

Technical Screening of the Vulnerability of Major Physical Infrastructure to Flood Disaster Effects in Dar es Salaam.

This study focuses on the screening of the flood vulnerability to major physical infrastructure in Dar es Salaam that aim to propose measures to improve resilience to flood disaster effects and to provide the government and other emergency-agencies appropriate information for preparing better mitigation strategies from a long-term perspective.

The objectives were determination of major physical infrastructure, to screen the identified physical infrastructure, to assess their flood vulnerability and to develop a model that prioritize and rank the infrastructure pertinent to flood disaster. The research involved a visit to the case study to interview experts and government officials responsible for flooding matters, different infrastructure and physical planning. The visit also involved collection of data relevant to the objectives as well as physical observation of the infrastructure facilities in place for coping with the flooding problems. Analysis of the data shown that, flood vulnerability of many physical infrastructure is triggered by the poor solid waste management. About 40% of the total solid waste generated is disposed poorly; there is remarkable evidence of flood occurrence and damaging of many infrastructures due to poor disposal of solid waste. These have been attributed by the ineffective planning regulations which are ignored during construction of many residential buildings and other infrastructures, and poor site inventory survey. The study also show 68% roads of the total length 311 8 kilometres are District and feeder roads which are identified to be not passable during heavy rain, so mobility of goods, vehicle and pedestrians depend on only 32% of roads which are Trunk and Regional road types, and this therefore increases the flood disaster effects. The bridges on hand have been to be more vulnerable to flood due to their proximity, reduction of bridge opening due to solid waste disposed, poor and long during of inventory survey and absence of alternative routes to be used in case of rehabilitation or damage. The authorities advised to be more attention to bridges during floods since most of the rivers in Dar es Salaam are observed to be unstable, so there is high mass wasting and scouring in the upstream and downstream of many bridges.

For full thesis please contact Mujahid Gabier at mujahidg@sun.ac.za