RESEARCH PAPER | Botany | Volume : 5 | Issue : 8 | August 2015 | ISSN - 2249-555X

# Intertidal Zonationin theMangrove Ecosystems of Godavari Estuary

KEYWORDS

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Mangroves are beautiful coastal tropical formations between land and sea. Mangrove forests are a major coastal ecosystem in the world and cover an area of about 20 million hectares. Biota cope up with the fluctuations in salinity, temperature and organic matter regimes. These forests play a vital role in protecting from the soil erosion and tidal waves. These are the nursery grounds for shrimp and fin fish and act as platform for the migratory birds and fish. India stands for second largest mangrove ecosystems in the world. Godavari mangroves are the second largest mangroves after sunder bans. Several authors (Rao (1959), Rao and Rao (1988), Narasimha Rao and Dora (2009), Narasimha Rao and Subba Rangaiah(2010), Narasimha Rao and Murty(2010), Narasimha Rao (2012), Narasimha Rao et al (2013), Murty and Narasimha Rao (2013), Narasimha Rao (2014) have studied the mangrove populations of Godavari estuary, Andhra Pradesh. Zonation is a common and natural phenomenon in the intertidal regions of the coastal and mangrove ecosystems. Based on the nature of the soil pH and soil salinity plants occupy different positions from water front to barren zone. Height and stature of the plants are changed depending upon the salinity and pH of the region. There is a gradual reduction in height of the plants from water front to barren zone and types of species also vary correspondingly.

In the Godavari estuary Zonation of the plant species differ from region to region, if fresh water is more i.e away from the mouth region salinity generally reduced then the edges of the creek or channel were dominated by the *Excoecaria agallocha* speceie. In the river mouth or near to river mouth region forests starts with the *Rhizophora* species, but in general, forest is start with *Avicennia marina* or *Avicennia officinalis* populations in certain parts of the Godavari estuary. Forest continues up to 80 to 120 meters from shore or edge of the channel. In between *Sonneratia apetala* and *Aegiceras corniculatum* species occupy various levels in the forest. At the end of the forest, mostly halophytes were present. True mangroves species and mangroves species followed by the halophyte species were present in the intertidal region of the mangrove of Godavari estuary.

In the recent years due to the urbanization, human habitations were moved very near to these beautiful ecosystems. Simultaneously aquaculture developed in an alarming speed in the coastal regions. This aquaculture provides food and employment for rural poor; one should appreciate the progress and uplift of standard of living in the coastal zone, even though there is great damage to the Natural coastal ecosystems. Most of the forest in this region simply converted into aqua forms. In general salt pans were developed very near the barren zone, but today the barren zone along with halophytic populations converted into the aqua forms for cultivating the shrimp and fish also.

Based on the reasons cited above, total scenario of the mangrove ecosystem altered, in most of the regions of the Estuary, halophytic populations such as *Sueada* and *Luminitzera* associated with *Rhizophora* species (true mangrove species). The width of the mangrove forest also reduced. True mangroves, associated mangroves and halophytes intermingled with each other and form a strip like vegetation in most of the areas of the Godavari mangroves. If aquaculture and urban activities continue without any control and check thick mangrove vegetation may become vanished.

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