

**Recommendation 1:**

Considering that the marine ecosystems are served by other ecosystems upland such as the terrestrial, freshwater, estuarine and coastal zone ecosystems and vice versa, a comprehensive policy may be developed by establishing a coordinating organization integrating all the service providing ecosystems and dependent stakeholders.

**Recommendation 2:**

The anthropogenic impacts including fishing, development of coastal corridors, climate change on marine ecosystems and their inter-related marine habitats such as coral reefs, mangroves and sea plants need to be mapped to device conservation measures.

**Recommendation 3:**

As the oceans have no boundary, and are bordered by several countries, it is important to establish collaborations with international organizations and programmes such as Ramsar Convention to safeguard and derive maximum sustainable services from the marine ecosystems.

**Recommendation 4:**

The nodal Ministry may establish a network of Marine Protected Areas (MPAs) in consultation with research institutions and other organizations with due consideration to livelihood concerns and alternatives. The impacts of MPAs on restoration of biodiversity and stock recovery need to be assessed.

**Recommendation 5:**

Considering the absence of estimates on ecosystem costs and values, and the need to revise the species in the IUCN Red List, a detailed assessment in consultation with marine research institutions is urgently required.

**Recommendation 6:**

Taking into account the paucity of information on the endangered fauna and flora, it is important to strengthen research on cetaceans, sirenian, sea birds, marine reptiles, corals, echinoderms, gastropods, sponges and mangrove vegetation; and marine research institutions may be encouraged to develop a cadre of researchers with diving skills.

**Recommendation 7:**

Technology development for extracting beneficial drugs and chemicals from marine species and sea may be strengthened with due consideration to biodiversity concerns.

**Recommendation 8:**

Fisheries prediction models need to be standardized and optimized for addressing specific characteristics and issues in different tropical oceanic realms. Ecosystem-based Fisheries Management may be adopted, to ensure long-term sustainability of fish stocks.

**Recommendation 9:**

Code of Conduct for Responsible Fisheries may be implemented in full scale and National Plans of Action on Excess capacity; Illegal, Unregulated and Unreported (IUU) fishing, Bycatch Reduction and Energy Conservation in fisheries may be adopted and implemented.

**Recommendation 10:**

Taking into account the services provided by the deep sea organisms on oceanic and deep sea ecosystems, research on these organisms should be strengthened for optimal utilization of resources.

**Recommendation 11:**

Considering that the marine ecosystems are affected by long-term climatic changes, continuous monitoring of the impact on the physical, chemical and biological processes is necessary. Options for adaptation to climate change and mitigation have to be developed on a priority basis with international collaboration, and by establishing strategic disaster management systems.

**Recommendation 12:**

Basic research on taxonomy and biology of candidate species for mariculture may be further promoted by colleges and universities.

**Recommendation 13:**

Recognizing the potential of mariculture to supplement and increase food production, and for ornamental trade, new programmes on mariculture with additional emphasis on stock recovery and replenishment may be initiated. To achieve this, hatchery and grow out technologies for several candidate species need to be developed with proper policy support.

**Recommendation 14:**

State-of-the Art technologies such as remote sensing, DNA bar coding and metagenomic approach may be adopted for assessing the marine biodiversity and ecosystems. Palk Bay may be considered for developing facilities for Controlled Experimental Ecosystem Studies.

**Recommendation 15:**

Benign educational tourism may be promoted by establishing oceanaria, marine parks and marine mammal and sea turtle watch etc.

**Recommendation 16:**

The concerned Ministries and Departments should create posts of trained Aquatic Resource Conservators for fulfilling the conservation objectives in respect of the marine ecosystems similar to those of forest ecosystems.