



Development of an indicator for flood affected infrastructure

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The economic damage due to floods has dramatically increased. For instance in Germany alone, the floods during the last decade caused a loss of about 13 billion EUR, with the Elbe and Danube flood in 2002 being the most severe one with a damage of 11.8 billion EUR. These disasters made clear to which great extent our highly engineered and organised society is susceptible to natural hazards, and emphasized the need to improve the flood risk management.

Critical for flood response and recovery are affected infrastructures like health care and emergency management facilities. Therefore an indicator exemplarily for hospitals, police and fire brigade stations is developed for a GIS based emergency management information system in the Elbe catchment. The indicator shall enable a quick overview identifying flood affected infrastructures especially after levee breaches. A detailed functional analysis and the modelling of the flow of traffic is not intended. A link between the indicators to evacuation and emergency plans will be an option for further development.

Besides GIS analysis in the case study area, the district Elbe-Elster near the River Elbe in Germany, also expert interviews with emergency managers will be undertaken. At the location of the infrastructure the type of the facility as well as the direct building damage and indirect effects in four different classes are symbolised in GIS. The indirect effects focus on the accessibility via access roads and the availability and reachability of facilities with the same functionality. Therefore, the distance to the inundation area, the relation to the road network and the relation to facilities with the same functionality will be analysed e.g. for each hospital. The presentation will focus on the concept for the indicator for flood affected Infrastructure.