



Regional workshop on Geo-references Disaster Risk Management System for South West Asia and Central Asia

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Disaster Management in Sri Lanka

Vision

Safer Sri Lanka

Mission

Facilitate harmony, prosperity and dignity of human life through effective prevention and mitigation of natural and human induced disasters, while providing relief services to affected people

Institutional Framework

National Council for Disaster Management	Ministry of Disaster Management
Disaster Management Center	National Building and Research Org.
Department of Meteorology	Disaster Relief Services Center

Use of GIS for DRM in Sri Lanka

Disaster Management Centre, National Building and Research Organization and other Technical agencies are using GIS for:

- Ø National risk profile project- hazard and risk mapping of floods, drought, landslides, tsunami. Storm surge, sea level rise and coastal erosion
- Ø Emergency disaster monitoring
- Ø Post disaster damage assessments

Some Examples

- Modeling the distribution of landslide potential and mapping hazards zones in highlands (NBRO)
- Modeling in the air quality of urban and industrial areas and mapping the distribution of air pollution (NBRO)
- Flood inundation mapping (DMC)
- Cyclone path mapping (Met Dept.)
- Coastal erosion, storm surge and sea level rise mapping (Coastal Conservation Dept)
- Drought mapping (University of Peradeniya with Agriculture Dept)
- Management of manmade disasters (Ministry of Defense)

The status, experiences and lesson learn in this front

- GIS has been used in landslide related studies in 1990s. Later used in other fields gradually
- Most of the technical agencies have basic human resources capacity in GIS modeling and mapping for hazards. As several universities offer local master programme and short courses on GIS since 2004, lots of experts in the DRM field has knowledge of GIS
- Hazard mapping and modeling knowledge and experience of local experts is plus point. For example, Tsunami hazard modeling was completed with in house expert knowledge. Several universities are cooperating with national agencies hazard mapping activities
- Data availability and sharing is limited in the country. As a result, hazards mapping projects directly affected
- DMC initiated a bi-lateral cooperation with JAXA to obtain near real time radar imageries through Sentinel Asia System operation. Few flood inundation events has been successfully captured by Radar satellites

Access to Satellite Data/Products in the Event of Major Disasters

There are two image acquisitions mechanism used to obtain satellite data products in major disasters

1. DMC is coordinating this activity with Japanese Government through JAXA/ Sentinel Asia initiatives. DMC conducted 4 successful satellite observation during 2009/11 in major flood hazards
2. Through emergency activation of UNSPIDER. Further UN- OCHA Sri Lanka is also assisting DMC to obtain near real time satellite data emergency situation

It is also inform you that, frequently occurred disaster in Sri Lanka is floods. During flood situation due to bad weather condition, only Radar images can be utilized in flood situation

Key Policy and Institutional that require the Interventions for Enhancing the Capacity of the Government to get benefited from Geo-referencing DRM data

- Intervention is needed to setup a National level agency to collect ,process develop and disseminate Geo- referencing data Spatial Data Infrastructure
- Setup common standards and inter-mechanism to share the data effectively
- Provide adequate long and mid term training on usage and analysis of DRM data to technical agencies and general knowledge on geo- referring data
- Restrictions in data sharing, high cost, and unethical usage of data

Capacity Development Needs for Geo- DRM

Latest technological advancement in Geo- DRM application is to be transferred to the Sri Lanka experts

- Improve hazard and risk mapping methodologies ,using satellite data and image processing
- Provide extensive training of Radar, and advanced, Hyper spectral Remote Sensing techniques
- General Training for Lehman's and policy makers on practical usage
- Training on National spatial Data Infrastructure (NSDI)

Challenges in Sustaining Geo- DRM information Sharing Portal/System

- Thinking and practices of traditional data capturing, storing and usage by individual agencies
- Policies and mechanisms are not in place to have proper sharing of spatial data and as a result it is difficult to establish sharing portal. The government intervention is needed
- Individual agencies “think” Geo-spatial data produced by themselves is their “own” data
- Misuse of shared spatial information for commercial activities
- High Cost of Training equipments

Key Recommendations

- Establish NSDI and implement open spatial data concept for government agencies. Agencies those who are selling data should also be considered in the NSDI framework and allow them to sell the data at a convenient rate.
- Conduct training need analysis for each individual agency and plan

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