

**Reclamation of Land and Improve Water Productivity of Jaffna Peninsula  
of Northern Sri Lanka by Improving the  
Water Quality of the Lagoons',  
RJSITM**

**Sivakumar, S.**

**Abstract** - Jaffna is a peninsula which is 1000 km<sup>2</sup> of land (out of which, Vadamarachchi Lagoon, Upparu Lagoon, Valukai aru and Elephant pass Lagoon are covered with 75, 25, 15 and 100 km<sup>2</sup> of surface area and 287, 212, 104 and 907 km<sup>2</sup> of catchments area, respectively) covered by Indian Ocean by 160 km of coastline and no location is more than 10 km away from the coast. Hence it is very much susceptible to the salt water intrusion in to the land area. The water resource mainly the underground water in Jaffna Peninsula is totally polluted due to prolonged negligence and improper management of existing barrages at Thondamanaru, Ariyali and Ariyali and the salt water intrusion was taken place due to the none- maintenance of SWE bunds. In addition to these garbage and soakage pit pollution and increased usage of fertilizer chemicals also affected the ground water. As a result, people are facing problem in getting good quality water in their wells. Due to the salt water intrusion, hundreds of acres of lands, hundreds of wells are in abandon stage. There is a positive relationship between the level of salt water intrusion in Jaffna peninsula and the operation of the gates of Thondamanaru, Ariyali and Arali barrages across the three main sea mouths of the Jaffna lagoons. Tabulation of a correlation for the entire lagoon system operation will significantly reflect the level of salt water intrusion effect of Jaffna peninsula. A research is being carried out at the moment to address the problem and to find a solution to this long standing crucial issue of the people of Jaffna peninsula. This paper outlines the research methodology and its direction towards the problem accreditation.