

## **F-29: Evaluation of non-structural measures to reduce the impact of flooding in the Ratnapura Town**

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Floods are an environmental hazard in Sri Lanka. They affect mostly the wet zone floodplains. Ratnapura is the second largest town in the Kalu Ganga floodplain and its suburbs are severely affected by flood damages. Flood mitigation measures can be broadly divided into structural and non-structural. Non-structural measures are designed to reduce the impact of flooding and it means environmentally sound, socially acceptable and economically viable human adjustments.

The objectives of the study were to identify the non-structural measures and to evaluate their effectiveness in the Ratnapura Town.

The basic field research comprised of a questionnaire survey, discussions with relevant officials, CBOs, NGOs and key stake holders and field observations. The major floodprone areas in the Ratnapura Town such as Muwagama, Devalegawa, and Mudduwa were selected for the study. 85 flood prone families were selected by using the random sampling method. The field survey tested the hazard perception, economic aspects of floods and human adjustments and their response.

There were a number of non-structural measures, such as relocation of the Ratnapura town, evacuation, flood-proofing, use of impervious materials for basements and walls, land elevation, construction of upstairs and high-floor houses etc., used as human adjustments to floods.

The relocation programme commenced in 1982. However the majority of the urban people did not like to go to the new town. However other above mentioned nonstructural measures were used successfully. Around 80% of the respondents believed in the usefulness of human adjustments.

Prior to the urban relocation, floodplain occupants should have been made aware of the hazard perception, A comprehensive flood loss management programme especially flood risk analysis, mapping and landuse zoning are needed for the development of the Ratnapura Town.

Financial assistance by NARESA (Research grant No.92/ss/17) is acknowledged