

C-02: Poldering: salt water exclusion in coastal areas

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Sri Lanka's coastal belt was under a threat of salt water intrusion and hence abandoned by farmers who did rice cultivation decades ago.

Most of the lands around Bentota, Ambalangoda, Hikkaduwa, Koggala, Galle, Weligama, Matara were overgrown and left as fallow. Reeds were grown in selected areas in Bentota as they withstand the salinity. The salt water exclusion schemes by the Irrigation Dept were to flood bunds and occasional pumping. Most of the pumps were removed due to heavy cost of diesel fuel and labour. Farmers were not willing to take over the pumps due to the additional expenditure.

Poldering allowed erection of a bund to isolate the paddy land from salt water intrusion by a downstream gate of the paddy tract. The stagnant water of the tract can be drained when the sea tide was over.

The excess run-off coming from the catchment was diverted at the head gate which allowed only necessary run-off in addition to precipitation within the block.

The whole block was surrounded by an earth embankment 2 M wide (top) and 2 M in height with 1 on 1 slopes motorable roadway which can cut off the entire block by the surrounding area.

The upstream gate provided a concrete structure with steel gate, manually operated to allow runoff water into the canal net. The downstream gate had a mobile pump unit to pump stagnant water if it threatened the paddy. The downstream gate blocked the river water intrusion along with salt water. It had to be without leaks and the bunds firm to block the seepage. This system protected the selected block while the earlier plan protected the whole catchment.