PROGRESS REPORT ON FLOOD HAZARD MAPPING ACTIVITIES IN MALAYSIA

Personal Data

Name: PARIDAH ANUN BINTI TAHIR
Organisation: DEPARTMENT OF IRRIGATION AND DRAINAGE MALAYSIA
Present Post: SENIOR DIRECTOR
E.mail: paridah_a@water.gov.my

1. Item A: FHM- related situation in Malaysia

1.1 Current situation of FHM in Malaysia

Current stage of FHM in Malaysia is as below:-

- Type A – Maps without inundation areas and not including elevation data are available for the whole country either for administrative and tourist purpose.
- Type B – Maps without inundation areas including elevation data are available for the whole country and known as topographical map with scale 1:50,000 but for West Malaysia 1:25,000.
- Type C – Maps showing past inundation areas of a single past flood (e.g. maximum flood) are available for the whole country for flood up to year 2000. Other flood maps available certain areas in the country especially for flooding in 2006 and 2007.
- Type D – Maps showing past inundation areas of several large floods with corresponding rainfalls, available for some river basins where flood mitigations studies have been carried out.
- Type E – Map showing past inundation past areas based on simulation (e.g. design flood is the biggest flood) is in progress.
- Type F– Map based on inundation analyses showing inundation areas of the design flood bigger than past flood already available for Damansara river and these maps are being prepared through flood mitigation studies for Johor rivers
- Type G – Map based on inundation analysis, indication forecast by real time analysis is still being prepared for Klang River.

1.2 Current Situation of FHM

The government has agreed that all development must first refer to the Flood risk maps or flood hazard maps and if found to be in a flood prone or flood risk area ,carry out flood mitigation works such that the risk of floods in the area is not increased. As such, it is in the Government's planning to prepare flood risk or flood hazard maps for the country to enable local authorities control and manage development in flood risk areas. As a start, maps of flood prone areas of the whole country has been distributed to the local authorities while preparation of flood hazard maps based on inundation analysis has been started for Damansara catchment and Johor catchment.

1.3 Good Practices in FHM

Three good practices in FHM that should be carried out by implementers are:-

i) Collection of information immediately after a flood event, especially on flood properties and behaviour such as flood extent, flood depth, duration of floods, direction of flood flows and velocities. This information will be useful for calibration of hydrological and hydraulical analysis. Other information such as danger spots, evacuation centres, flood operations and issues must be noted and taken into account when hazard maps are prepared.

ii) Good networking with all necessary agencies and communities. This will ease the distribution of flood hazard maps and awareness programmes.

iii) Be prepared and carry out FHM as soon as possible. To do this planning must be made for finance and capacity building,

1.4 Target stage of FHM

The target stage of FHM is to have:-

.

- Type B – Maps for the whole country with larger scale to ease preparation for any scale.
- Type C – These maps must be prepared automatically after each flood as a good documentation. .
- Type D – These maps will be required for any flood mitigation studies, necessary for hydrological and hydraulic analysis.
- Type E – For long term, the target is to have such maps for the whole country especially for the flood prone areas. For short term only 5-10 Map will be prepared per year

The desirable target is to have the following maps.

- Type F– The target is to have such maps for the whole country for evacuation and land use control.
- Type G – Target for major towns especially for flood forecasting and warning.

2. Production of FHM

2.1 Institutional responsibilities

FHM related law, government system or organisation to produce FHM is still non-existent in Malaysia. However, one of the core functions of the Department of Irrigation and Drainage is flood mitigation. Since 1971, the DID had carried out flood mitigation works through structural measures, published stormwater guidelines and also carried out flood monitoring, forecasting and warnings. The role of non-structural is important in complementing flood mitigation and FHM will be one of the measures to

make communities less vulnerable and aware of impending floods. Thus DID will be championing the making of FHM.

2.2 Availability of Data

Hydrological data such as rainfall and water level is available for most river basins in the country at DID. These data are from manual or automatic stations. There are also some stations with telemetry facilities. .

Topography data is available from the Survey Department in the form of hardcopy and digital.

2.3 Problems in making FHM includes

- Uncertainties on accuracies required
- Trained people to carry out FHM as some movement has taken place.
- Elevation data especially in the flood plain areas.
- Funds limited and committed to existing projects

3. Dissemination of FHM

3.1 Institutional responsibilities

As in 2.1, FHM will be disseminated by DID with the help of local authorities.

3.2 Problems of dissemination

It is foreseen the main problem will be the acceptance of FHM by authorities and communities as there is still no experience in FHM.

3.3 Other uses of FHM

FHM can be used for:-

- Planning of flood mitigation works
- Location of important building and utilities
- Providing or improving emergency facilities such as evacuation centres, sirens etc
- Training for engineers

Item B: Improvement of FHM research by ICHARM

1.1 Saturation level of TV, Radio, Internet and Newspaper
(Useful official info and data)

Official data on saturation level of television, radio, internet and newspaper is not available.

1.2 The flow of information related to evacuation in flood

The flow of information is described as in Fig.1 attached.

1.3 Awareness level for disaster prevention by residents

Awareness level of the seriousness of flood among the communities is quite high as more areas with larger extent with higher frequencies are being flooded every year. However communities are still reluctant to vacate their homes and belongings and wait until the authority in charge gives order to move.

Historically flooding in the rural areas rises slowly and communities will monitor the flooding condition. The communities will only move if there is a threat to their lives or families. .

2. "Flood hazard Map Manual by ICHARM

Comments to guidelines as attached.