

Development of Decision Support System for Flood Related Damages Management

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Unexpected inundation damages from localized heavy rain and typhoon due to climate changes have been increasing in recent. To reduce the flood related damages, decision support system is developed to support decision making and disaster assessment in which three dimensional semi-implicit numerical model is used to simulate inundation aspects and the geological information such as building information, population, utilities and land uses are also used to support decision making. The Munsan City area is selected to test developed decision model which city has three big inundation damages on 1996, 1998 and 1999. To test the simulation model and build geological information, hydraulic data, hydrology data and geological data such as 1/1,000 and 1/5,000 scaled digital maps, cadastral maps, building register, and price of house are collected from the test area. These geological information are used to build up the three-dimensional numerical grid and to support decision making for minimizing flood related damages based on the simulation results. The results of simulated inundated area were compared with photo of 1999 flooding and estimated damages are compared with damages results of Munsan Area in 1999. The simulation results are well representing the flooding situation and it is expected that the new decision support system will be used to make decision for minimizing of flood related damages.

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