul style="list-style-type: none"> • National and state level marine and ocean resource conservation plans developed and used.

<p>Target 14.6: By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to illegal, unreported and unregulated fishing, and refrain from introducing new such subsidies, recognising that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organisation fisheries subsidies negotiation.</p>	<p>14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing.</p>	<ul style="list-style-type: none"> • Reduction and subsequent elimination of subsidies at national and state levels that is not consistent with regional and global practice and standards.
<p>Target 14.7: By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.</p>	<p>14.7.1 Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries.</p>	<ul style="list-style-type: none"> • Social and economic benefits of fishing and resource management assessed for artisanal, sustenance and commercial fisheries and marine resources. • Reduction and subsequent ban on use of destructive fishing practices. • Extent of coastal area restoration promoting enhanced biodiversity.
<p>Target 14.a: Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.</p>	<p>14.a.1 Proportion of total research budget allocated to research in the field of marine technology.</p>	<ul style="list-style-type: none"> • Nature and impact of collaboration between public and private institutions on resource management and use • Measures to enhance the impact of investments into institutions – public sector – that results in collective impacts on resource use and enhancement.
<p>Target 14.b: Provide access for small-scale artisanal fishers to marine resources and markets.</p>	<p>14.b.1 Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognises and protects access rights for small-scale fisheries.</p>	<ul style="list-style-type: none"> • Nature and type of access to marine resources for small-scale artisanal fishers and subsistence fisheries.

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<p>Target 14.c: Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of “The future we want”.</p>	<p>14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean related instruments that implement international law, as reflected in the United Nation Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources.</p>	<ul style="list-style-type: none"> • Active participation in regional and international negotiations (eg. the ongoing UN led negotiations for a legally binding agreement on management of resources in areas beyond national jurisdiction. • National actions on synergies between Conventions and processes at global and regional levels. • Number of action programmes that respond to the international governance schemes.
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Conference on Financing for Development in Addis Ababa and adopted the Addis Ababa Action Agenda (AAAA)⁷ that calls for specific and predictable financing for achieving the SDGs. Given the diversity of needs and challenges India faces it is important not only to identify additional and new ways of enhanced finances along with ensuring appropriate and timely deployment of finances. In an unpublished study by the National Biodiversity Authority (NBA) in 2012 it was estimated that the amount of money spent, annually, in support of biodiversity conservation actions in India is to the tune of Rs. 11,000-15,000 crores – both as direct and indirect support. However, the impact of this investment is hardly felt since the investments are dissipated, unavailable in timely manner for prioritised action.

The role and relevance of private sector funding as well as resources raised through civil society groups is yet to be fully assessed in India. In order to achieve inclusive results in sustainable development it is important to forge long term partnerships with private sector and civil society groups in India. Specific and predictable guidelines should be made available under the newly enacted Corporate Social Responsibility (CSR) law to ensure part of the proceeds from the revenue collections should be earmarked for a

specially created trust fund aimed to support SDG implementation at local levels.

Delivering as One but at Multiple Levels

The advantage as well as challenge for a country like India in dealing with sustainable development is the need for outreach at various levels and using diverse set of approaches. While a national framework on SDGs is needed to channel investments, finances, expertise and outreach, it will be very important to design differential approaches to deliver the actions for impactful results. The role of people-centric approaches to sustainable development action can only be strengthened using multiple interventions at multiple levels. For example, in fisheries sector, India needs integrative approaches to deal with management and adaptation.

Conclusions

India’s asset is its diversity of institutions and expertise available to deal with issues related to achieving SDG 14. While the current plans and approaches need an overhaul to effectively deal with achieving the goal and targets of this SDG, it is also important to take the responsibility and ownership of achieving the same to States, local bodies and the civil society including the corporate sector.

NITI Aayog with this mandate and ability to oversee action to deal with SDGs need to have a special focus on enhancing synergies and cooperation amongst agencies and institutions as well as ensure that finances that are deployed on issues related to SDGs are relevant, appropriate and impactful.

While India can pride itself as a society with historical consciousness to deal with sustainable development, it cannot bask in the past glory when the indications are that the society is fast moving towards unsustainable production and consumption patterns with local people at the receiving end of the vagaries of economic, social and environmental wrong-doings. SDGs offer yet another opportunity for us to walk the talk.

Endnotes

- ¹ <http://www.sids2014.org/index.php?menu=1537>
- ² United Nations, Report of the Open Working Group of the General Assembly on Sustainable Development Goals, 12 August 2014 (A/68/970).
- ³ http://www.un.org/ga/search/view_doc.asp?symbol=A/70/112
- ⁴ United Nations, Treaty Series, vol. 1833, No. 31363.
- ⁵ *ibid*
- ⁶ Ministry of Statistics and Programme Implementation 2013 Towards achieving Millennium Development Goals, India, 2013. New Delhi
- ⁷ <http://www.un.org/esa/ffd/ffd3/wp-content/uploads/sites/2/2015/07/Addis-Ababa-Action-Agenda-Draft-Outcome-Document-7-July-2015.pdf>

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