

Environmental Changes of Lower Nilwala Basin under flood control

Lower Nilwala basin was heavily subjected to flooding due to runoff of the upper catchment. The basin has 975 km² catchment and flows southward through Matara. Average rainfall in the basin was 3000 mm but the project area receives 2000 mm annual rainfall. Matara falls into intermediate zone. Kirala kele area was a marshy lowland with alluvial iron sediments. It was cultivated with long term paddy, once a year but frequent flooding affected the yield. The areas covered by Matara, Malimboda, Thihagoda and part of Weligama AGA divisions are affected by floods. The flood control scheme operated by Irrigation Department from 1990 totally separated the river flow from upper catchment by a series of flood bunds on both banks. This was confined to low lying areas of major flood basin. The isolated sub basins of right bank are drained to Sultanagoda and Thudawa pumps and evacuated by diesel pumps. The isolated sub basins of left bank Kadawedduwa are drained to Bandattara pump and evacuated by diesel pumps. Sub basins were further separated in the last seven-mile stretch of river.

The areas between two lines of flood bunds are unprotected and subjected to high floods than usual widespread stagnated floods. The maintenance of this project incurs a heavy diesel cost. The benefit of this project was planned for the visible control of flood menace and successful cultivation of protected areas. It was also planned to improve roads and infrastructure. The planned flood bund to protect Matara city was not done. Riots prevented the work upstream of Hittetiya.

The objective of the study is to screen the environmental changes of the project due to flood control and to assess the percentage change. No project condition in 1984 was taken as the base. The findings are helpful in planning future rehabilitation. Also it is a guide for future flood control planning.

Environmental changes in the project area were systematically computed using a comprehensive study and resource persons were selected from the area. A questionnaire prepared after the final study was used to get the verdict of people for all physical, social and biological changes due to the project. The changes were due to the project and compared that with no project condition.

The positive changes were infrastructure development, reduction in flooding, education improvement, improved accessibility, housing, population, productivity and land value. The negative changes were water quality reduction, acidity development, reduction in land use, soil subsidence, reduction in employment and reduction in base flow for irrigation.