

## Plan to develop Andaman and Nicobar Islands into tourist hub has put its forests under pressure

19 February 2020



They may be hundreds of kilometres away from the Indian mainland, but the rich forests and the biodiversity in the strategically important Andaman and the Nicobar Islands, henceforth referred to as ANI, face pressures similar to those on forests in the mainland. The condition of Lakshadweep islands, another island group of India, is no different.

Over the past few years, in light of growing naval capabilities of China, the Indian government has had a special focus on the development of ANI as the islands are at the entrance to the Malacca Strait, the world's busiest shipping route. Now, coupled with tourism and climate change, the forests of the Andaman and Nicobar Islands are facing immense pressure.

Andaman and Nicobar Islands comprise 572 islands with a total geographical area of about 8,249 sq km, 0.25% of the total geographical area of India. Of the 8,249 sq km, over 80% of the land – 6,742.78 sq km – is recorded as forest land, which includes nine national parks, 96 wildlife sanctuaries and one biosphere reserve.

These forests are important from the ecological point of view as they support luxuriant and rich vegetation with tropical hot and humid climate and abundant rains. The irregular and deeply indented coastline result in innumerable creeks, bays and estuaries which facilitate the development of rich, extensive and luxuriant growth of mangrove forests the archipelago, said mangrove ecologist P Ragavan, a post-doctoral fellow at Physical Research Laboratory in Ahmedabad.

The recently released India State of Forest Report or ISFR 2019 noted that nature has provided these islands with unique and varied flora and fauna and the surrounding seas are equally rich in marine biodiversity. It also noted that about 2,200 varieties of plants have been recorded in the Islands, out

of which 200 are endemic, i.e. found nowhere else in the world, and 1,300 do not occur in mainland India.

“Due to the geographic isolation of these islands, a large degree of endemism exists, which means that the ecosystems of these islands are vulnerable to disturbances. The forestry practices in these islands have undergone significant changes in the [past]...125 years of scientific forestry, influenced by major policy changes and socioeconomic situations. The current focus of forest management in the islands is towards biodiversity conservation along with sustainable use of forest produce for local inhabitants, to protect the environment for future generations,” said the report.



*Sonneratia ovata*, a near-threatened mangrove species in the Andaman and Nicobar Islands. Credit: P Ragavan/Mongabay

The importance of forests in this region can be ascertained from their diversity. While south Andamans have a profuse growth of mostly ferns and orchids, the middle and north Andamans are characterised by moist deciduous and wet evergreen forests. “The evergreen forests are dominant in the Central and Southern Islands of the Nicobar group. The moist deciduous forests are common in the Andamans, they are almost absent in the Nicobar Islands. Grasslands occur only in the Nicobars,” noted the report.

The Forest Survey of India, which comes out with the ISFR every two years, has also done an estimation of the dependence of people living in the villages close to the forest for fuelwood, fodder, small timber and bamboo. For ANI, the estimated quantities of the fuelwood are 22,038 tonnes, fodder is 83,405 tonnes and 3,737 tonnes of bamboo.

Ragavan said in terms of diversity, density and growth, mangroves of ANI are best in the country, adding that periodical information on the extent and status of mangroves in the islands is imperative not only to improve our understanding of phytogeography, but also for better management and conservation. The mangrove cover of ANI consists of 38 true mangrove species belonging to 13 families and 19 genera, according to a study by Ragavan.

Of the 38 mangrove species identified in the study, five species are globally considered important with respect to their conservation importance. While *Sonneratia griffithii* is critically

endangered, *Excoecaria indica* is data deficient. The remaining three species, *Brownlowia tersa*, *Phoenix paludosa* and *Sonneratia ovata*, are categorised as near-threatened.

Extensive floristic surveys in recent times led to a better understanding of the extended distribution of few extant mangrove species and the discovery of new entities from ANI, Ragavan noted. Significant findings are four new records for India – *Sonneratia lanceolata*, *S. ovata*, *S. urama*, and *S. gulngai*; two new distribution records for the Andaman and Nicobar Islands – *Excoecaria indica* and *Rhizophora annamalayana*; and extended distribution of *Rhizophora stylosa*, *Scyphiphora hydrophyllacea*, *Xylocarpus granatum* from Nicobar Islands. “And the rediscovery of three species [*Sonneratia griffithii*, *Brownlowia tersa*, and *Acanthus volubilis*] after a gap of 90 years,” explained Ragavan.

### **Andaman's forests**

Compared to the ISFR 2017, the forest cover in the region has increased by 0.78 sq km, while the mangrove cover has decreased by one sq km. Experts are, however, worried about an increase in the anthropogenic activities in the region and their impact.

Subha Chakraborty, who is from the department of architecture, town and regional planning of the Indian Institute of Engineering Science And Technology, Shibpur, West Bengal, explained that there is a high human impact on the natural resources, including the mangroves, on the islands. “The archipelago saw a wave of migration of refugees following Independence till 1971 from the mainland, including from Bangladesh. The settlers didn’t have knowledge of the islands’ natural resources. They were using them for their own survival and sustainability,” said Chakraborty.

He stressed that their studies have found that the Diglipur region in the Andaman and Nicobar islands is most vulnerable. “Both natural and man-made impacts are high in Diglipur. There are two major degradation hotspots identified for 2030 and 2050, and these are Mayabunder and Diglipur region. The major threats of these regions are population growth and the influence of climate change,” Chakraborty said. “All of the Andaman and Nicobar islands are in the most severe seismic zone. Mangroves are degrading in parts and in others, they are increasing. So the islands are very complex in that sense.”

Based on his research, Chakraborty said that in the past 40 years, around 45%-47% of the mangrove forests were destroyed in the Andaman Islands and the main reason is the human impact, which was very high between 1950 to 1980, coupled with climate change and seismic effects. “The human footprint is mainly attributed to the migration during that period. As for seismic impacts, every 72-96 hours, there’s one earthquake. In 2019, 138 tremors hit the island according to United States Geological Survey data. The major seismic impact was due to the 2004 earthquake and subsequent tsunami,” he added. The earthquake uplifted the northern Andaman coast, resulting in a drastic reduction of tidal water influx into the adjoining mangrove-laden mudflats.

A 2020 study, which assessed the impact of coastal upliftment on the Northern Andaman mangroves based on satellite data analysis from 2003 to 2019, reports a loss of 6,500 hectares mangroves. Superseding initial reports that documented 60%-70% mangrove cover loss in the Nicobar islands, a 2018 study revealed that in fact 97% of mangrove cover of the islands was razed due to the 2004 event.

His concerns about thousands of hectares of forest land making way for settlers are not ill-founded. It has been estimated that between 1869-1984, over 232,000 hectares of forests were cleared due to plantation, setting of towns, agriculture, fuelwood and encroachments.



### **Lakshadweep under stress**

Located in the Arabian Sea, off the Western coast of India, Lakshadweep is a group of 36 islands and is India's smallest Union Territory. Its total geographical area is only 30 sq km and has a total population of only 0.064 million. According to the ISFR 2019, the forest cover in the union territory is

27.10 sq km, which is 90.33% of its geographical area. About 82% of the land mass is covered by privately owned coconut plantations.

It has a vast lagoon of 4,200 sq km with sandy beaches and abundance of marine fauna. The livelihood of inhabitants of Lakshadweep is dependent on fishery and tourism, but one of the most serious concern the region faces is coastal erosion.

"Lakshadweep is a densely-populated area unlike the general perception that it is a deserted paradise. The biggest stress that the whole ecological system of the area faces is climate change. In maximum two-three generations, it will become inhabitable. One other major concern is the large scale commercial fishing taking place which is emptying the fish stocks. In terms of forests, it is largely coconut plantations," said Rohan Arthur, a senior scientist and founding trustee of the Nature Conservation Foundation.

### **Unsustainable development**

The Prime Minister Narendra Modi-led central government has been focusing on improving tourism facilities in the Andaman and Nicobar Islands for some years now, with the intention of turning it into a world-class tourism destination.

Following the intent, the Indian government's policy think tank, the NITI Aayog, has been working with different stakeholders to achieve the goal. In January 2020, India's Home Minister Amit Shah, chaired a meeting of the Island Development Agency, wherein the government reviewed the progress made towards the development of islands.

An official statement after the meeting noted that model tourism projects – both land-based and water villas – were planned and bids have been invited for private sector participation.

According to the statement, "As a unique initiative, to spur investment, it was decided to obtain clearances for implementation of the planned projects up-front. All necessary clearances would be in place before bids finalisation. Environment and coastal regulation zone clearances have already been obtained for four exemplary tourism projects of Andaman and Nicobar Islands."

"The proposed airports in Great Nicobar Island of Andaman & Nicobar and Minicoy Island of Lakshadweep would catalyse the development process in the region," it said.



Viper Island suffered damages in the 2004 Tsunami. Andaman and Nicobar Islands are not covered under the new model as yet. Credit: Biswarup Ganguly/Wikimedia Commons

Some local experts of the Andaman and Nicobar Islands, who did not wish to be named for fear of being targeted, said even though the government is going full throttle to develop tourism facilities in the islands, there are not many takers. Additionally, the encroachment of forests and wetlands is increasing in the region, they say.

Sejal Worah, who is the programme director with the conservation group WWF India, said India's island chains of Andaman and Nicobar and Lakshadweep are ecologically and socio-culturally unique and distinct from each other. "What they do share is the fragility and vulnerability of their ecosystems and the people who reside on them. The livelihoods and culture of people living on the islands are intrinsically linked to the ocean and dependent on the health of marine systems. Any development planned for ANI and Lakshadweep island must, therefore, be sensitive to impacts on natural systems and should be undertaken based on genuine consultation with the island stakeholders," Worah said.

Manish Chandi, a human ecologist and senior fellow with the Andaman Nicobar Environment Team, said the infrastructure or tourism projects that are being discussed in the Andaman and Nicobar Islands are not new. "They have been part of the discussion in one form or the other from 20-30 years. The difference compared to the past is the way the present administration is moving forward on them, overriding concerns and consultation with the local experts and stakeholders. While they may seem [like] economic development ventures, whose larger benefit is very questionable, when seen in a macro perspective, the rural economy in the Andaman and Nicobar Islands is generally stagnant and stratified not just in the hinterland but even in villages beyond Port Blair," Chandi said.

"Apart from the huge dependence on government services, and some involvement, rather than much local investment in tourism, the local population needs much more than just large infrastructural projects for collective benefits. There needs to be a rethink on how not just money can be generated, but rather how local communities can benefit beyond just monetary value. In general, the projects, which have been repeatedly discussed and put in cold storage by the earlier administrations for precisely these concerns and ecological stability are now being revived and there is a lot of movement on that front," said Chandi.

"They have been part of the discussion in one form or the other from 20-30 years. The difference compared to the past is the way the present administration is moving forward on them without any consultation with the local experts and stakeholders. In general, the projects which have been

repeatedly discussed and put in cold storage by the earlier administrations are now being revived and there is a lot of movement on that front,” Chandi said.

Additionally, Ragavan said, “In ANI, extensive efforts have been taken to improve the degraded/tsunami impacted areas by forest department through plantation efforts. However, no species-specific efforts have been taken to improve the population of rare/threatened mangroves species.”

Source: <https://scroll.in/article/953334/plan-to-develop-andaman-and-nicobar-islands-into-tourist-hub-has-put-its-forests-under-pressure>