

## Hazard Mapping and Vulnerability Assessment Process under BUDMP

### Morshed

#### Introduction:

Hazard Mapping and vulnerability assessment is a process of estimating the vulnerability to potential disaster hazards of specified elements at risk. The root causes of vulnerability to disasters in developing country like Bangladesh are poverty and inequitable development. Rapid population growth in urban area for mass migration, inequitable patterns of land ownership, lack of education, and subsistence agriculture on marginal lands lead to vulnerable conditions such as unsafe siting of buildings and settlements, unsafe homes, deforestation, malnutrition, unemployment, underemployment and illiteracy.

In pretext of urban area of Bangladesh more people are setting in areas that vulnerable to hazards, rapid population growth and migration make it difficult for authorities to protect people from disaster. Finally rapid urbanization is upsetting balance in ecosystem, with added disaster as a result. Flood is the major occurrence hazard in Bangladesh both in rural and urban areas. Therefore hazard mapping and vulnerability assessment process focuses only urban flooding under BUDMP, which ideally aims to:

- obtain first general pictures with flood hazard and consequences of working municipalities
- involve community's for identifying and prioritizing problems
- know their own coping mechanism during flood hazard
- formulate a participatory mitigation planning
- share the role and responsibilities of community in carryout mitigation planning

#### Risk area considered under vulnerability assessment:

The calculation of risk generally needs to consider several types of losses. Following three essential areas are considered in the determination of risk under vulnerability assessment. Risk measurement in terms of probability of occurrence of-

- Physical damage: Buildings, infrastructures, lifelines, other emergency facilities, agriculture etc.
- Social disruptions: vulnerable groups, livelihoods and local institutions
- Economic Loss: Direct & indirect losses

#### Loss Parameters for Vulnerability/Risk Analysis:

A full consideration of risk would include a complete range of effects and of several qualitatively different types. The range of undesirable consequences of natural hazards what we might consider as loss parameters are listed in following tables:

Consequences	Measures
Deaths	Number of People
Injuries	Number and Injury Severity
Physical Damage	Inventory of Damaged Elements by number and damaged level
Emergency Operations	Volume of manpower, Man days employed, equipment and resources,
Disruption to economy	Number of working days lost, volume of production lost