



Sustainable Ocean Development and Capacity Building: Leaving No One Behind

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The Ocean Economy is essential to the future welfare and prosperity of humankind. It is a key source of food, energy, minerals, health, leisure and transport upon which hundreds of millions of people depend on. The maritime industry landscape is poised to undergo a profound transition. In the 1960s, it was considered to be of shipping, fishing, offshore oil and gas, but now the activities are emerging that are reshaping and diversifying maritime industries.

Recently, the idea of Blue growth developed by E.U demonstrates an Ocean of new opportunities; to be exploited by boosting innovations in emerging new blue growth activities such as large-scale algae biomass integrated bio refineries, etc. by keeping oceans in good health.

“Sustainability” is the key word in Ocean Economy. Here, let us first define sustainability. The term “sustainability” has multiple meanings in different sciences. In ecology, it has been defined as the capacity to endure. Sustainability science is the study of sustainable development and environmental science. In the context of Ocean economy or Blue Economy, it implies environmental sustainability - climate change, environmental degradation, overconsumption, and overproduction - as well as developmental sustainability, leading to the health of the oceans. The health of the ocean is measured through the lens of both humans and the natural world. Scientists give the Earth’s seas a grade of 60 out of 100 meaning there is lots of room for improvement. The global score applies to the waters within the countries’ exclusive economic zones because data is not available or the high seas. The global score of 60 is a strong message that we are not managing our use of the oceans in an optimal way. An individual country’s score varies from 36 to 86. The Atlantic coast of West African nation Sierra Leone is the least healthy, while the protected Pacific waters around the Jarvis Island, an uninhabited island, is ranked the healthiest. Seychelles is ranked 73; the US is ranked 63, and Canada is ranked 70. This ranking is based on ten goals: food provision, artisanal fishing, natural products, carbon storage, coastal protection, coastal livelihoods economies, tourism and recreation, clean waters, biodiversity and sense of place.

Our focus should be sustainably exploiting the potentials of the oceans, which cover 70% of the earth’s surface and host 50% of known species. Over 90% of the ocean habitat is in the deep sea, and less than 10% of this has been explored. To fully exploit the potential of seas and oceans across the wide range of marine and maritime industries requires an integrated approach to ensure a responsible management of resources and to maximize synergies between activities and boost growth and employment in coastal areas.

As we all know, the concept of “Blue Economy” came out of the 2012 RIO+20 conference and emphasizes conservation and sustainable management based on the

premise that health ocean ecosystems are more productive and a must for sustainable management based on the premise that healthy ocean ecosystems are more productive and a must for sustainable ocean-based economies. The contribution of Gunter Pauli's "Blue Economy" published in April 2010 cannot be ignored in populating the concept of Blue Economy, including Sustainable Ocean Development and Environmental Sustainability – two major challenges of Blue Economy. In addition to this, the development of New Business Models; new entrepreneurial skills; and attracting investment funds for the uncertain, risky new emerging ocean/marine industries are also great challenges in the way of Sustainable Ocean Development. To quote the Honorable Julie Bishop, MP, Minister of Foreign Affairs of Australia, "we are just beginning to glimpse the enormous challenges and opportunities presented to us by Oceans – in our case the Might Indian Ocean". The Australian Government has created an AUD\$ 3 million fund to reengineer aquaculture for sustainability to achieve a Blue Revolution for our Oceans.

Oceans and seas, provide food and minerals, generate oxygen, absorb greenhouse gases and keep climate change in check, determine weather patterns and temperatures, and serves as highways for sea-borne international trade. Oceans and seas can play a major role in contributing to achieving Sustainable Development, economic growth and livelihoods.

The Ocean Economy (also known as the Blue Economy) may be defined as a subset of and complement to the evolving development paradigm emphasizing greener and more sustainable and inclusive economic paths. It further seeks to expand the economic frontiers of coastal countries beyond their land territories. The Ocean Economy encompasses a Sustainable Economy for the ocean-based marine environment related biodiversity, ecosystems, spaces and genetic resources including marine living organism (from fish and algae to micro-organisms) and natural resources in the seabed, while ensuring their sustainable use and hence conservation.

FAO (March 2014) launched the Blue Growth Initiative through which it will assist countries/regions in developing and implementing blue economy and growth agendas. This report further explains why the emerging economies, SIDs, and least developed countries should focus on blue growth. The FAO sides the following reasons:

- Eliminate harmful fishing practices and over-fishing and instead incentivize approaches, which promise growth, improve conservation, build sustainable fisheries, and end illegal, unreported, and unregulated fishing (IUU).
- Ensure measure to foster cooperation between countries/ regions

- To act as a catalyst for policy development, involvement, and innovation in support of food security, poverty reduction, and the sustainable management of aquatic resources.

The value of the global ocean based economy is estimated between USD 3-6 trillion per year and more than 3 billion people rely on the oceans for their livelihoods. The conceptual framework of the Ocean Economy is comprehensive and interdisciplinary. United Nation organizations; International organizations; scientists; social scientists; NGOs, National governments; public and private institutions – all play this role in Ocean Economy or Blue Economy – making International Cooperation; coordination; governance; implementation and monitoring the vital attributes for its success.

As we know, last year, the international community agreed on Agenda 2030 for Sustainable Development, including the adoption of 17 Sustainable Development Goals (SDGs). These goals, established for the next 15 years, are very ambitious. However, this should not obscure the scale of challenges ahead. Urgent actions are required to advance this development agenda. Sustainable Development Goal 14 urges the International Community to “conserve and sustainably use the Oceans, Seas and Marine Resources”.

Since December 2015, series of international conferences, workshops, and seminars are being held by international organizations, United Nations’ institutions, and universities, etc. to explore how the recent adoption of SDG14 will translate into practical implementation agenda. 52 SIDS depends on Oceans to supplement their land-based natural resources if they have. In this group, for example:

- The Bahamas has an Exclusive Economic Zone (EEZ) of an estimated 629,292 square kilometers (km²) compared to the land area of 13,942 km².
- Kiribati comprises 33 islands with a total land area just 810 km² but with about 3.5 million of marine waters.
- Mauritius has a landmass of 2040 km² and an EEZ of 1.3 million km².
- Seychelles has a landmass of just 459 km², an EEZ of 1.4 million km².

The above facts point out the importance of ocean economy in promoting growth and employment in SIDS if the ocean resources are exploited in a sustainable and responsible way.

Some people think that the ocean is the new economic frontier and holds the promise of immense resource wealth and great potential for boosting economic growth, employment, and innovation. The ocean is increasingly recognized as indispensable for addressing many of the global challenges facing the planet in the

decades to come, from world food security and climate change to the provision of energy, natural resources, and improved medical care. The potential of the ocean to help to meet these challenges is huge, but it is already under stress from over-exploitation, pollution, declining biodiversity, and climate change.

The Size of the Ocean Economy is enormous and it is ever growing. According to OECD'S calculations, the value of the Ocean Economy's output (measured in terms of the ocean based industries contribution to economic output and employment) in 2010 stood at USD 1.5 trillion, or approximately 2.5% of world Gross Value Added (GVA).

In sector-wise contribution, offshore oil and Gas accounted for one-third of total value added of the ocean-based industries, followed by maritime and coastal tourism, maritime equipment, and ports. Direct full-time employment in the ocean economy amounted to be around 31 million jobs in 2010. The largest employers were capture industrial fisheries with over one-third of the total and maritime, and coastal tourism with almost one-quarter; 10.33 million and 7.75 million respectively.

Rapidly expanding economic activity in the ocean is not free from constraints on the development of the ocean economy such as the deterioration of its health. The ocean has absorbed much of the anthropogenic carbon emissions, leading to ocean acidification. Also, sea temperatures and sea levels are rising and ocean currents are shifting, resulting in biodiversity and habitat loss, changes in fish stock composition and migration patterns, and higher frequency of severe ocean weather events. The prospects for future ocean development are further aggravated by land-based pollution in the particular agricultural run-off, chemicals and plastics, as well as by over-fishing and depleted fish stock in many parts of the world.

The Scenario in 2030, on the assumption of "business-as-usual" without the adoption of "New Business Models" as envisaged in Gunter Pauli's book (2010), most of the ocean-based industries have the potential to outperform the growth of the global economy as a whole, both in terms of value added and employment. The ocean economy could be more than double in its contribution to global value added; reaching over USD 3 trillion, having an expected strong growth in marine aquaculture, offshore wind energy, fish processing, and ship-building repair. Ocean industries also have the potential to make an important contribution to employment growth. By 2030, they are anticipated to employ approximately 40 million direct full-time equivalent jobs in the business-as-usual scenario. The fastest growth in jobs is expected to occur in offshore wind energy, marine aquaculture, fish processing and port related activities.

Expected growth of ocean-based industries highlights the prospects of growing pressures on ocean resources and ocean space, already under considerable stress, not least in Economic Exclusive Zones (EEZs), where most of the activity takes place. The inability so far to deal with these pressures in an effective, timely way is in large

part due to what is historically a sector-by-sector management of marine activities. We know, at least for the foreseeable future, regulation of ocean industries/activities is expected to continue to be largely sector-driven, with ocean industries into existing and fragmented regulatory frameworks. The number of countries and regions putting in place strategic policy frameworks for better ocean management within the EEZs has increased in recent years in response to growing pressures. Here, in the case of Indian Ocean, we may refer to joint-management of their EEZs by Mauritius and Seychelles, which is still in the evolving process and more needs to be done in making it strategic, exploitative and commercialized in future.

Here, it seems relevant to define the concept of Exclusive Economic Zones (EEZs), the landmass of IORA member states and dialogue partners.

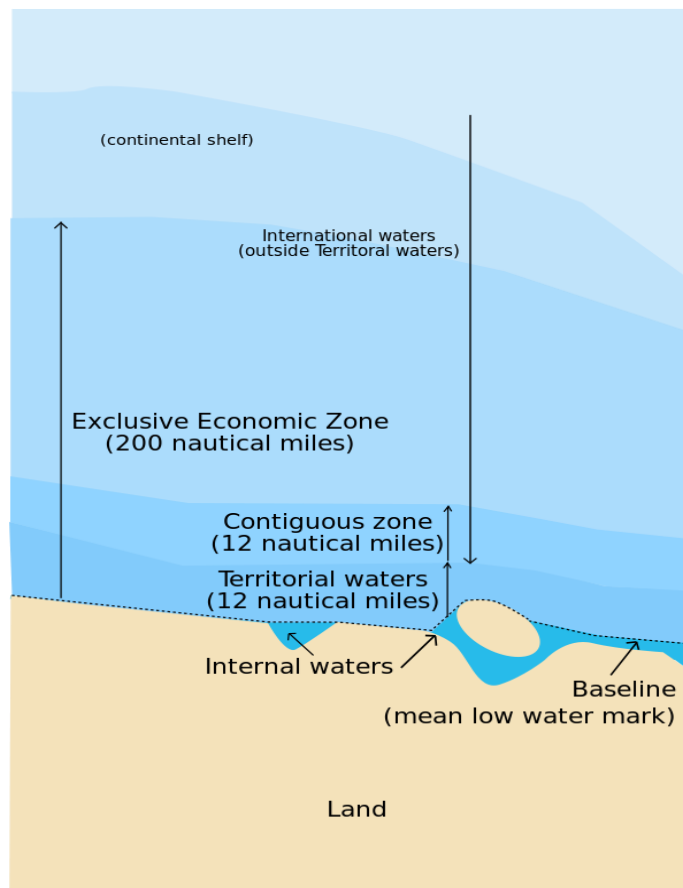


Figure 1: An example of how different zones are determined from the landmass to the EEZ.

Country	EEZ (km²)	Shelf (km²)	EEZ + Land Mass	Percentage as a Total EEZ
Australia	8505348	2194008	16197464	6.204
Bangladesh	86392	66438	230390	0.063
Comoros	163752	1526	165987	0.119
India	2305143	402996	5592406	1.681
Indonesia	6159032	2039381	8063601	4.492
Iran	168718	118693	1797468	0.123
Kenya	116942	11073	697309	0.085
Madagascar	1225259	101505	1812300	0.893
Malaysia	334671	323412	665474	0.2441
Mauritius	1284997	29061	1287037	0.9372
Mozambique	578986	94212	1380576	0.4223
Oman	533180	59071	842680	0.3889
Seychelles	1336559	39063	1337014	0.9748
Singapore	1067	1067	1772	0.000778
Somalia	825052	55895	1462709	0.6018
South Africa	1535538	156337	2756575	1.1120
Sri Lanka	532619	32453	598229	0.3885
Tanzania	241888	25611	1186975	0.1764
Thailand	299397	230063	812517	0.2183
UAE	58218	57474	141818	0.04246
Yemen	552669	59226	1080637	0.4031
Total	26845427	6098565	48110938	19.580

Table 1: Exclusive economic zones, continental shelf areas, total land mass +EEZ, and percentages of total EEZ for IORA member state countries in km².

Country	EEZ/(EEZ + Land Mass)
Comoros	0.98653
Madagascar	0.67608
Mauritius	0.99841
Seychelles	0.99965
Singapore	0.60214

Table 1a: A table of the proportion of EEZ to the total area controlled for the five SIDS in IORA.

Country	EEZ (km²)	Shelf (km²)	EEZ + Land Mass	Percentage as a Total EEZ
China	877019	231340	1108359	0.6397
Egypt	263451	61591	1265451	0.1922
France	11691000	389422	12366417	8.527
Germany	57485	57485	414599	0.0419
Japan	4479388	454976	4857318	3.267
United Kingdom	6805586	722891	7048486	4.963
United States of America	11351000	2193526	21814306	8.279
Totals	35524929	4111231	48874936	25.910

Table 3: Exclusive economic zones, continental shelf areas, total land mass +EEZ, and percentages of total EEZ for IORA dialogue partner countries in km².

The above two tables indicate the EEZ and the shelf areas of the IORA member states and dialogue partners. The total EEZ area for the 21 member states is 26,845,427 km² whereas the total EEZ of the dialogue partners is 35,524,929 km². The 21 member states and the dialogue partners of IORA contain 45.49% of the world's exclusive economic zones. This reveals that IORA is very significant for the Blue Economy and cooperation between the dialogue partners who are very advanced in Ocean economy with exception to Egypt, can play a vital role in exploiting the resources from the ocean in the national jurisdiction of SIDS and other emerging economies in the area.

In order to boost the long-term development prospect of merging ocean industries and their contribution to growth and employment, while managing the ocean in responsible, sustainable ways, a number of steps could be taken to enhance the sustainable development of the ocean economy.

- The first is to reinforce international cooperation in maritime science and technology as a means to stimulate innovation and strengthen the sustainable development of the ocean economy. This requires undertaking comparative analysis and reviews of the role of the government policy regarding maritime clusters around the world, notably in respect of their effectiveness in stimulating and supporting cross-industry technological innovations in the maritime domain: establishing international networks for the exchange of views and experience in establishing centers of excellence innovation incubators and other innovation facilities in the field of cross-industry maritime technologies, and improving the sharing of technology and

innovation among countries at different levels of development. Can it be done is a million dollar question?

- The second important element is to strengthen integrated ocean management. In my opinion, this should involve greater use of economic analysis and economic tools, for example by evolving appropriate accounting framework for the ocean economy; harmonized system for ocean products, establishing international platforms for the exchange of knowledge experience, and best practices, and by stepping up efforts to evaluate the economic effectiveness of public investment in marine research, and observation. Still these initiatives and the required technology to boost our national efforts to exploit ocean resources is in fancy. We should also aim to promote innovation in governance structures, processes, and stakeholder engagement to render integrated ocean management more effective, more efficient, and more inclusive.
- Thirdly, we need to focus on initiating and improving the statistical and methodological base at a national, regional, and international level for measuring the scale and performance of ocean-based industries and their contribution to the overall economy. This could include further development of the IORA's ocean economy database, which at present is not fully developed- rather underdeveloped in most of the member states.
- Fourthly, we need to build capacity for ocean industry foresight, including the assessment of future changes in ocean-based industries.

In addition to this, in the coming decades scientific and technological advances are expected to play a crucial role both in addressing many the ocean-related environmental challenges and in the development of ocean-based economic activities. Innovation in advanced materials, subsea engineering and technology; sensors and imaging, satellite technologies, computerization, and big data analytics, autonomous systems, biotechnology, and nanotechnology – every sector of the ocean economy – stands to be affected by these technological advances.

Having established the importance of ocean in economic well-being of the global economy in future, let me now concentrate in brief on the status of science, technology, and innovation policy in SIDS, emerging economies and LDCs within IORA. National research and development (R&D) activities and supporting institutional frameworks are not homogenous. The existing studies suggest that not only in R&D in many developing countries high constrained by funding but also that resource allocation procedures are sensitive to personal or political affiliations or entitlements.

This is often not balanced out by consideration of efficiency, effectiveness, relevance, or excellence. These countries also depend on international scientific assistance, which has its own frequently changing investment agenda. It is generally

argued that to be effective; R&D must be part of an “innovation system” or “innovation community,” in which active relationships and communication exist between researchers and other actors such as intermediaries, coordinating institutions, educators, extension agents, and especially users. The R&D expenditure as percent of FDP should increase significantly. In most of IORA countries, the mean percent varies 0.2 percent to 0.8 percent during 1997 – 2011, which is low; whereas it was 2.8 percent of GDP in USA in 2011.

Here, we may make a reference to Regional State of the Coast Report Western Indian Ocean, 2015 (UNEP). The report consists of 546 pages 36 chapters.

Developing a Blue Economy into reality in the Western Indian Ocean (WIO), this report covers: Somalia, Kenya, Tanzania, Mozambique, South Africa, Madagascar, Seychelles, Comoros, Mauritius, and French Territories, drives from the requirements of the Nairobi Convention. The report includes: (i) Provide a comprehensive baseline, (ii) highlight main opportunities, (iii) describe successes and challenges, (iv) identify capacity building needs, (v) identify knowledge gaps; and (vi) propose policy options!

Chapter 35 of the report deals with coastal and marine research and capacity building in WIO, which I would like to discuss in brief before you to tell you the status of capacity building in African member states of IORA. The research capacity building; the relationship between science and policy in WIO has considerably changed since the 1960; when most of the countries in the region were under colonial rule. During the 1970s and the 1980s many research institutions, universities, and training centers were established. During 1990s, many European countries set up research institutions and initiated project funding in marine and costal research, and partnerships increased subsequently over the period during 2007 to 2011 period.

The report highlights the four priorities across costal and maritime research:

1. unsustainable fishing,
2. climate change and ocean acidification,
3. pollution and waste, and
4. loss of habitats and biodiversity.

The recent international report on the development of ocean economy (2015) has identified eight actions to secure our ocean assets and restore the ocean economy:

1. Ensure that ocean recovery features strongly in the UN post – 2015 agenda including the sustainable development goals (SDGS)
2. Take global action to avoid dangerous climate change and further damage to the ocean
3. Conserve and effectively manage 10% of representative costal and marine areas by 2020, increasing coverage to 30% by 2030.
4. Rebuild fish stock to ecologically sustainable harvest levels

5. Drive new global cooperation and investment in the ocean
6. Reinvent public/private partnership
7. Build transport accounting of the value of ocean assets to improve decision making; and
8. Share knowledge more effectively and drive institutional collaboration

And finally to adopt UNEP coastal and marine strategy (2011), which provided some clear directives on coastal and marine actions, relevant to the need for scientific products in support of management, decision, and policy-making. For land-ocean connections, ecosystem and human wellbeing, reconciling use and conservation, and valuable people and places. Due to time constrain, I leave their explanations to you, but sure that development of capacity for research is the must for sustainable ocean economy.

The First world ocean summit set the scene, the second held in Half Moon Bay, CA, USA, February 24-26, 2014 discussed governance and sustainably.

The Fourth ocean summit will be held in Bali, Indonesia, on February 22 – 24, 2017 in which the vital issue of how to finance a sustainable ocean economy will be discussed. The objective of the summit is to mobilize a new discussion on how capital and the private capital sector can drive scalable, sustainable investment in the ocean.

It is also believed a new and intensive phase of economic activity in the ocean is getting underway, but science warns that the seas are facing unprecedented pressures from humans and that the time to save them is quickly running out. So the idea of the Blue Economy may be at risk before it has been properly established. The gap between “Blue speak” and seeking a balance between ocean’s health, and aligning economic activity is becoming wider and wider, and the prospect of a sustainable ocean economy could be receding rather than advancing, We must be able to assess how large is the opportunity. What are the risks involved; What is a sustainable investment in the ocean; what kind of investment frameworks might be necessary, and what capital is available and how can it be scaled up?

Prior to this the World Ocean Council (WOC), is organizing sustainable ocean summit November 30, 2016 to December 2, 2016 in Rotterdam, focusing on SDGs and the ocean business community, future of the ocean economy in 2030, European blue growth, the multi-sector ocean panel, and investment and innovation for ocean sustainable development.

The WOC was founded in 2009/2010. It is the only international business leadership alliance on ocean stewardship. The theme of all these sustainable ocean summits has been “Reducing Risk, Increasing Sustainability through Collaboration.” The SOS brought together the wide range of industries that use marine space, and resources including shipping, oil and gas, fisheries, aquaculture, ports, mining,

insurance, legal issues, renewable offshore energy, tourism, marine technology, and others.

After discussing the series of events on the Blue Economy taking place in 2016-2017, let us now talk about the relationship between the Ocean/Blue Economy and innovation and research policies.

Innovation policy and research policy may be defined as “actions by public and semi-public organizations that influence, respectively, innovation and research.” Research policy has been examined theoretically and empirically for many decades. While innovation policy is gradually becoming established as an independent policy area, the capacity building in ocean economy is based on new innovation policy instruments – need to be created and new public policy agencies are being established – at international, national, regional, and local levels.

Therefore SIDs and emerging economies in IORA need to focus on the following subthemes:

- Knowledge foundation for research and innovation policies
- The relationship between innovation theory and innovation policy
- The development of innovation policy as an independent area and its interaction with other areas (education, climate, health, entrepreneurship, employment, growth, and industrial policies)
- Research methods in innovation and research policy analysis, including history of innovation policy
- The practice of innovation and research policies across different countries and regions (both developed and developing countries/regions)
- Designing, governing, implementing, and evaluating innovation and research policies
- The role of the public element in private public partnerships
- The development of innovation and research policy instruments
- Financing of innovation and research processes

This (Blue Growth) may be implemented through responsible and sustainable aquaculture; developing code of conduct for responsible fisheries (CCRF), promoting efficient seafood value chain and developing significant regulatory framework for ecosystem services (including carbon capture, storm and wave defenses, tourism, etc.)

While being convinced about the importance of Blue Economy or Blue growth, efforts are being made in Asia-Pacific Region to do Ocean Economy Valuation studies. Since 2002, APEC has been making efforts to measure the size of the marine economy. The first Asia Pacific Economic Cooperation (APEC) ocean-related ministerial meeting was held in Seoul, Korea (2002) and the Seoul Oceans Declaration (APEC 2002) the APEC Marine Resource Conservation working group of commissioned a “Measuring the Marine Economy” project to promote consistent

measurement of the marine economy across the 21 APEC economies. The desire to define and measure the marine economy/Ocean Economy/Blue Economy came from the recognition that this information was a gap that was impeding the development of governance in the APEC region. Since 2004 to 2009, 11 studies have been conducted by the national governments of Australia, USA, New Zealand, Japan, Philippines, Vietnam, Malaysia, Korea, Thailand, and Indonesia, etc. with or without the involvement of the national statistical office. The experience of APEC suggest that a “Triangle Approach” may be adopted for measuring Marine Economy (ME) by involving: (i) a marine economist/policy person with economics training, (ii) a contact in the national account office of the government, or with an agency or consulting firm having access to national account data modeling expertise or experience in regional economic modeling, (iii) a marine expert with knowledge of marine industries through government often refers marine issues to either a marine science or environment agencies by default. The proposed approaches are reported in figures 2 and 3 below.

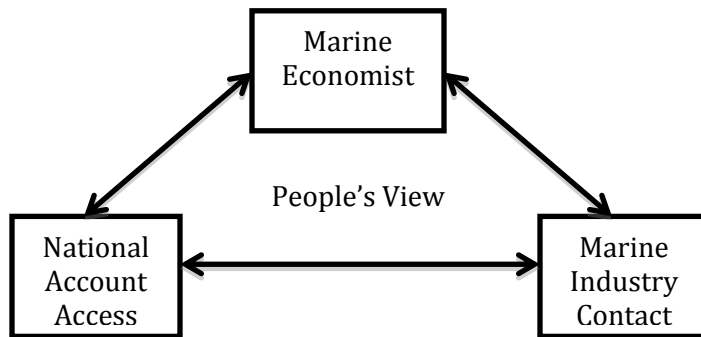


Figure 2: The three-sided triangle people approach to developing profiles of the marine or blue economy.

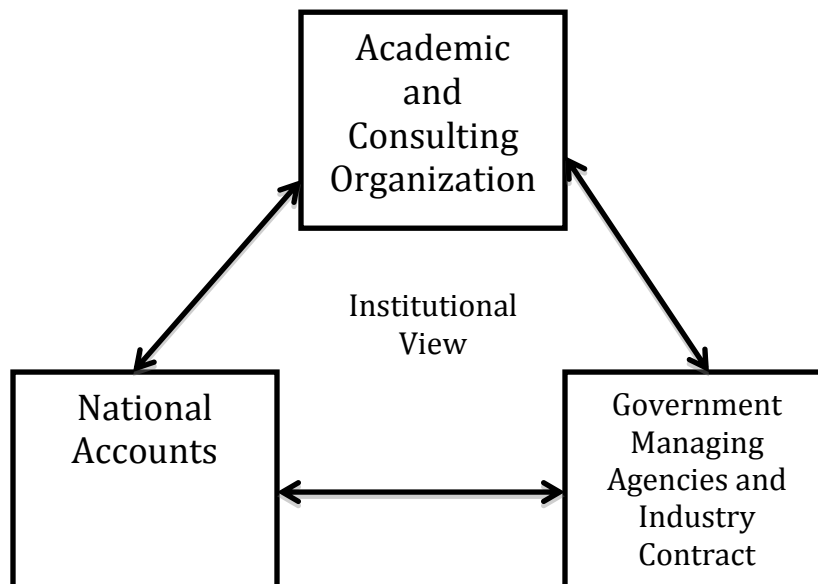


Figure 3: The three-sided triangle institutional approach to developing profiles of the marine or blue economy.

The combination of three sides can cover the range of issues required to build a profile of an ocean economy. Like a triangle, the arrangement is strongest when the three skill sets are mutually supportive. Therefore, it may be understood that the national account should be viewed as necessary to ocean economy or blue economy evaluation, if not sufficient in all aspects. They provide a solid basis for improvements in the measurement of the Blue Economy and in time more sustainable institutionally relevant information systems will be developed. The experience of APEC in evolving a system for measurement of ocean economy may be adopted in IORA for achieving sustainable ocean economy development.

Before I draw your attention to the last part of my speech, let me tell you in brief about the international seabed authority, responsible for deep-sea mining.

The International Seabed Authority was established under the United Nations Convention on the Law of the Sea in 1994. The 22nd session will be held from July 4 - 22, 2016. From July 4-11, the Legal and Technical Commission and the Finance Committee will meet to discuss the profitability of the ocean and the legal ramifications. On July 4, 2016 and July 6, 2016, Asia and the Pacific Group will meet to nominate a candidate for the presidency of the assembly in 2016.

There are currently 22 items on the agenda for the term ending on 31 December 2016:

1. Opening of the Agenda
2. Adoption of the Agenda
3. Election of the President
4. Election of the Vice President
5. Report of the Secretary-General on the credentials of members of the Council.
6. Election to fill a vacancy on the Legal and Technical Commission.
7. Status of contracts for exploration and related matters.
8. Information on the periodic review of the implementation of plans of work for exploration for polymetallic nodules.
9. Report of the Secretary-General on the status of national legislation relating to deep seabed mining and related matters.
10. Report of the Chair of the Legal and Technical Commission on the work of the Commission during the twenty-second session.
11. Recommendation of the Legal and Technical Commission relating to the approval of plans of work for exploration.
12. Applications for extensions of contracts for exploration.
13. Draft regulations for exploitation of mineral resources in the Area.
14. Report of the Finance Committee.
15. Budget of the International Seabed Authority.

16. Scale of assessment for contributions to the budget of the International Seabed Authority.
17. Election of members of the Legal and Technical Commission.
18. Proposal to the Assembly of a list of candidates for the position of Secretary-General. ISBA/22/C/L.1 2/2 16-05695
19. Cooperation with other international organizations.
20. Issues associated with the conduct of the marine scientific research in the exploration areas.
21. Date of the next session
22. Other Matters

Out of the above 22 items on the agenda of International Seabed Authority; the item numbers 7, 8, 10, 11, 12, 16, 19 and 20 are very important for determining the timing, nature and commercialization of Seabed mining activities in future. The international Seabed authority has a “mining code” for such activities.

The mining code refers to the whole of the comprehensive set of rules, regulations, and procedures issued by the International Seabed Authority to regulate prospecting, exploration, and exploitation of marine minerals in the International Seabed.

There are multiple regional groups within the organization: African group (47 nations), Eastern European Group (22), Latin America and Caribbean States Group (29), Western European and Other States Group (23), and the Asia-Pacific Group (45).

The African group consists of Algeria, Gambia, Nigeria, Angola, Ghana, Sao Tome and Principe, Benin, Guinea, Senegal, Botswana, Guinea-Bissau, Seychelles, Burkina Faso, Kenya, Sierra Leone, Cameroon, Lesotho, Somalia, Cape Verde, Liberia, South Africa, Chad, Madagascar, Sudan, Comoros, Malawi, Swaziland, Congo, Mali, Togo, Côte d’Ivoire, Mauritania, Tunisia, Democratic Republic of the Congo, Mauritius, Uganda, Djibouti, Morocco, United Republic of Tanzania, Egypt, Mozambique, Zambia, Equatorial Guinea, Namibia, Zimbabwe, Gabon, and Niger.

The Asia-Pacific group consists of Bahrain, Lebanon, Qatar, Bangladesh, Malaysia, Republic of Korea, Brunei, Darussalam, Maldives, Samoa, China, Marshall Islands, Saudi Arabia, Cook Islands, Micronesia (Federated States of), Singapore, Cyprus, Mongolia, Solomon Island, Fiji, Myanmar, Sri Lanka, India, Nauru, State of Palestine, Indonesia, Nepal, Thailand, Iraq, Niue, Timor-Leste, Japan, Oman, Tonga, Jordan, Pakistan, Tuvalu, Kiribati, Palau, Vanuatu, Kuwait, Papua New Guinea, Vietnam, Lao People’s Democratic Republic, Philippines, and Yemen.

The Eastern European Group consists of Albania, Georgia, Russian Federation, Armenia, Hungary, Serbia, Belarus, Latvia, Slovakia, Bosnia and Herzegovina, Lithuania, Slovenia, Bulgaria, Montenegro, The former Yugoslav Republic of

Macedonia, Croatia, Poland, Ukraine, Czech Republic, Republic of Moldova, Estonia, and Romania.

The Latin American and Caribbean States group consists of Antigua and Barbuda, Dominica, Nicaragua, Argentina, Dominican Republic, Panama, Bahamas, Ecuador, Paraguay, Barbados, Grenada, Saint Kitts and Nevis, Belize, Guatemala, Saint Lucia, Bolivia, Guyana, Saint Vincent and the Grenadines, Brazil, Haiti, Suriname, Chile, Honduras, Trinidad and Tobago, Costa Rica, Jamaica, Uruguay, Cuba, and Mexico.

The Western European and Other States group consists of Australia, Ireland, Sweden, Austria, Italy, Switzerland, Belgium, Luxembourg, United Kingdom of Great Britain and Northern Ireland, Canada, Malta, Denmark, Monaco, Finland, Netherlands, France, New Zealand, Germany, Norway, Greece, Portugal, Iceland, Spain.

Under Article 342 the member-states have to submit charts and lists of geographical coordinates for national jurisdiction and even for continental shelf beyond 200 nautical miles. As of October 15, 2015, only six members of ISA have deposited these charts with the secretary general of ISA. These member states are Australia, France, Ireland, Mexico, Philippines, and the Niue.

International Seabed Authority (ISA) has entered into 15-year compacts for the exploration of poly-metallic nodules, poly-metallic sulphides and cobalt-rich ferromanganese crusts in the deep seabed with twenty-four contractors. 15 poly-metallic nodules with 14 in the Clarion-Clipperton fracture zone and one in the Central Indian Ocean Basin. They have 5 contracts for poly-metallic sulphides in the South West Indian Ridge, the Central Indian Ridge, and the Mid-Atlantic Ridge.

They have four contracts for the exploration of cobalt-rich crusts in the Western Pacific Ocean.

1. The contract is with the UK Seabed Resource Ltd. The contract starts on March 29, 2016 and ends on March 28, 2021. The UK and Northern Ireland sponsored this agreement for the Clarion-Clipperton Fracture Zone.
2. This contract is with Ocean Mineral Singapore Ltd. It lasts from January 22, 2015, to January 21, 2030. Singapore sponsored this agreement and will also drill from the Clarion-Clipperton Fracture Zone.
3. The UK Seabed Resources Ltd. The Zone has a contract that lasts from February 8, 2013, to February 7, 2028. It was sponsored by the U.K. and Northern Ireland and will also drill in the Clarion-Clipperton Fracture Zone (CCFZ).
4. The G.TEC Sea Mineral Resources Nv has a contract from January 14, 2013, to January 13, 2028. It was sponsored by Belgium and will drill in the CCFZ.

5. The last contract is with the Marewa Research and Exploration Ltd. It runs from January 19, 2015 to January 18, 2030. It was sponsored by Kiribati, and they will drill in the CCFZ.

The above latest information about the contracting companies who have been authorized by the ISA to undertake the mining activities in deep sea reveals that the actual extraction of these minerals may take more than a decade. The understanding about the nature of the relationship between the sponsor states and the contacting company at the ISA has to be understood by the different stake holder engaged in such activities.

Therefore, it may be concluded that Ocean Economy or Blue Economy or even if you define it as blue growth (EU) has a great potential for the growth and employment in developing and developed economies including SIDs. But this needs to be done by keeping health of the ocean in good shape as well as avoid the environmental degradation, climate change and ocean acidification.

The link between sustainable ocean economy development and capacity building is very close and inseparable. Further the ocean economy development may also lead to the attainment of Sustainable Development Goals (SDGs) in 2030, and no one may be left behind, which implies that the “inclusiveness” of the Sustainable Ocean Economy Development through enriched and varied innovative capacities across the globe.

THANK YOU!

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