

C-13: Hydraulic model investigations on Sengal Oya off-take: silt exclusion studies

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Sengal Oya was a flood diversion canal of Deduru Oya at Puliyankulama in the district of Puttalam. The off-take from Deduru Oya was located at coordinates 1/7(0.20*6.15). This diversion has been used from ancient times to augment a series of small tanks located on the right bank of Deduru Oya and the scheme had received the attention of the Irrigation Department since 1926.

The existing bed level of this canal was around 12.2 m MSL at the off-take point, while that of Deduru Oya was 10.7 m MSL and hence the diversion was possible at higher stages of the river, i.e. diversion of floods. The present proposal was to lower the bed level of Sengal Oya down to Deduru Oya bed level, to make diversion possible throughout the year, enabling augmentation of 7 minor tanks located to the west of Colombo - Puttalam road between 93 km and 98 km and one minor tank close to Deduru Oya.

Once the off-take of the Sengal Oya was lowered as proposed, there will be a possibility of sediment being deposited at the off-take thereby preventing or reducing the flow into the diversion canal. Hydraulic Model studies have been carried out in a hydraulic model of geometric scale 1/10 V and 1/40 H to investigate the siltation pattern subsequent to the lowering of off-take. The

effectiveness of several variants have been evaluated and a recommendation made.