

SEDIMENTATION AND ITS ENVIRONMENTAL IMPACT IN CHILIKA ESTUARY, ORISSA

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Estuaries are integral part of coastal environment. Chilika is the largest brackish water lagoon with estuarine character in India with the water-spread area of about 1100sq.km. The estuary is pear shaped with a linear maximum length of about 64km and the average mean width of 20km. This lagoon is a highly productive ecosystem with rich fishery resources.

The mechanism of sedimentary deposition in an estuary is rather complex. Critical observations of silting phenomena in the lake indicates that the silt brought by the rivers is the main cause of gradual deterioration of Chilika estuary. Silt input to the lake comes from the Mahanadi river and its tributaries.

The Channel of Chilika estuary also gets silted up due to the sediment movement in the seaside as well as in the lake side. The silting up of the inlet channel and the mouth has drastically affected the tidal prism. As a result the salinity in the lake doesn't recover to the desired optimum level of 15ppt. The fall in salinity besides adversely affecting the survival of different fish & crab species, encourage the growth of aquatic weeds. These weeds are encroaching the lake from the landward bank and presently cover large portion of the lake. Chilika estuary is threatened due to the problems of sedimentation, changes in salinity, fresh waterweed proliferation and depletion of bioresources. This paper deals with sedimentation and its environmental impact in Chilika estuary.