

## **Class 10.1 – Blue economy, the sustainable use of the ocean resources for economic growth, improved livelihoods and jobs**

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**The Blue Economy:** Background, Definition, Principles, Minimum Criteria, Components, Sectors, Growth Areas, Practical Activity

The Blue Economy concept starts within the earth system where sources of energy include Internal heat, Sun, and Gravity. Surface variations are influenced by differences in illumination, humidity, pressure and temperature. Effects of variations on land also include plants and animal components which altogether form the structure and function of Ecosystems with increase in resources, space and services, and a decrease in heat.

**The Economy of Nature:** Ecosystems

The Economy of Nature considers human influence on Ecosystems structure and function. As a group, human beings form a society whose needs for resources, space and services create what could be referred to as Human Economy. Normally, the Earth Environment is composed of Ecological Systems (Ecosystems), Economic Systems (Economy) and Social Systems (Society). How could Blue Economy be approached? As a policy, Philosophy or a dream?

**Background - Occupation and threats in the coastal and ocean region**

There are a number of factors driving the world's population towards deeper dependence on the sea and this include: population growth, Urbanization, Trade, and Technology. The primary threat to the ocean economy over the long term is the ocean's health, which has deteriorated and in the absence of regulatory changes and technological innovations could continue to threaten. Four primary factors affecting ocean health and pointed out by Morillo and Spalding (2017) are climate change, acidification, population and overfishing. Economic relationship with the oceans are evolving globally and the current settings for the influence of international commerce and transport through the oceans, as well as significance of source of food and energy from the oceans, job creation, etc. are noted important in many countries. The gathering trend of expansion and acceleration of human activity in and around the ocean is now seen as the industrialization of the oceans.

**The Blue Economy - Concept**

Blue Economy concept has found its origins in the broader green movement and describes a sustainable balance between economic growth and the ocean health. It actually goes inline with the desired outcome of the Rio+20 Green Economy initiative namely: "Improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" as underlined by the UNEP (2013). The concept equally endorses the same principles of low carbon, resource efficiency and social inclusion, however grounded in a

developing world context. The blue economy be defined in one hand in relation to value, considering Marine-based economic development, reframing the oceans as “development spaces”, and incorporating the value of the oceans into economic decision making. On the other hand, it can be define in relation to governance, considering establishment of policies that favour low-carbon, resource-efficiency and social inclusive development, prioritization of use of ocean to benefit people, alleviate poverty, create employment and promote equity, decoupling socio-economic development from environmental degradation, and improving relevant international law and governance mechanisms.

### ***The Blue Economy - Criteria***

Criteria for blue economy include addressing human needs (ie: food, water, energy, material, recreation, etc.); ecosystem sustainability (ie: ensuring resources are grown, harvested, processed, used and recycled); system approach (ie: applying tools of system thinking, modelling and integrated planning); sustainability standards (ie: following global standards and guidelines for sustainable business operations, investment and development.

### ***The Blue Economy - Theme's evolution***

The blue economy theme started with the “Rio+20 UNCSD in June 2012 and focused on two themes namely i) the further development and refinement of the institutional framework for sustainable development and ii) the advancement of the “green Economy. Coastal and island developing countries have remained at the forefront of this blue economy advocacy, recognizing that oceans have key role to play in humanity’s future and that Blue economy would offer an approach to sustainable development better suited to meet circumstances, constraints and challenges.

### ***Sustainable Blue Economy - A marine-based economy***

In this sense, it is understood to provide social and economic benefits for current and future generations; restore, protect and maintain the diversity, productivity, resilience, core functions and intrinsic value of marine ecosystems. Also it is based on clean technologies, renewable energy and circular material flow.

It is governed by public and private processes that are inclusive, well-informed, precautionary and adaptive in addition to accountability, transparency, holistic, cross-sectoral and long-term, innovative and proactive. In order to create blue economy, public and private actors must set SMART goals and targets, assess and communicate their performance, create a level of economic and legislative playing field; and plan, manage and effectively govern the use of marine space and resources. The component of blue economy include i) the type of activity, ii) Ocean services, Industry, and iii) Drivers of growth. Sectors of the blue economy normally range from tourism, offshore oil and gas, shipping to fisheries, aquaculture, energy, biotechnology, and marine mining. Growth areas include: Blue energy, Aquaculture, Marine and coastal tourism, Marine mineral resources, Blue biotechnology, and inland waterways.

## ***Ecosystem Perspective in Ocean and Coastal Management***

There is strong global concern about ecosystem-based management (EBM). Actually, an ecosystem is a system and the needs from ecosystem based management include preventing ecosystem services and ecological functions with a focus on intergenerational social and environmental quality. Unfortunately, there is generally no necessary ecosystem basis of marine and coastal system. However, a road map to EBM highlights i) Identification of ecosystems as management units, ii) Mapping, modelling and simulation, iii) Identification of ecosystem services and the risk of losing them, iv) Definition of values and qualities, v) Identification of management spaces and vi) Integration of policies and instruments.

### ***Class Activity***

A class activity was conducted and included presentation of thematic issues in Santos coastal environment area (ecology, economy and social) followed by an exercise requirement for identification of existing ecosystem types in the region, their functions, impact on other ecosystems and management actions.