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A Study on the Ecological Profile of Andaman & Nicobar Islands

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Introduction :

The Andaman and Nicobar Islands (ANI) consist of very fragile island ecosystems and some of the most pristine in the world. These ecosystems are very diverse and support very unique flora and fauna. Both these island groups are a distinct eco region and are classified as one of the 12 bio-geographical zones of India. The landscape for large islands emerges from sea grass beds, coral reef or rocky outcrops, to beaches, littoral forest, Andaman slope forests, hilltops, into valleys and streams. In some areas in the Andaman's along the west and the east coast, the landscape starts from reefs or rocky outcrops to steep rock faces with windblown vegetation.

Ecological Profile :

1. Forests :

The forests in the Andaman and the Nicobar Islands occupy 7,606 km² or 92.2 per cent of the total geographical area of 8,249 km²; of this 5,883 km² are

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forests in the Andaman group and 1,723 km² in the Nicobar group. Of the total forest cover, dense forests with crown density of 40 per cent and above constitute 85.9 per cent, open forests with crown density of less than 40 per cent constitute 1.7 per cent and mangroves constitute 12.7 per cent. The legally notified forests cover 7,170.69 km² (86.93% of the geographical area); of this 4,242 km² are protected forests and 2,929 km² are reserved forests.

2. Marine Ecosystem :

The Andaman and Nicobar islands coastline is 1,962 km² long and has around 35,000 km² of continental shelf that provides potential fishing grounds. The 200 miles of Exclusive Economic Zone around Andaman & Nicobar islands is vast and covers a sea area of 0.6 million km², which is about 30 per cent of the Exclusive Economic Zone of India.

3. Coral Reefs :

Andaman and Nicobar Islands is home to over 560 species of corals, whose sheer colour and diversity leave one mesmerised. Corals are tiny organisms that secrete massive calcareous skeletons and collectively deposit calcium carbonate to form large colonies. However, the extent of reefs in the Andaman & Nicobar Islands is not accurately known yet and recent surveys report it as 11,939 km². There are two protected areas for a reef in the Andaman's one is the Mahatma Gandhi Marine National Park and the another is Rani Jhansi Marine National Park, both having adjoining reefs that need inclusion. There are also large areas of reef outside these protected areas with very little protection efforts going into them. Reefs have become globally threatened due to various environmental and climatic factors, along with greater use of their resources both directly through activities such as over fishing and indirectly through recreational tourism.

4. Mangroves :

Mangroves are important for life on earth. Communities living along the coast, depend on mangroves for food, coastal protection and income. Taking all these elements into consideration, mangroves enable this through the provision of ecosystem services while providing fish, timber, clean water and supporting tourism.

Mangrove areas are also known for their diversity of various marine organisms. It is clear that any degradation of coastal ecosystems such as coral reefs and mangroves will have an adverse impact not only on the unique biodiversity of fragile coastal ecosystems but also on coastal fisheries and tourism. The estimated area of mangroves in 1957 in the islands was about 1,200 km². Another estimate made in 1986-1987 using LANSAT(Land Satellite) imagery reported a total of 777 km² for Andaman & Nicobar Islands of which 287 km² was for the Nicobars. In 1999, the Forest Survey of India estimated 966 km².

5. Wetlands :

Swampy areas in lowland evergreen forests have been almost totally destroyed by conversion to agriculture, with the only substantial tracts remaining in Baratang and Little Andaman Islands, and the Jarawa Reserve off the west coast of South and Middle Andaman. Little Andaman Island has wetland ecosystems found now here else in the Andaman & Nicobar Islands; these include long stretches of freshwater streams, open saline marshes, peat bogs and large tracts of freshwater grassy marshes. Open swamps have also been drained in a number of places, making this an increasingly rare habitat. There are also significant wetlands in revenue areas that need protection. Areas exist in Chouldhari, Bamboo Flat, Sippighat, Wandoor, Baratang, Mayabunder and Diglipur Island. Freshwater wetland ecosystems of the islands have at least two restricted range endemic bird species, Andaman Crake and Andaman Teal, besides being a very important nesting habitat for salt water crocodiles and providing feeding areas for bat species.

6. Biodiversity :

The Andaman & Nicobar Islands is one of the richest and most uniquely bio-diverse areas in the world, with a high degree of endemicity. The islands are an internationally acknowledged hotspot of biodiversity, with over 3,552 species of flowering plants (with 223 endemic species), 5,100 species of animals (100 freshwater, 2,847 terrestrial and 503 endemic), 4,508 marine species (of which 220 are endemic), 52 species of mammals (with 33 endemic), 244 species of birds (96 endemic) and 111 species of amphibians and reptiles (66 endemic).

Conclusion :

Ecology enriches our world and is crucial for human wellbeing and prosperity. It provides new knowledge of the interdependence between people and nature that is vital for food production, maintaining clean air and water, and sustaining biodiversity in a changing climate.

The Andaman and Nicobar Islands are the natural platform for collaboration between India and Southeast Asia. By most accounts, political will in India and other countries to develop these islands is high. However, it is important that the resolve survives the atmosphere of cynicism that has otherwise shrouded the prospects of the Andaman and Nicobar Islands.

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