Introduction

The term “mangrove” refers to an assemblage of tropical trees and shrubs that grows in the intertidal zone. Mangroves include approximately 16 families and 40 to 50 species (depending on classification). According to Tomlinson (1986), the following criteria are required for a species to be designated a “true or strict mangrove”:

1. Complete fidelity to the mangrove environment.
2. Plays a major role in the structure of the community and has the ability to form pure stands.
3. Morphological specialization for adaptation to the habitat.
4. Physiological specialization for adaptation to their habitat.
5. Taxonomic isolation from terrestrial relatives.

Thus, mangrove is a non-taxonomic term used to describe a diverse group of plants that are all adapted to a wet, saline habitat. Mangrove may typically refer to an individual species. Terms such as mangrove community, mangrove ecosystem, mangrove forest, mangrove swamp, and mangal are used interchangeably to describe the entire mangrove community.

History and Evolution of Mangroves

Mangroves are quite old, possibly arising just after the first angiosperms (Duke, 1992). However, mangrove plants do not exhibit very primitive plant characteristics. It is believed that the first appearance of mangroves as early as 80 million years ago. Avicennia and Rhizophora was probably the first genera to evolve, appearing near the end of the Cretaceous period (Chapman, 1976).

Mangrove community of Mumbai

In the early nineties, perhaps over 37 sq. km. of mangroves existed in Mumbai, largely in the Thane creek, Mahim, Versova, Gorai and Ghodbunder, with sporadic patches in places such as Bandra, Malabar Hill and Colaba. Mumbai has probably lost 40 per cent of all its mangroves in the past decade or so, largely because of reclamation for housing, slums, sewage treatment and garbage dumps. Around 20 out of the 35 species of true
mangroves found in India have been identified along the Maharashtra coast and 15 species of these are found in Mumbai. Because of the high salinity of the soil, something like 60 per cent of Mumbai mangroves comprise Avicennia marina. Not surprisingly this species also tolerate pollution including heavy metals such as lead, mercury and chromium, oil all found in significant concentrations in the Mithi River due to thriving factories and Automobile workshops along the banks of the river.

Mumbai historical records indicate that there were several islands around Bombay during 1670. However, the Britishers, who were ruling the country, identified the importance of these islands for commercial purpose. They deforested the fringing mangroves and reclaimed these islands into one continuous landmass, which later came to be known as "Greater Bombay". Since then the developmental and population pressure rapidly increased and being the coastal area, it took the toll of mangrove land, during the process of deforestation and reclamation. A few mangrove patches are still left in the heart of the city, which proves that today's megacity had a luxuriant past of mangrove forests. Major mangroves are seen today in Mumbai along the Vasai Creek, Thane Creek, Manori and Malad, Mahim - Bandra, Versova, Siwari, Mumbra - Diva and few more places.

**Importance of Mangroves for Mumbai and Thane**

Mangroves represent the spirit of Mumbai – they are plucky survivors. But each day, millions of citizens in Mumbai pass these hardy plants imagining they are little more than dirty, muddy weeds growing pointlessly along the shoreline. How little people understand just how important mangroves are to the quality of life of the citizens of Mumbai?

By trapping silt, mangroves maintain the integrity of Mumbai’s shoreline. This is a vital service to the city of Mumbai as it is very prone to erosion, having been built on reclaimed land that is battered by the sea on all three sides. The heavy rains in 2005 in Mumbai and the disaster that followed demonstrated the consequence of tampering with the ecology of fragile ecosystems like mangroves. Had Mumbai’s Mithi River and Mahim creek mangroves not been destroyed by builders, fewer people would have died and the property damage would have been dramatically less. The Koli community in Mumbai worships mangroves because they know that these are breeding and nursery grounds for the marine organisms on which their sustenance depends.