

6 Facts You Need to Know About Mangroves

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July 26 is the International Day for the Conservation of the Mangrove Ecosystem, an occasion observed by UNESCO to raise awareness about mangroves. If you live in India or the South Asian region, chances are you've seen, or at least heard about mangroves. These trees and shrubs line our coasts and have silently protected us, and the environment, for many centuries. Even now, we don't think about them too much, except for when the occasional ill-conceived infrastructure project threatens to wipe out large swathes of mangroves, sending the press and environmentalists into overdrive. But what makes mangroves special exactly?

Check out these six facts that illustrate the role mangroves play in the ecological order, and why the world—especially India—needs to take special care of these valuable allies.

They exist around the world, and West Bengal is their biggest home in India:

Mangroves are found on the saltwater coasts of over 120 countries. They cover an area of about 150,000 square kilometres (sq.km), one-third of which (33.5%) is in South-east Asia, mainly Indonesia.

At 4921 sq.km, India has about 3.3% of the global cover, according to the Forest Survey of India (FSI). While the Sunderbans have about 2106 sq.km, Gujarat has 1107 sq.km of mangroves, Andhra 367 sq.km, and Maharashtra 222 sq.km. The Mumbai metropolitan area, including Mumbai's suburbs, south Mumbai, Navi Mumbai and Thane creek, has over 95 square kilometers of mangrove area.

There are many different kinds of mangroves:

It is estimated that there are between 50-110 mangrove species including trees and shrubs. Some common species are Rhizophoraceae, Acanthaceae, Lythraceae, Combretaceae, and Arecaceae. India hosts multiple species, some of which are rare or threatened.

Depending on type and location, mangroves can range in height from 2-10 metres, and may be found in different depths of salty water. All species, though, have certain similarities, such as oval-shaped leaves and respiratory roots (pneumatophores) that project above mud and allow the tree to breathe.

They are vital coastal ecosystems:

Fish and crustaceans love mangroves because their underwater roots provide the perfect breeding and nursing environment. According to the IUCN, more than 3000 species of fish are found in mangrove ecosystems around the world. India's mangroves support a vast amount of biodiversity as well. The Sundarbans, spread across India and Bangladesh, support 334 species of flora and 693 species of wildlife, including the Bengal tiger. The largest nesting site of the Olive Ridley turtles is Odisha's Gahirmatha coast, while Baitarnika supports large populations of birds and crocodiles. Mangroves in the Gulf of Kutch are important for the threatened dugong (sea cow) population. Migratory birds, including flamingoes, also flock to mudflats in the neighbourhoods of mangroves every year. India's mangroves also provide livelihoods for millions of people in coastal regions, who rely on them for fish, wood, honey and other resources.

They are invaluable friends and allies

Mangroves are coastal sentinels and protect the coast from waves and tidal surges. They hold on to the soil with their strong roots and prevent coastal erosion. They also mitigate the violent effects of cyclones and storms as the latter approach the coast. In that sense, mangroves are natural protectors of human settlements. In fact, restoring mangroves for coastal defense is said to be 'five times more cost-effective' than man-made infrastructure like breakwaters, says IUCN.

In addition, mangroves are über-efficient carbon purifiers. They can store between 3-5 times more carbon (per hectare) than regular tropical forests. The IUCN estimates that the world's 14 million hectares (1.4 lakh square kilometres) of mangroves provide \$800 billion dollars' worth of services each year. Mumbai's mangroves alone provide services worth US\$ 7.73 million a year, according to a 2013 study.

Mangroves are growing, but still face many risks

Between 1980 and 2000, 35% of the world's mangroves were lost, says the World Wildlife Fund. However, in 2015, researchers found that the global loss had come down substantially from 2001 to 2012, to 1.38% (over 2000 levels). Half the mangrove loss over the past

decade has occurred in Asia: Indonesia, Malaysia, Papua New Guinea, Solomon Islands, Brunei, East Timor, Singapore and the Philippines.

In India, thanks to the pressure exerted by environmentalists and citizens, mangrove cover is gradually increasing. From 2001 to 2015, mangrove cover grew from 4533 sq.km to 4740 sq.km, according to FSI data. From 2015-17, Maharashtra added 82 sq.km of mangroves, a nearly 37% rise, while Andhra Pradesh (10%) and Gujarat (3%) increased their cover too. West Bengal remained roughly at same levels.

The biggest threat to mangroves comes from the population explosion in urban centres, which results in illegal encroachments in coastal zones, trees being chopped for infrastructure projects or timber, industrial pollution and dumping of plastic and other kinds of waste.

They are under legal protection

In India, mangroves are protected by the Environmental (Protection) Act and Coastal Regulations. The Supreme Court has also banned semi-intensive and intensive aquaculture in coastal areas. The Sundarbans are a designated tiger reserve and biosphere reserve, as well as a UNESCO World Heritage Site, and have been protected under law as a designated reserve forest since 1875. In Maharashtra, a 2005 order of the Bombay High Court bans the destruction of mangroves and forbids any construction activity within 50 metres of them. A more recent court order in Mumbai has notified large areas of mangroves as reserved forests under the Indian Forest Act, 1927, enhancing the legal protection given to them.

Recently, the furore over a government proposal to cut 54,000 mangroves for the Mumbai-Ahmedabad Bullet Train project forced the Prime Minister's office to rope in the Environment Department. What will happen next is anyone's guess. But if we are to save mangroves from the chopping-block of unsustainable development over the decades to come, it is important to strike a balance between India's desire to create wealth and development, and its existing ecological wealth—of which mangroves are undeniably a critical part.

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