

Disaster and Risk Reduction in Thailand

Thailand has been fully aware of the increase of hazards and the impact of disaster. As the consequence, various disaster and risk reduction activities have been continuously implemented by all government agencies concerned both at national and local levels, and in harmony with Yokohama Strategy and Plan of Action for a Safer World.

In 2002 A.D. Thailand has established the Department of Disaster Prevention and Mitigation, under the umbrella of Ministry of Interior, to be the principal government agency shouldering the role of disaster management coordinator among all agencies concerned at all levels. In the context of disaster and risk reduction, Department of Disaster Prevention and Mitigation (DDPM), Ministry of Interior, and other main government agencies concerned namely, The Meteorological Department (TMD), Ministry of Information Technology; Royal Irrigation Department (RID), Ministry of Agriculture and Cooperatives; and Department of Water Resources, Ministry of Natural Resource and Environment; have interpreted Yokohama Strategy and Plan of Action into practice which can be delineated as follows;

Department of Disaster Prevention and Mitigation, Ministry of Interior

So as to be assured that the people will be systematically, equitably and timely benefited, DDPM has launched most by non-structural activities concerned such as;

1. Introduction of Information and Communication Technology (ICT) System for Disaster Management.

The adoption and development of this system aims at enhancing the Department's disaster management capacity and efficiency in terms of disseminating and receiving disaster related information, exchanging and sharing information with all government and non-government agencies concerned at national and local levels. This ICT system includes network systems, data base systems and telecommunication systems.

1.1 Network System : Intranet and internet systems have been installed to link DDPM regional and provincial offices and to link with other related government and non-government agencies through Ministry of Interior Net

- Establishment of DDPM Website

www.disaster.go.th to disseminate disaster related information for early warning application.

- Establishment of call taker system (1784 Emergency Line) to facilitate the disaster management activities.

1.2 Database System : 9 categories of database namely, flood, storm, cold spell, drought, forest fire, land fire, road accident, work-place, and chemical and hazardous materials have been included. This categorization of these databases aims at developing and adjusting database servers other government agencies to be in line with DDPM database server. The accessibility to disaster related information will be applicable for action plan formulation, reporting project implementation and evaluation.

Besides, DDPM has adopted Geographic Information System (GIS) to avail itself more accurate information of risk prone areas throughout the country. As the consequence, disaster management activities can be launched more effectively and timely. Three disaster related information databases have been formulated.

- (1) Chemical risk area database.

- (2) Network of agencies concerned and experts database.

- (3) Flood and mud slide database.

Besides, the GIS applied programs on flood prone areas has been set up to enhance DDPM capability in;

- Comparative analyzing inundation situation each Tambon, District and Province in term of its frequency.

- Searching inundation information such as the water level in specific areas etc.

- Identifying the flood prone areas.

- Identifying inundation coverage areas and evaluating inundation situation.

- Illustrating precipitation situation and the development of inundation in specific areas.

- Assessing the flood related damages.
- Analyzing the flood prevention activities in the flood prone areas.

1.3 Telecommunication System

1.3.1 DDPM has introduced elecommunication system to support the implementation of disaster revention, mitigation and rehabilitation activities. In this regard, more telephone lines will be installed in our provincial offices and regional centers.

1.3.2 Budget has been allotted to procure telecommunication radio equipment and to establish radio network center in the department. This center will act as coordinating mechanism between public and private or amateur radio networks.

2. Strengthening disaster preparedness and prevention capacity of people at local level and encouraging local level participation as well as generating the public awareness;

2.1 Provision of Community Based Disaster Management (CBDM) trainings

2.1.1 Training CBDM Trainers : CBDM Training course was organized for DDPM staff to be the trainers in natural disaster management with the emphasis on risk management and casualty management.

2.1.2 Workshop on Establishment of Community Base Disaster Prevention and Mitigation network : This workshop attempts to

(1) Equip the participants with knowledge and understanding of steps and methods of operation of disaster management. And upon their return to their communities, these returnees can become the trainers to carry out the echo training in their own communities.

(2) Create the awareness among the public to uplift the safety standard of the community.

(3) Generate the shepherd and community network to carry out basic disaster management.

(4) Enhance the capacity and strengthen the community cooperation with government agency and other private organization networks. The participants were recruited from the core leaders of the

village or community such as headman, Civil Defense Volunteer, Public Health Volunteer etc.

2.1.3 Training Course on Development of Safety System will be held this fiscal year for local government officials throughout the country. Safety System comprises, annual disaster prevention and mitigation plan, drill, network establishment, disaster related information dissemination and community-based disaster management.

3. Installation of simple raingauge and manual warning siren project : The indispensable tools such as simple raingauge and manual sirens will be set up in all flood prone areas. The villagers will be trained to use these tool for early warning.

Royal Irrigation Department, Ministry of Agriculture and Cooperatives ;

This Department has carried out various disaster and risk reduction related activities which can be expounded as follows;

1. Disaster and risk reduction at national level, comprises;

1.1 Sustainable Water Usage Plan : Stakeholder participation approach and rotation approach are employed in water management. Appropriate capital water storage and prioritization of usage will be taken into consideration.

1.2 Construction of dam, reservoir, weir, embankment and electric power water pumping station for multipurpose capital water storage, utilization such as for agricultural and industrial activities, electricity generation, water-related ecosystem conservation etc.

1.3 Setting up water storage criteria for cost effectiveness of water usage.

1.4 Forecasting water storage and imposing drainage systems to prevent flood during rainy season and to prevent drought during dry season.

1.5 Monitoring water storage situation to be in line with the plan.

1.6 Installing telemetering system to monitor water storage capacity and for systematic and timely water distribution.

1.7 Providing mobile water pumps and water trucks to alleviate water shortage problem in agricultural sector.

1.8 Innovating research works and introducing modern technology to enhance the efficiency and development of irrigation system to attain ultimate benefit.

1.9 Launching publicity campaign on water economization among the farmers and the public.

2. Point of contact at national level for UN/ISDR network database.

The Royal Irrigation Department has established Operation Center both at national and regional levels for disaster preparedness. These centers are designated to compile data, report water storage situation, directing the emergency, and to enhance the capacity in preventing and mitigating flood. Besides, these centers will coordinate with other operation centers of other government agencies to coordinated and collaborate in natural disaster prevention and vigilance.

The Meteorological Department (TMD), Ministry of Information Technology

In order to mitigate natural disaster, TMD has been imposed to shoulder three major burdens;

- Monitoring and conducting vigilance on potential natural disaster.

- Early warning burden

- Educating the public

1. Monitoring and conducting vigilance on potential natural disaster

TMD has formulated diversified measures to fulfill the first burden. These measures can be expounded as follows;

1.1 General Weather Monitoring : Meteorological and seismoscope instruments are installed throughout the country for weather rain and earthquake monitoring.

1.2 Weather Monitoring via Radar : 20 radarstations are established to monitor weather condition, and 2 additional mobile radar stations to monitor the formation and movement of precipitation for early warning.

1.3 Weather Condition Monitoring via Satellite : TMD utilizes the information from NOAA and GOES-9 satellites to monitor cloud formation and movement and to follow up the movement of tropical cyclone round the clock. The output information will be used for analysis purpose and for early warning.

1.4 Installation of Telemetering in Main River Basin : TMD has installed telemetering system in 25 main river basins throughout the country to automatically check the amount of rainfall for real time information. This information will be utilized in early warning activity.

1.5 Wave Forecasting : Wave Forecast Model (WAM) has been employed to forecast wave height and magnitude.

2. Early Warning Task : This task comprises 4 activities

2.1 Daily weather forecast - to provide the information on weather condition to the public and to warn them of the potential disaster via all kinds of media.

2.2 Weather forecast 7-day in advance - to inform and warn the public of potential natural disaster in advance.

2.3 Monthly weather forecast - to inform the public of weather information and trend of weather condition changing.

The accessibility to this information will facilitate the arrangement of public activities accordingly.

2.4 Warning via radio broadcasting : TMD has established 6 radio stations throughout the country to directly disseminate timely warning to the public.

3. Educating the public :

3.1 TMD staff continually set up meteorological teams to equip the vulnerable people living in flood prone areas, school children and local government officials with meteorological knowledge and to generate awareness of disaster.

3.2 Providing meteorology related information for disaster prevention through TMD 2 websites <weather.go.th> and <tmd.go.th>.

4. Improvement of Facilities :

4.1 The new Geographic Information System (GIS) has been installed which can enable TDM to support the requisition on meteo-hydrological data map for multipurpose application in GIS context.

4.2 The 3-Net project comprising Intranet, Internet, and Extranet has been introduced and implemented to share hydro-meteorological information as well as other services within TMD organization; to serve international activities in hydro-meteorology; and to be an information access for other national agencies responsible for comprehensive natural disaster monitoring and preparedness plan of the country, respectively.

4.3 Facilities both in equipment and format have been prepared for The MT SAT data receiving.

Department of Water Resources, Ministry of Natural Resource and Environment

To minimize natural disaster with the emphasis on flood, Department of Water Resources has initiated Water Crisis Management Center to function in information flood situation in the river basins during the preparedness and crisis periods. Moreover, this center also acts as the coordinating mechanism among various concerned agencies including the provinces where flood prone river basins situated to provide these agencies the information and situation of potential flood. Furtherly, flood prevention and mitigation strategies can be launched in advance.

Regional, International Support for Disaster Reduction.

Since the capability and expertise in dealing with disaster reduction of individual country are widely different, as the result, regional and international support is indispensable. This support can be done through the exchange of knowledge and experience; organizational partnerships, cooperation and collaboration; exchange of experts etc. Thailand has closely and continuously link with various regional and international bodies so as to mobilize

the technical assistance and expertise in dealing with natural disaster and risk reduction, such as

- Asian Disaster Reduction Center (ADRC)
- Typhoon Committee (TC)
- United Nations Development Program (UNDP)
- WMO/ESCAP Panel on Tropical Cyclones
- ASEAN Committee on Disaster Management (ACDM)
- International Strategy for Disaster Reduction (UN/ISDR)
- International Defence Organization (ICDO)
- International Search and Rescue Group (INSARAG)
- Asian Disaster Preparedness Center (ADPC)

Contact Point on Disaster Reduction at National Level :

Department of Disaster Prevention and Mitigation, Ministry of Interior Thailand, is well-prepared to be the contact point on disaster reduction at national level for registration in database UN/ISDR network.

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