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Oyster Farming

Mangroves are found in more than a hundred countries across the tropical and subtropical regions of the world. They are unique plant life from land that has escaped competition and dipped their toes in the water creating a magical in-between place that has massive benefits for the surrounding ocean and the habitats on the land – for everything from flying creatures like birds to reptiles like turtles, crocodiles, and mammals like tigers, otters, jackals. It's not just wildlife but us who are drawn to the magic of Mangroves.

This unique landscape comprises unique families of plants and about 80 species in all. They all have adapted to form a network of roots that spread out to anchor them in this sediment of the coast and aerial roots that can rise above the soggy ground to absorb oxygen and special salt glands in the leaves, which can extract and expel the salt taken from the seawater.

The roots of mangroves make fantastic playpens for a myriad of baby fishes. Some fish species lay eggs in the mangroves so that the young ones can hatch among the roots. Other species spawn at sea but their planktonic babies know to make their way into mangroves for safety. Many commercially important species begin their life in mangrove forests. Even the colourful fish in the coral reefs that are so loved by human divers is dependent on mangroves for raising their young ones. It is said that coral reefs that are close to mangroves have 25% more fish on them. Mangroves offer sheltering and feeding to the little ones, and keeps them out of the reach of the bigger predators of open water. This fact attracts several avian species of birds to the mangroves for feeding. Some are resident bird species while others are migratory and travel hundreds of kilometres in search of food and shelter.

Mangroves undergo radical changes as the tide rises and falls. As the water levels lowers, marine life descends. Mudflats of the mangroves are a place for thousands of creatures such as crabs, molluscs, invertebrates, and fishes. The reason most of these life forms have adopted this lifestyle is that the mud beneath the mangroves offers a good living with food that is both washed out from the land and also washed in from the sea. Mangroves provide them a safe place to hide during each tide protecting them from many predators of the sea. The creatures of this unique landscape exhibit

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Kayak Safari

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Kalinje Nature Tourism

skills and adaptations as special as the mangroves themselves.

The dense tangles of branches along the coast take the power out of the cyclones and absorb the impact of waves. They stop coastal erosion and thanks to their roots that bind, collect the silt that actually build up and repairs the coast. Their roots filter out nitrates, phosphates, and other pollutants improving water quality. The plant captures a huge amount of carbon dioxide and greenhouse gases and locks into its carbon-rich sediment for millennia. Therefore, they are critically important in climate stabilization. In some regions, they are four times more effective in removing carbon than any other jungle. Mangroves also create nurseries for wildlife including many species of fish that are vital to the fishing economy and that feed local communities, and half of the fish harvest is dependent on the mangrove forests.

Destruction of mangroves leads to the release of a lot of carbon dioxide that adds to the impact of greenhouse gases and changes in global climatic conditions. It is proven that mangroves directly prevent millions of rupees of this damage due to floods and cyclones resulting in the protection of millions of human lives.

Mangroves are the most important habitats of the earth known for safeguarding the well-being of humans and they are vital to many of the planet's most extraordinary, remarkable and threatened species. Mangroves have the potential to provide food to a myriad of species and thus are among the most productive and complex ecosystems on earth.

Understanding the importance of mangroves, the High Court of Bombay directed to declare all mangroves on government land as 'Protected Forests' in the year 2005. Further, the state government showed special interest in conserving mangroves where it formed a special wing 'Mangrove Cell' under the Forest Department of Maharashtra in 2012. In 2013, the state government decided to declare all the mangroves on government land as 'Reserved Forest' giving the highest protection to the mangroves of Maharashtra. The special unit named 'Mumbai Mangrove Conservation Unit' was formed to safeguard Mumbai's Mangroves, prevent encroachment, and save the city for future betterment. To strengthen the pillars of conservation and protection of mangroves, an organization was registered under the Societies Registration Act 1860 named as Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra (Mangrove Foundation).

In 2017, the State Government of Maharashtra introduced a scheme on 'Mangrove Conservation and Livelihood Generation Scheme'. Through the scheme sustainable aquaculture practices like sea bass/pearl spot cage culture, mud crab farming, ornamental fish rearing, oyster culture, and ecotourism are undertaken. Today, over 145 coastal villages have their own Mangrove Co-Management Committee (MCMC). Each MCMC has self-help groups (totalling 262) that are engaged in several sustainable aquaculture programmes. A total of around 3500 beneficiaries are taking benefits out of the scheme. The scheme shares 90 % of funding from the government for groups and 75% of funding for individual beneficiaries. This year communities were able to gather a revenue of around 10 million Indian rupees.

The coastline of Maharashtra is full of biodiversity and there are many beautiful areas of mangroves and channels where people like to go for snorkeling, kayaking, boating, mangrove boardwalking, bird watching, and get some free relaxation therapy from Nature. The Maharashtra Forest Department through this scheme have identified 10 villages for ecotourism where people can experience the charismatic mangrove ecosystem and marine biodiversity. Today local communities of Maharashtra are taking part in various initiatives even other than the scheme like clean-up drives, awareness generation, and keeping watch on mangrove destruction in their surroundings. Maharashtra is also implementing a UNDP-Green Climate Fund project on "Enhancing Climate Resilience of India's Coastal Communities" in four coastal districts of Palghar, Raigad, Ratnagiri and Sindhudurg. The project envisages mangrove restoration, coral restoration, livelihood, and watershed development.

Other than the above initiatives, and in order to plan better conservation strategies, the Mangrove Foundation has involved many individual researchers and institutions for undertaking research on otters, sea snakes, Golden Jackal, White-bellied Sea-eagles, gobiid fishes, turtles, migratory species, etc., so that the mangrove ecosystem can be protected as a whole.

We need this important bio-shield of mangroves that is much more effective than any human-built defense. Besides, given a chance, mangroves grow fast and spread like a weed. They can rebuild even cities and protect human life and rich animal communities making them thrive for years. Just with the protection of mangroves as 'Reserved Forest', and carrying out plantations on degraded mangrove forests, there has been a 75% rise in mangrove forests as per the report published by the Forest Survey of India (2021) in a decade's time.