
DEGRADATION OF MANGROVE SWAMPS IN SRI LANKA

KNJ Katupotha

Department of Geography, University of Sri Jayewardenepura, Nugegoda

Mangrove swamps acts as an open system and exchange matters and energy in coastal habitats. The trees or shrubs in this ecosystem grow in shallow and muddy salt waters or brackish waters, such as those along quit shorelines or in estuaries of anaerobic soils found in the intertidal zone in tropical and subtropical areas. The common name of mangroves applies to a number of flowering trees or shrubs that are members of several different families. They are often referred to as coastal woodland, mangal, tidal forest and mangrove forest. Like the tropical ecosystem mangrove swamps play an important role in the economy of tropical and sub tropical people for thousands of years.

There are twenty-nine species of mangroves identified in the western and southern coasts of Sri Lanka and they fall into seventeen families. The multiple uses of the mangrove swamps can be categorized in the different ways. They provide food and shelter for a large and varied group of fishes, crustaceans and shellfish, particularly in their juvenile and stage, which is most vulnerable predators. Mangrove woods protect the coasts from storm surges and high winds associated with tropical typhoons .As well, mangroves trap coastal and act as buffer zone in adjacent estuarine areas against the large changes in up-streams input of nutrients and wastes providing the bulk of primary production in estuaries. They serve as protection against soil erosion and land building through soil accretion and trap coastal pollutants, which may otherwise severely damage adjacent marine ecosystems. Besides, mangrove swamps act as buffers adjacent flood plains from the damage caused by severe storms, thus reduce the maintenance cost of harbours and navigation channels by trapping silt. They may be important in maintaining and controlling the normal cycles of nitrogen and sulphur. Furthermore, they serve as wildlife sanctuary; offer aesthetic, educational and scientific values.

Mangrove swamps in Sri Lanka have been damaged by adaptation for the development of human settlements, industrial activities, tourism, and aquaculture and land reclamation. Many mangrove species have also been degraded by changes in freshwater run-off, salinity regime and tidal flow patterns; excessive siltaion and discharge of toxic substances; and flowing of polluted water into lagoons, lakes, estuaries and tidal creeks. The applications of insecticides and herbicides too have caused damage to mangrove habitats.

The depletion and degradation of mangroves have directly and indirectly influenced the livelihood of the people and survival of the wildlife. These problems and degradation that clearly threaten mangrove ecosystems have not been taken into consideration in many studies. This paper envisages revealing different uses, behavior of the fauna and flora of mangrove habitats, human impact and degradation .For this purpose, field observations, formal and informal discussions with inhabitants and officials were carried out within the period between 1993 and 2000 infrequently. The reconnaissance phase of the study was useful to highlight the nature of the environmental problems and degradation of mangrove species. This study proposes various practices to promote conservation and management of mangrove swamps in Sri Lanka.