

C-14: Flooding in Puttalam District estuaries with recent land use

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The aim is to study the flooding around Dutch canal and Lagoons. Puttalam District is bounded by the Indian Ocean in the west and drains rain water in a westerly direction. The area is fairly flat and lack of mountains results in low precipitation. A high evaporation rate exists which results in salt deposits on the surface. This leads to barren lands and abandoned coconut lands bounded by one Dutch Canal. It was recently used for prawn culture blocking the traditional passage.

The flood volumes were computed for 500, 200, 100, 50, 20-year return periods and accordingly back water curves produced considering the present and past records and the existing bed levels of the streams and lagoons. The reduced passage by prawn farms interference blocked the cross sectioned area of the surface run off. A lift of nearly one metre of afflux has resulted in Mundel lake and this has caused inundation of roads, houses, and prawn farms which needed more careful control of flooding.

A lift of one metre of floods has resulted in Battulu Oya and Rathambala Oya Drainage basins under 100 year flood.

An opening of sea outfall at Udappuwa is necessary under heavy stagnation conditions despite the opposition from villagers of Udappuwa.

The flooding due to prawn farms is not alarming if necessary measures are taken to mitigate the floods. Damages are caused to the roads, canal ways, prawn forms, houses trees, paddy fields in the upper reaches. A deposit of Rs.5000/= per acre of prawn farms per annum has to be taxed for flood damage repairs caused to the flood basins.