Project Design Matrix (PDM), MYANMAR

Reduction the hydro-meteorological disasters and assessment of the potential effects of climate change on the water resources

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Area Wise Natural Hazards

Cyclone - Rakhine, Ayeyarwady , Yangon, Mon and Tanintharyi Regions

**Tsunami** - Rakhine, Ayeyarwady , Yangon, Mon and Tanintharyi Regions

Flood - Along the Ayeyarwady, Chindwin, Sittoung and Thanlwin Rivers

Fire - Across the Country, especially in Dry zone and Densely populated areas

Drought - Mandalay, Magway and Sagaing Regions
Landslide - Kachin, Chin and Shan States and Tanintharyi Region

Earthquake - All round the country except Tanintharyi

Major river system in Myanmar
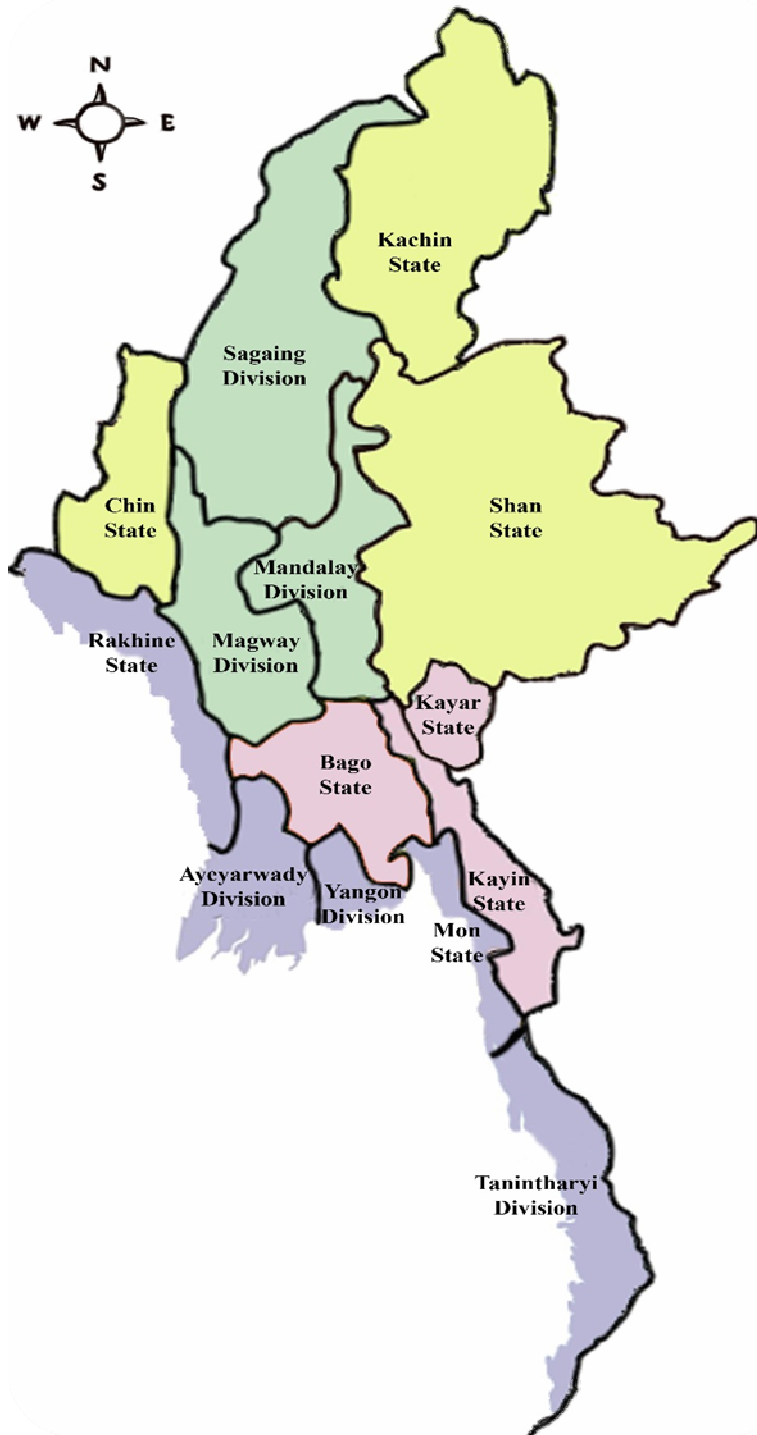
Introduction

❖   *Ayeyarwaddy and Chindwin basin is the most important river basins in Myanmar which receives very high rainfalls at upper part of basin and has higher discharges.*

❖ *The lower plain suffers from frequent floods and it affects socio-economic profile greatly.*

❖ *The dry zone, central area of Myanmar is the area of vulnerable to droughts as compare to other parts of the country.*

❖ *Floods and droughts are generated by the random coincidence of several meteorological factors.*

❖ *Stream flow records are reflective of both climatic variations over a river basin as well as change in land use and land cover, and stream characteristics.*

Overall Goal

Reduction the hydro-meteorological disasters and assessment of the potential effects of climate change on the water resources

Project purpose

➢ To demonstrate flood and drought early warning capability

➢ To analyze the recent experience in climate variability and extreme hydrological events

➢ To establish the fully operational water resources information system that will serve as an effective decision-making tool for the sustainable management of water resources of Myanmar river basins

➢ To identify the impact Climate Change on the river flow in Ayeyarwaddy and Chindwin Rivers,

➢ To improve observational, modeling and application capacity.

Outputs

❖ Develop hydrological models for flood and drought early warning

❖ Improve the real time data management, modeling and information dissemination systems

❖ Develop the current status of climate change and variability in precipitation and hydrological events of Ayeyarwaddy and Chindwin Basins.

❖ Develop the water resources information system for the sustainable management as effective decision making tool

❖ Select Global Climate Models which can perform the regional climate properly

❖ Implement bias correlation and downscaling (statistical and dynamic) of the selected GCMs

Outputs (Contd.,)

❖ Develop SWAT model in order to assess the impact of the uncertainties in future climate models

❖ Improve the data for the generation of climate and socioeconomic scenarios

❖ Compare of changes of frequency and intensity of flood and drought and water resources

❖ Develop training models of satellite remote sensing, modeling, and bias correlation and downscaling, make design of training courses on integrated observations, early warning and climate change assessment.

Activities and Key Leaders

Lead Organization

❖   **Department of Meteorology and Hydrology**

❖   **In addition to the Lead Organization's capacity which has been developed, we will take following actions in collaboration with the international organization .**

Activities

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Activities

❖ **Promote the public awareness activities for general public, water agencies and decision makers on hydrological forecasting and warning services.**

❖ **Assessment of the current institutional capacities and the needs of the collaborating international institutions and recommend, as appropriate, any institutional linkages and cooperative mechanisms required for effective operation of a regional water resources information system.**

❖ **Installation of equipments such as River Surveyor for discharge measurement.**

❖ **Training of personal of National Hydrological and Meteorological Services.**

❖ **Developing the Hydrological model for water resources management.**

Activities

➢ **Selection Global Climate Models which can perform the regional climate properly.**

➢ **Upgrade computer hardware through the procurement of equipment and software for National Hydrological Services and provision of technical support and training**

➢ **Implementation bias correction and downscaling (statistical- and dynamic-) of the selected GCMs**

➢ **Developing SWAT model in order to assess the impact of the uncertainties in future climate models**

➢ **Improvement the data for the generation of climate and socioeconomic scenarios**

➢ **Comparing changes of frequency and intensity of flood and drought, and water resources**

➢ **Developing training modules of satellite remote sensing, modeling, bias correction and downscaling, make design of training courses on integrated observations, early warning**

Thank you for your kind attention!