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Overview: "Investigating the Blue Economy: Towards a Statistical Standard"

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Introduction

As the world struggles to deal with population increase, climate change, economic viability and sustainable development, the importance of the world's oceans and coasts as a source of sustenance and revenue has increased. Whilst fishing has been the primary industry or activity associated with our oceans, the wider demand for tapping into the many other resources for human survival, accompanied with the economic impact for GDP with potential new jobs, new industries and new technology is driving the need to better understand and measure the 'Blue Economy'.

It is not just about supporting or providing new opportunities for small island developing states or for increasing the long-term benefits of sustainable marine resources for coastal least developed countries. It is about sustainable development of resources to feed the global population, provide renewable energy sources and enable economic growth for all.

As more and more data is required to understand the impact of the world's oceans on the global economy, and to enable integration and comparison of that data for policy and decision making, a consistent definition of the blue economy is required for official statistics. Unfortunately there is no international standard definition per se, recognizing there are numerous international definitions and terminologies, nor is there any consistent definition or application of a concept of blue economy in any statistical classification, either international, regional or national.

The aim of international statistical standards and classifications is to provide a common framework for collecting and organising information about a particular statistical system, concept or variable. Their use, either directly or through national adaptations, facilitates the exchange and comparability of statistics and other information between countries. These statistical standards and classifications have generally been developed through extensive international consultations. But this has yet to be fully developed in the world of official statistics.

So is it important to define the blue economy and even attempt to get a consistent terminology of a concept or should the policy and decision making be based off contextual applications of ad hoc statistical classifications.

This paper summarises some of the issues and is a lead into a more comprehensive research paper being developed in Stats NZ.

What is the Blue Economy?

For starters, there is no single, agreed definition or concept in use. The idea or use of the term stems from the Rio+20 outcomes whereby member states of the United Nations pledged to 'protect, and restore, the health, productivity and resilience of oceans and marine ecosystems, to maintain their biodiversity, enabling their conservation and sustainable use for present and future generations.' (UN, 2012).

It is further elaborated through the UN General Assembly support for Sustainable Development Goal 14: 'Conserve and sustainably use the oceans, seas and marine resources for sustainable development.' (UN, 2012)

Whilst the definition and promotion of the 'green economy' has been in existence for some time, the blue economy should not be considered as a new shade of an existing concept. The use of the word 'blue' is to put the focus on oceans, but a challenge is in recognising that there are aspects of land-based resources or coastal related environment that may fall within the wider scope of how the 'blue economy' is defined.

Definitions and concepts

With the lack of standardization across statistical agencies and their classifications, what are the concepts that need to be resolved? The terminology is confusing with numerous synonyms in play and many related terms which are used interchangeably. Some of the most common are the 'ocean economy', 'marine economy', 'blue economy', 'marine sector' or 'maritime sector'. This combined with an attempted demarcation in many instances for concepts such as ocean, coast and land adding to the inability to integrate and compare information. This attempted demarcation is endemic across countries and between public and private sector agencies.

Examples of definitions used by different agencies include:

"…comprising the range of economic sectors and related policies that together determine whether the use of oceanic resources is sustainable. The "blue economy" concept seeks to promote economic growth, social inclusion, and the preservation or improvement of livelihoods while at the same time ensuring environmental sustainability of the oceans and coastal areas" (World Bank/UN 2017)

"…the improvement of human well-being and social equity, while significantly reducing environmental risks and ecological scarcities….The concept of an oceans economy also embodies economic and trade activities that integrate the conservation and sustainable use and management of biodiversity, including marine ecosystems, and genetic resources." (UNCTAD 2014)

"The Blue economy refers to the sustainable management of ocean resources to support livelihoods, more equitable benefit-sharing, and ecosystem resilience in the face of climate change, destructive fishing practices, and pressures from sources external to the fisheries sector" (Pacific SIDS 2011)

"The marine economy is a function of both industry and geography. It is the sum of the economic activities that take place in, or use, the marine environment, or produce goods and services necessary for those activities, and make a direct contribution to the national economy." (Stats NZ, 2002)

In addition to the attempts at defining the 'blue economy', organisations have also tried to develop frameworks to measure or define the types of activities, sectors or processes that may comprise a 'blue economy'. For example the World Wide Fund for Nature through its Baltic Ecoregion Programme has developed a set of principles for a sustainable blue economy which is encouraged to be embedded in marine policy and activities. (WWF, 2015). The World Bank in its document "Toward a Blue Economy: A Promise for Sustainable Growth in the Caribbean" presents a joint Economist/OECD developed framework of the component parts and future trends for the ocean economy. (World Bank, 2016).

So there is much confusion and complexity around impacting how statisticians may wish to tackle the issue within the many classifications they are responsible for developing and maintaining.

Activities requiring classification

There are many broad themes identified in the literature that require better articulation in the existing statistical classifications, let alone development within new statistical classifications. These themes encompass:

- Aquaculture – fisheries and seafood
- Marine biotechnology – chemicals or pharmaceuticals
- Energy – seabed mining, oil and gas extraction, renewable sources, desalination
- Trade – shipping, port infrastructure
- Tourism – coastal development, water sports and recreation, marine reserves
- Environment – carbon sequestration, coastal protection, waste disposal, biodiversity
- Construction – ship building, oil and gas installations, recreational facilities

- Services – marine business services, research and development, education and administration

Whilst it may seem at face value that many of these themes can be recognized in classifications such as ISIC, NAICS, SITC or CPC it becomes more difficult to interact with, and/or produce viable information from other classifications such as ISCO, ISCED, Frascati, or even integrate with SEEA. This is due to the lack of convergence and standardization in concepts and definitions across the multitude of classifications that comprise the International Family of Classifications. The need for a consistent and well-defined concept is paramount but whether a one size fits all definition is suitable for usage across the many and varied statistical classifications is something that warrants further research and investigation.

The scope of the individual classifications and their intended use may enable a staggered approach to introducing the concept of the blue economy. But operationally is it about updating the existing classifications through case law determinations, refining the scope of existing categories, or adding alternative aggregations or views to enable a measurement of the blue economy to be achieved?

Other factors for the classifications are around whether there is a need to make distinctions between private and public sectors, what exactly ocean activities might mean and whether new or emerging industries should be separately identified. Do the principles of the SNA or BPM need to be revisited to better articulate economic approaches for a blue economy?

Many of the underlying or supporting information around restoring, protecting and maintaining the diversity, productivity, resilience and core functions and value of marine ecosystems may be difficult to encapsulate without wider updating of many of the international statistical classifications.

Issues of concern

Other factors that influence the progress towards an agreed standard for the 'blue economy' stem from the need to measure not only, industrial or economic activity, but also the geographic aspect that comes into play. For many countries, the blue or ocean economy is about managing the ecosystems and natural resources that form a unique asset for a country or territory's economy. Understanding and measuring economic activity tied to those assets, and the need for a sustainable growth strategy, particularly to assist in measuring and reporting on the Sustainable Development Goals is affected by many factors. These may include: climate change, natural disasters, tourism, foreign investment and population growth.

Many of the nations in the world may not be directly affected by changes in our oceans when it comes to factors like aquaculture, energy or tourism. But given that many developing and island states sit within the Caribbean or Pacific regions the need to protect their environments and surrounds from exploitation or degradation is important to their survival and economic independence.

The role of Exclusive Economic Zones (EEZ) or maritime zones around the world goes someway to protecting a nation's economic activity and growth, but is still not a guarantee of protection from exploitation of resources or overfishing for example. National and regional desires and perceptions often compete when it comes to management of the vast resource that the world's oceans provide.

The OECD Glossary of Statistical Terms defines an Exclusive Economic Zone as: "An Exclusive Economic Zone (EEZ) is a concept adopted at the Third United Nations Conference on the Law of the Sea (1982), whereby a coastal State assumes jurisdiction over the exploration and exploitation of marine resources in its adjacent section of the continental shelf, taken to be a band extending 200 miles from the shore."

Many countries have a form of that definition enshrined in legislation. For example the New Zealand Territorial Sea and Exclusive Zone Act 1977 defines the EEZ as "The exclusive economic zone of New

Zealand comprises those areas of the sea, seabed, and subsoil that are beyond and adjacent to the territorial sea of New Zealand, having as their outer limits a line measured seaward from the baseline described in sections 5 and 6 and 6A, every point of which line is distant 200 nautical miles from the nearest point of the baseline."

In the South Pacific region alone, twenty-two nations and territories share ocean resources with EEZs in an area that is roughly equivalent to the entire continent of Africa

However the New Zealand context around its resource and ocean management is also compounded by the rights of Māori as Tangata Whenua as enshrined in the Treaty of Waitangi. This recognises that Māori have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations. Legislation also recognises the customary interest of Māori in the common marine and coastal area of New Zealand which can extend from the mean high water springs to the outer limit of the territorial sea and includes the marine and coastal area within these limits. So whilst this scenario may be seen as unique to New Zealand, the role of indigenous societies in many countries has to be a factor in considering a standard definition and/or or classification approach for the blue economy.

Conclusion

With the growing pressures on oceans as a sustainable source for human well-being, the economic development that has yet to be fulfilled and the competing need to manage and protect our ocean environments and systems for the future of the planet, means that well described concepts and definitions supported by robust data measurement systems and classifications are essential to inform governments and address the future challenges faced.

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