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A REVIEW ON MANGROVES AND ITS THREATS

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ABSTRACT

Mangroves is very importanat ecosystem of the earth it provides habitata for fauna and flora. It protect the costal area from degradation. It helps for ground water recharge, it reduces soil erosion protect the coastal areas from tides. Mangroves act as purification of polluted water comes from rivers or streams to sea, it absorb heavy meatls from the polluted water and proct the sea water from being polluted. It is very importanat plant from marine vegetation.

Keywords: Mangrooves, ecosystem services, water, pollution, threats

INTRODUCTION

Mangrove ecosystem is one of most important ecosystem on earth. It provides various ecosystem services. Mangrove ecosystem helps for ground water recharge, provides habitat for flora and fauna, helps in maintaining moisture for mudflat. Mangrove reduces soil erosion and impact of tides on coastal zone. Data regarding biodiversity, water quality and mangrove conservation are cited below.

Kathiresan, K., & Bingham, B. L. (2001) Mangrove grows at the interface between land and sea in tropical and subtropical areas mangroves exist in high salinity, extreme tides, strong winds, high temperature, muddy and soil. Due to such conditions mangrove, had developed roots for gas exchange and viviparous propagules. Mangroves create unique environment it provides habitat for epibenthic, infaunal and meiofaunal invertebrates. it also provides habitat for other different groups like Phytoplankton, Zooplankton and fish. Mangrove may attracts epifaunal communities including bacteria, fungi, macroalgae and invertebrates. The aerial roots trunks, leaves and branches host. Many crab species, insect, reptiles amphibians, birds and mammals thrives in the habitat and contribute to its unique characters.

Bhat et al., (2009) had reported that south Gujarat is still uninvestigated in terms of mangrove study. He had highlited occurannce of seven species in south Gujarat i.e Avivenia marina, soneratia apetala, Acanthanus elicifloius. Rhizophora mucronta, Ceriops tagal, Bruguieria cylindrica

Patel Bhavik and Vachrajani Kauresh (2013) had reported that heavy metals like Cu, Zn, Cr, Ni, Pb, Hg, Cd, Co and Mn were recorded from water and soil sample of mangrove ecosystem of Mahi and Dadar river estuaries. He had also recorded heavy metals from root, stem and leaves of Avicennia marina as well as from samples of crab tissue.

K. Kathiresan and N. Rajendran (2005) had mention occurrence and distribution of mangroves species in different countries bordering the Indian ocean. About 55 species had been reported in different countries bordering the Indian ocean. India shows 809 species of algae, bacteria, fungi, actinomycetes, lichens, seagrasses, saltmarsh and another halophyte.

S. Sandilyan (2004) had reported that during late 80s India lost considerable areas of its mangrove cover due to several anthropogenic pressures, ongoing climate change turned out to be a potential threat to the remaining Indian mangroves and other coastal ecosystem.

A.K. Singh et al., (2012) had reported that the area under mangroves in Gujarat is the second largest along the Indian coast. Sigh had also discussed potential threats to mangrove i.e natural as well as anthropogenic. Natural threats like drought, hurricanes, erosion etc. and agriculture, commercial residential development. Effluent discharged by industries has caused degradation.

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Nayak shailesh and Anjali bahuguna (2001) has used remote sesing data to prove value in mangrove vegetation monitoring. Gulf of kachach, mangrove areas were improved due to the adoption of conservation measure. Remote sensing helps in planning various management actions to conserve this vital ecosystem.

M.L Shukla et al., (2013) had compared diversity of crab data in mangrove and non-mangrove data. He proved mangrove provides more shelter for more Crab species. Marine ecosystem is most diverse ecosystem. Crustacean are the important part of macro benthic fauna. They flourish in mangrove association.

Trivedi discovered Total 157 species of crustacean belonging to 87 genera and 41 families had been reported. The coastal regions of Gujarat state support various marine habitats like mangroves, coral reefs, rocky shores and estuaries which on the other hand supports rich marine biodiversity.

D. Adhavan (2015) has reported that natural sources, anthropogenic activities, hydrographic changes and sometime climate change impacts are responsible to stimulate the growth of algae that causes intensive effect on the coastal ecosystem. Spread of blooms is increasing pollution. He has reported the algal bloom drastically affected the mangrove ecosystem.

Sahu S. C.., et al., (2015) Mangrove area Assessment in India. He had also discussed implication and loss of mangrove. It is highly necessary to access the status and trends of mangrove in India. His discussion involves exposure to Cyclons, Hurricanes and sea water intrusion, tusmani and climate change.

Hema et al., (2013) has define the factors of mangrove destruction. The major factors Fresponsible for the same were reported as anthropogenic, climatic forces and status of property rights. The contradictory forces of development and conservation lead to destruction of mangrove ecosystem.

India has lost his 40% of mangroves in last century. (Sahu et al., 2015.) Sawale et al., (2013) had discussed about semi-arid costal belt of kutchh. It shows harsh environmental condition like hyper salinity, wider ambient temperature fluctuations, high evapo-transpiration and frequent natural disaster like cyclons and earthquakes. Avecinia marina is tolerating such harsh condition. Trees with maximum mean GBH of 25.22 cm were recorded at Bocha creek mangroves and minimum of 13.46 cm was at Baradimatha creek.

Gopal, B., & Chauhan, M. (2006). Had focused on Sunderban mangroves. He discussed pressure on biological resources as well as impacts on the fresh water in flows from upstream areas. Oil exploration in coastal area is also emerging as a new threat. Further threats arise from global climate change specially sea level rise. There is urgent demand for conservation of biological conservation.

THREATS TO MANGROVE ECOSYSTEM

Kathiresan, K., & B. L. Bingham, (2001) has pointed out towards alarming level of mangrove destruction. Due to mismanagement and implementation gaps mangrove habitats are damaged severely. There is indirect Impact on humans. He had also mentioned economic value eg. Mangrove protects coastlines, enrich costal water, yield commercial forest products. Mangroves are counted among world's most productive ecosystem. Extracts from mangrove and mangrove dependent species have proven activity against human and plant pathogens. Fishery and ecotourism industry can be great option as commercial point of view. Valiela, I. et al., (2001) At least 35% of the area of mangrove forests has been lost in the past two decades, losses that exceed those for tropical rain forests and coral reefs, two other well-known threatened environments

Tripathy, S. C et al., (2005) had studies High concentration of nutrients in the mangrove ecosystem compared to the bay and estuarine ecosystem reveal the importance of this zone as a source of nutrients to the adjacent coastal ecosystem.

Chauhan, R., & Ramanathan, A. L. (2008) had evaluated water quality of Bhitarkanika mangrove system. There is high amount of dissolved heavy metals in mangrove ecosystem. Mangrove are facing severe threat due to industrial pollution. In his results Cu, Zn and Co showed higher affinity, while Pb and Cr also result in strong coupling with each other.

Binelli, A. et al., (2007) had recorded hydrological characrestics of wetland and untreated municipal water waste local industries, electronics waste from dump site of these compounds. He also recorded presence of PBDEs which will accumulate in various compartments of wildlife and human food webs.

Pawar, P. R. (2013) had highlighted water quality from mangroves of Uran is deterorating due to industrial pollution. High O-PO4, NO3-N and silicates is due to discharge of wastes and sewage.

Mnaju M. N. (2012) had recorded significant seasonal variation in chlorophyll pigments ranging from ND to 40.86 µg/L (Chl A), ND to 6.00 µg/L (Chlorophyll b) and ND to 13.80 µg/L (Chlorophyll c). Both monsoon and post monsoon data recorded. Higher concentration of pheophytin compared to chlorophyll a and the maximum concentration of chlorophyll was observed during premonsoon.

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