MANAGEMENT OF COASTAL RESOURCES IN CHANNEL ISLANDS OF NEGOMBO LAGOON

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WEERAMUNDAGE DONALD NIMAL FERNANDO

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W.D.N. Fernando
Post Graduate Institute of Science (PGIS)
University of Peradeniya
Peradeniya
Sri Lanka

Negombo lagoon with a surface area of around 32 km² is one of the most productive basin estuaries in Sri Lanka. Negombo lagoon is an important provider of ecosystem services as it acts as an area for marine, shrimp and fish breeding. About twenty thousand people are directly or indirectly dependent on the lagoon resources for their livelihood. Duwa, Pitipana, and Munnakkare Islands are located at entrance of the Negombo estuarine system. There are thirteen islands close to the narrow opening that connects the lagoon with the open ocean, are known as the Channel segment or Channel Islands of the Negombo lagoon. Duwa Pitipana Islands are in the channel segment of the Negombo lagoon in the west coast of Sri Lanka is one of the most densly populated areas in the region. Duwa Pitipana lagoon Islands presently face an environmental degradation due to urbanization and lack of proper management plan.

The objective of this study is to identify the causes for degradation of coastal resources mainly the level of pollution of the Channel Islands, Duwa-Pitipana Lagoon Islands 1, 2, Munnakkare, Pitipanaweediya of the Negombo lagoon, and to identify the action needed for improved management to minimize the level of pollution in the channel segment.

The project involved a literature survey; field visits with a socio-economic survey, data collection and analysis, formulation of a suitable integrated management programme and recommendations for further research. Data were

collected from various organizations, secondary sources through socio-economic survey and laboratory analysis of the quality of lagoon water in the study area.

Due to the poor water circulation within the some parts of Channel Islands in Negombo lagoon, especially Pitipanaweediya and Duwa Pitipana several environmental problems have been emerged. Lagoon at Pitipanaweediya, accumulation of pollutants material and chemical, siltation of the lagoon canal were identified as the main environmental problems due to the stagnant and poor water circulation. Biochemical Oxygen Demand and, Chemical Oxygen Demand levels and indicator organism, fecal pollution: fecal coliforms, pathogenic bacteria are extremely high in the coastal waters in the study area. It is an alarming rate to note that the levels of COD at Duwa Pitipana lagoon areas in Negombo lagoon are very high indicating the Organic loading/Pollution.

Proper monitoring activities should be set up in the region with the collaboration of the local bodies in order to monitor the Biochemical oxygen Demand, Chemical Oxygen Demand ,nitrate level and coliform levels of the lagoon water periodically.. Laws must be enforced to punish the people who violate the laws in coastal resource management. An appropriate water quality standard related to the level of pollution has to be developed by monitoring both inland and in the coastal waters in Channel Islands of Negombo Lagoon.

When comparing with the present status of the quality of water in the study area there will be a considerable and critical degradation in the future, if the resources are managed in the present style.