

*Summary of Session Theme Talk*

**Managing the Marine Environment to Meet Future Challenges**

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The ocean covers about seventy percent of the planet. The ocean provides many economic activities that include fisheries, tourism, and marine transport. Two-thirds of the value of all natural services in the world is provided by the ocean. Fisheries related activities alone support the livelihood of approximately 200 million people in the world. As an island Sri Lanka is heavily depend on the ocean for economic development and food security. The coastal zone contains 62% of the industries and 70% of infrastructure related to tourism. Sri Lanka has a coastline of about 1620 km. The continental shelf covers about 30,000 km<sup>2</sup>. It is relatively narrow, averaging 22.5 km, width and the mean depth is approximately 75 m. The exclusive economic zone is about 517,000 km<sup>2</sup>. The marine environment around the country is governed by the northeast and southwest monsoons. The tidal range is low; the maximum spring tide is less than 1 m.

The country is endowed with highly productive marine ecosystems; mangroves, sea grass meadows and coral reefs. In addition there are many coastal wetlands including salt marshes. The majority of mangroves are associated with coastal lagoons and the sea grass meadows are in the Gulf of Mannar and the Palk Bay where the sea is relatively shallow and calm. Coral reefs occur around the island with the largest shallow-water coral banks in the Gulf of Mannar. There are 40 species of mangrove and mangrove associated plants, 15 species of sea grasses and 208 species of corals recorded for Sri Lanka. There may be more than 1500 species of marine fish in Sri Lanka's marine waters. The charismatic marine mega fauna include 5 species of sea turtles and twenty eight species of marine mammals. Although some groups have been studied relatively well, there is a general lack of information on marine biodiversity, especially the marine invertebrates.

Sri Lanka depends heavily on marine resources both in coastal and offshore areas. Fishing is main economic activity supporting nearly 1.25 million people. The coastal waters provide about 65% of the marine fish production. Extraction of hydrocarbons may become one of the most important economic activities in the future. The marine environment around the country is heavily influenced by human activities including unsustainable resource exploitation and the use of destructive fishing methods. It is widely accepted that the coastal waters have been overfished as the populations of many large fish species have been reduced drastically. Many land-based activities have contributed to high levels of pollution in the coastal environment. Poor garbage disposal, agricultural runoff and industrial and domestic waste have polluted several coastal lagoons, beaches and inshore waters. More recently Sri Lanka has experienced negative impacts of global warming and climate change. Coral reefs have indicated this rapid environmental change through extensive coral bleaching events. Sri Lanka lost much of its shallow water coral reefs in 1998 during the unprecedented coral bleaching event in the Indian Ocean. A similar bleaching event has occurred in 2016 where many shallow water corals have been affected. However, adaptive management is lacking in Sri Lanka. Although several marine protected areas and fisheries management areas have been established, there is little or no management of human activities in these declared areas. In general there is a lack of implementation of laws and regulations which result in the continuous degradation of the marine environment.

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