

**ESCAP – KOICA JOINT
CAPACITY BUILDING PROGRAMME**

**COUNTRY REPORT
ON
SPACE TECHNOLOGY AND GIS APPLICATIONS FOR
DISASTER RISK REDUCTION**



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LIST OF ABBREVIATIONS

ADPC	Asia Disaster Preparedness Center
CEA	China Earthquake Administration
CMA	China Meteorological Agency
DMH	Department of Meteorology and Hydrology
ESCAP	Economic and Social Commission for Asia and the Pacific
IMD	India Meteorological Department
IOC	Intergovernmental Oceanographic Commission
JAXA	Japan Aerospace Exploration Agency
JICA	Japan International Cooperation Agency
JTWC	Japan Tsunami Warning Center
JMA	Japan Meteorological Agency
KOICA	Korea International Cooperation Agency
MIMU	Myanmar Information Management Unit
MSWRR	Ministry for Social Welfare, Relief and Resettlement
NCEP	National Centers for Environmental Prediction
NOAA	National Oceanic and Atmospheric Administration
NWP	Numerical Weather Prediction
RIMES	Regional Integrated Multi-Hazard Early Warning System
TMD	Thailand Meteorological Department
UNESCO	United Nations Economic, Science and Cultural Organization



Country Report

1. Background

1.1 Key disasters and impacts in recent years

Myanmar is vulnerable to multiple natural hazards including cyclones, floods, landslides, earthquakes and tsunamis. Most of the disasters are linked to the meteorological, hydrological and seismological phenomena, which may not be well-understood as the result of shock when a severe event takes place. According to the historical data, the occurrence of the natural disaster is becoming high in every couple of years. The report from the OCHA, 2013 pointed that Myanmar is the first rank at risk Asia-Pacific countries in 2012. In the recent years, the cyclone Mala on April 2006, the cyclone Nargis on May, 2008, floods in northern Rakhine State, south west of Myanmar, the cyclone Giri on October, 2010, magnitude 6.8 Earthquake in Tarlay, Shan State on March 2011, flash flood in Pakokku, Magway Region on October, 2011, wide spread floods in Myanmar on August, 2012, magnitude 6.8 Earthquake in Shwebo, Sagaing Region on November, 2012, the cyclone Mahasen on May 2013 and wide spread floods caused by heavy rain triggered secondary hazards on August 2013 left some people dead and missing and lost their homes and livelihoods. Figure (1) shows the disasters in recent years.

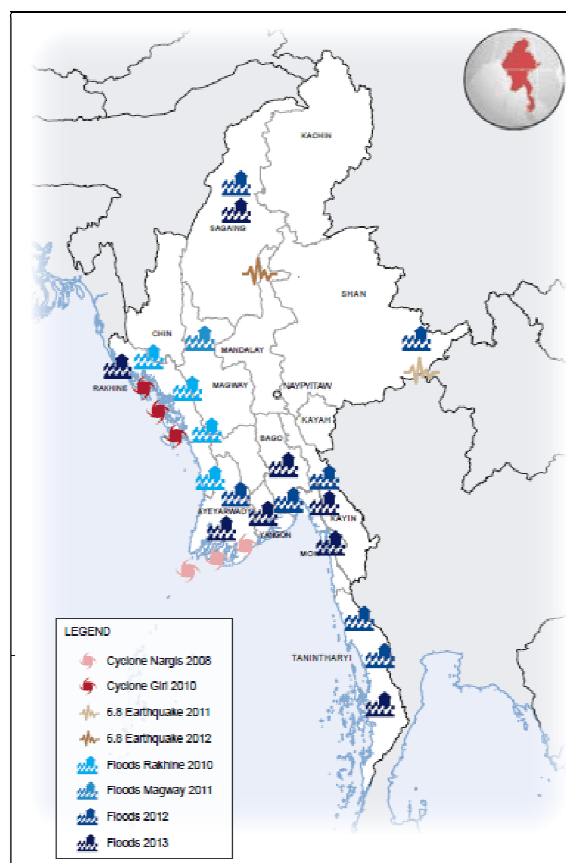


Figure1. Disasters in recent years in MYANMAR (Source: MIMU)



1.2 Structure of Government

The Republic of the Union of Myanmar is a member of various global and regional committees and groups comprised for the Disaster Management. According to the report from Ministry of Social Welfare, Relief and Resettlement (2012), the Union Minister for Social Welfare, Relief and Resettlement (MSWRR) leads to comprise the Myanmar Disaster Preparedness Agency which consists of 13-member body for Disaster Management. The Union Minister for Defense and the Union Minister for Home Affairs are Co-Chairs and the Deputy Ministers of concerned ministries are members of the Agency. The Deputy Minister of MSWRR is the Secretary while Director General, Relief and Resettlement are the Joint Secretary of the Agency. Moreover, government and non-government organizations have been assigned to provide technical support to the Myanmar Disaster Preparedness Agency as advisory committee.

The Department of Meteorology and Hydrology (DMH), under the direct supervision of the Ministry of Transport, takes part in the important role of disaster risk reduction of Myanmar, especially in Multi-hazard Early Warning Dissemination. Moreover, GIS-based space technology is used in different phases of dealing with natural disasters including planning, mitigation and preparedness especially in urban flood. The detail information of National Contact person and National focal point are as follows:

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2. Gaps and needs

2.1 Current situations for applications and use of space technology and GIS for disaster risk reduction

DMH is the focal point of National Multi-hazard Early Warning Center in Myanmar. Its responsibilities include in issuance of early warnings in time for all weather, geological and maritime related hazards to all public, authorities and all stakeholders. Thus, for the meteorological observation, DMH has been installed MTSAT and FY-Cast geostationary meteorological satellite receiving stations at Nay Pyi Taw on 2011 donated by JICA and CMA. The utilization of satellite images from MTSAT integrate with SATAID software gives much effort for the forecast of cyclone, severe weather monitoring from cloud analysis such as heavy rain forecast, wind vector, vortex, etc., movement and GPV data distributions. At the same time, NWP and storm surge modeling forecast has been developed in DMH for 3 to 5 days forecast for rainfall, mean sea level pressure, surface wind and upper wind forecast

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