

Thailand's Disaster Risk Management Policy

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1. Introduction

At present, disaster risk management has gained much more attention from all the parties, from heads of states to community members around the world. This is due to the increasing trend of disaster occurrences and the adverse consequences being brought about.

This article discusses disaster risk management in Thailand. The focus of this document is how the country manages itself to cope with disaster situation in terms of policy formulation, institutional arrangement as well as the implementation of policy and plan.

There are also 2 special governed cities: the capital Bangkok (which is also known as Bangkok Metropolitan Administration or BMA) and Pattaya City of Chonburi Province. The total land area of the country is 513,120 square kilometers. Thailand has a tropical climate that produces 3 seasons: cool in November to February, hot in March to May, and rainy in June to October (TMD, 2013). The population of Thailand at the end of the year 2013 stands at 65.4 million. Thailand is an active member of the Association of the Southeast Asia Nations or ASEAN.

2.2 The Geography

2. Country Profile

2.1 Thailand at a glance

Thailand is situated in the center of Southeast Asia region between latitudes $5^{\circ} 37' N$ to $20^{\circ} 27' N$ and longitudes $97^{\circ} 22' E$ to $105^{\circ} 37' E$. It is bordered to the north by Myanmar and Lao PDR, to the east by Lao PDR and Cambodia, to the south by the Gulf of Thailand and Malaysia, and to the west by Myanmar and the Andaman Sea. In terms of administration, Thailand is divided into 76 provinces.

Thailand, as described in Figure 1, is geographically divided into 4 regions. The Northern Region is largely covered by mountains and is the origin of many of the country's major rivers including River Ping, River Wang, River Yom and River Nan that form the Chao Praya River. The central plain is low-lying area. The northeastern part of the country consists of the Khorat Plateau. The main water sources are Mun River and Mekong River. Peninsular or Southern Region has unique natural features and is shaped by long coastlines, offshore islands and mangrove forests.

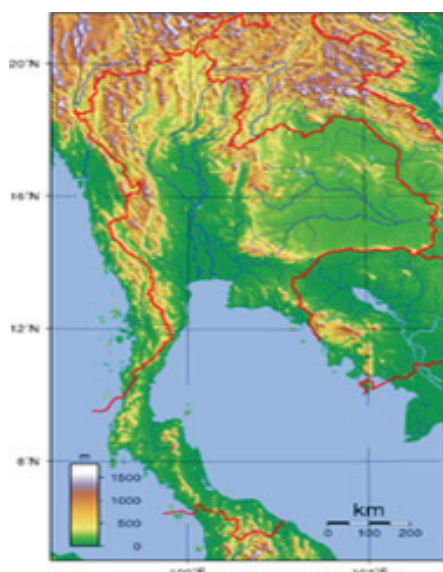


Figure 1 Geographical Map of Thailand

2.3 Disaster Situation

2.3.1 Overview

In general, the disaster situation in Thailand is of moderate level. Apart from two large scale disasters i.e. tsunami in December 2004 and the mega flood in 2011, the country is also faced with

other forms of disasters including landslide, drought, windstorm and other types of disasters.

2.3.2 Flood

Flood ranks at the top of the list of all disasters in Thailand. This is because the country is located in the monsoon area where rainfall is rich. The worst flood in the country's recorded history is the 2011 mega flood hitting Thailand in 2011 monsoon season as many as 815 people were victimized. The flood affected 3 regions including Northern, Northeastern and Central parts of Thailand. There were 13.6 million people affected. According to the World Bank, it is estimated that in economic term the flood contributed to USD 45.7 Billion damages and loss. Aside from 2011 mega flood, there were also big flood in 2001 and 2005.

2.3.3 Landslide

Landslide often occurs in many parts of the country including northern and southern regions where people choose to live near mountainous area. Major landslide disasters are listed below.

Table 1. Major landslide disasters

Date	Location	Death
22 Nov 1988	Kratoon Sub-District in the Province of Nakorn Sithammarat	700
4 May 2001	Wang-chin District in the Province of Phrae	23
11 Aug 2001	Namkor Sub-District in the Province of Petchaboon	131
23 May 2006	Lablae District in the Province of Uttaradit	87

2.3.4 Drought

Drought is one of the most costly disasters in Thailand. Drought affects all aspects of life including

the livelihood, social, economic and the environment. In 2013, the cost of damage from drought in Thailand was almost 3,000 million Thai Baht (approximately 100 million USD).

2.3.5 Tsunami

Thailand experienced its first tsunami disaster on 26 December 2004. The tsunami wave devastated houses, beach resorts, fishing facilities in the areas along the coastline of 6 southern provinces namely Phuket, Phang Nga, Ranong, Krabi, Trang and Satun (DDPM, 2007). According to DDPM, more than 8,150 people were killed in the calamity. The tourist and fishing industry were the most badly damage. In 2005, the government installed the tsunami warning towers along the Andaman sea coastline to bring back confidence of the tourist. It took about 10 years for the affected province to come back to normalcy.

2.3.6 Earthquake

Historically, Thailand is not a highly earthquake prone country. The only major earthquake that ever occurred in Thailand was on 5 May 2014 in Phan District of Chiang Rai Province. Measured at 6.3 in Richter Scale, the earthquake caused 2 death and some damage to roads and houses.

2.3.7 Other disasters

Aside from disasters mentioned above, Thailand is also faced with other types of disasters including windstorm, forest fire, urban fire and others.

3. Disaster Risk Management in Thailand

3.1 Overview

The overall responsibility of disaster risk management in Thailand rests with the government, under the leadership of National Committee on Disaster Prevention and Mitigation supported by the Department of Disaster Prevention and Mitigation as the Secretariat of the National Committee. Disaster

risk management in Thailand's context compasses the so-called "disaster-risk management cycle" which include disaster response, disaster relief and recovery, disaster prevention and mitigation, disaster preparedness and early warning.

3.2 Legal Framework

3.2.1 The Constitution

Article 73 of the 2007 Constitution state that "As an individual, a person has the duty to serve for military, assist in disaster prevention and relief...". The provision under the constitution emphasizes the importance of disaster risk management that requires an individual Thai citizen to give cooperation.

3.2.2 The Disaster Prevention and Mitigation Act 2007

The 2007 Disaster Prevention and Mitigation Act (hereafter called as "The Act") is the backbone of disaster risk management of Thailand. The Act entered into force on 6 November 2011. Provisions of the Act are as follows:

- (1) General Provision;
- (2) Disaster Prevention and Mitigation;
- (3) Disaster Prevention and Mitigation in Bangkok;
- (4) Officers and Volunteers;
- (5) Other matters; and
- (6) Enforcement.

3.2.3 Other related legal frameworks

Since disaster risk management is a cross-cutting issue, there are a range of existing legal frameworks including:

- (1) Prime Minister Office's Regulation for Road Safety Road traffic accident;
- (2) National Disaster Warning Center Regulations.

3.3 National Disaster Risk Management Policy

The National Disaster Prevention and Mitigation Committee (NDPMC) issued a policy framework for disaster risk management in Thailand. The policy address the following issues:

- (1) Promote and develop disaster risk reduction into practice;
- (2) Capacity building;
- (3) Disaster relief and recovery; and
- (4) Promote networking with partners both nationally and internationally.

The policy above has become the backbone in the National Plan for Disaster Prevention and Mitigation that will be discussed in greater details in this article.

3.4 Institutional Arrangement

3.4.1 The NDPMC

Under the Act, the National Disaster Prevention and Mitigation Committee (NDPMC) serve as the top policy body for disaster risk management in the country. The Committee is chaired by The Prime Minister or a Deputy Prime Minister that is designated by the Prime Minister.

3.4.1.1 Members of the NDPMC are:

- Minister of Interior as the first vice chairman, the Permanent Secretary for Interior as the second vice chairman,
- Permanent Secretary for Defense;
- Permanent Secretary for Social Development and Human Security;
- Permanent Secretary for Agriculture and Cooperatives;
- Permanent Secretary for Transport;
- Permanent Secretary for Natural Resources and Environment;

- Permanent Secretary for Information and Communication Technology;
- Permanent Secretary for Public Health;
- The Director of Budget Bureau;
- Commissioner General of The Royal Thai Police ;
- The Supreme Commander of the Royal Thai Army;
- The Commander in Chief of the Royal Thai Navy;
- The Commander in Chief of the Royal Thai Air Force;
- The Secretary General of the National Security Council;
- 5 scholars in disaster management field
- The Director General of DDPM is the Secretariat of the NDPMC

3.4.1.2 The mandates of the NDPMC are:

- (1) To give guidance and direction in the formulation of National Disaster Prevention and Mitigation Plan;
- (2) To endorse the draft National Prevention and Mitigation Plan proposed by the Secretariat before submission to the Cabinet for final approval;
- (3) To synergize the disaster manage activities among the concerned parties; and
- (4) To instruct, advise and support the implementation of disaster management plan.

3.4.2 The National Commander

Minister of Interior, according to Article 13 of the Act, is the National Commander. The National Commander has the authority to instruct provincial governors, chief district officers and disaster management officials as well as volunteers in time of disaster emergency.

3.4.3 DDPM

The Department of Disaster Prevention and Mitigation (DDPM) as DDPM, was established on 3 October 2002, as a new department under the Ministry of Interior.

Duty and Responsibility

- (1) Formulate policy, guideline and identify criteria for disaster management;
- (2) Study, analyze, conduct research and develop disaster prevention and warning system;
- (3) Develop the disaster prevention, warning and mitigation related information technology system;
- (4) Promote and mobilize the general public's participation in creating disaster prevention and mitigation network;
- (5) Generate and sustain the awareness and preparedness among the general public of disaster prevention and mitigation;
- (6) Build capacity for disaster management officials in disaster relief operation, rehabilitation and recovery;
- (7) Promote, support and take action in preventing and mitigating disaster;
- (8) Direct and coordinate disaster relief operation;
- (9) Coordinate with national and international agencies regarding the assistance rendered;

- (10) Undertake any other functions that:

- a. Stated by the law
- b. Instructed by the Ministry of Interior
- c. Instructed by the Government.

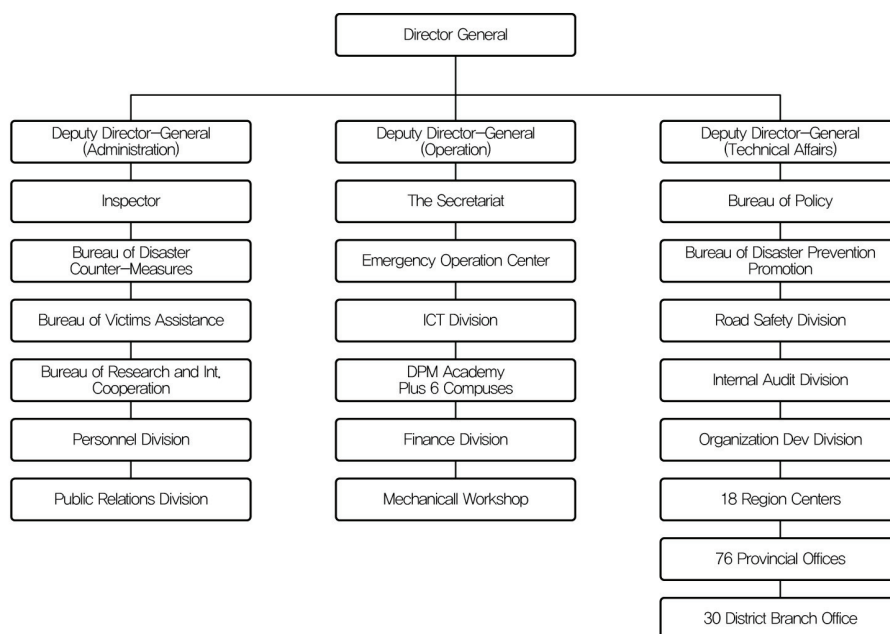
Manpower

As of July 30, 2013, DDPM has 5,056 staffs working in the Headquarter in Bangkok, Regional Centers, The Disaster Prevention and Mitigation Academy and at the Provincial Offices across the country.

Organization Structure

DDPM is head by a Director-General with 3 deputies overseeing administration, technical affairs and operation respectively. Under the structure there are 20 divisions, 18 regional centers, 76 provincial offices and 30 branch provincial offices. The organization structure of DDPM is shown in Figure 2.

Figure 2 DDPM Organization Chart



3.4.4 Provincial Governor

There are 76 provinces in Thailand. The Act states that the provincial governor is the Chair of Provincial Disaster Management Committee. One of the duties of the province is to formulate or Provincial Plan and ensure that the plan is implemented. It is required that the provincial governor being the leader in response to disaster within the provincial area.

3.4.5 Local Government

In the implementation of National Plan the local government is perhaps the most important actor. This is because the local government has a strong foundation in terms of authority as well as resources. The national government, on the other hand, plays a supportive role to the work of the local government.

3.4.6 Community

Community is seen as the very important factor that contributes to the success of implementing DRM plan and policy. Thailand began to adopt the “Community Based Disaster Risk Management (CBDRM)” since 2006. The target is to have all 60,000 communities trained with CBDRM concept.

3.4.7 Volunteers

In view of the need to involve community members in disaster management activities, the Civil Defense Volunteers (CDV) were established on 22 March 1979. During normal time CDV assists local governments in disaster monitoring, risk assessment, awareness building and other related activities. During emergency situation, CDV joins disaster response activities, search and rescue, evacuation and disaster relief operation.

3.4.8 Government Agencies

Although Ministry of Interior through DDPM is the main responsible body for the coordination in disaster management activities, Disaster Risk Reduction is a cross cutting issue that requires cooperation from all sectors to be involved.

3.4.9 Partners

In carrying out the activities under the policy and plan on disaster risk reduction, it is necessary to involve partner agencies. Thai Red Cross Society, Asian Disaster Preparedness Center (ADPC), private companies are among the regular partners working with the Thai disaster management authority.

3.5 National Plan for Disaster Prevention and Mitigation

The National Plan for Disaster Prevention and Mitigation (hereafter called “National Plan”) is the principle document that gives guidance on how the disaster risk management in Thailand is done. The current National Plan is “2010-2014 National Disaster Prevention and Mitigation”. This 5-year plan will be expired on 31 December 2014 and will be replaced with the “2015 National Plan on Disaster Prevention and Mitigation. The new National Plan is now being revised and it will take the following lessons that the country has learned from past experience into consideration:

- (1) to reduce the complexity of implementation structure;
- (2) to increase more detailed plan for resource mobilization; and
- (3) to intensify the research and development undertaking.

3.5.1 Overview of the National Plan

The new 2015 National Plan has 8 chapters covering the issues of:

- (1) Situation of Disaster and Trend for the future;
- (2) Policy and Strategy for disaster risk management;
- (3) Principle for disaster risk management;
- (4) Disaster Risk Reduction;
- (5) Emergency Management;
- (6) Disaster Relief and Recovery;
- (7) International Cooperation; and
- (8) Implementation strategy.

The National Plan has 3 objectives:

- (1) to make sure that it is ready to respond to disaster emergency effectively;
- (2) to take lessons from what happened in the past; and
- (3) to create disaster resilient nation.

3.5.2 Core Elements of the National Plan

(1) Policy

- Promotion of Disaster Risk Reduction Principle
- Integration of efforts
- Effective Recovery
- Standardize national practice through technical cooperation with national and international bodies

(2) Strategy

- Intensify disaster risk reduction practice
- Build capacity on emergency management
- Increase efficiency on recovery
- Promote international cooperation

(3) Sources of Budget

- Annual budget
- Other sources of budget
- Disaster Emergency Relief Fund

(4) Principal of Disaster Risk Management

- Development of disaster risk assessment system
- Development of disaster risk reduction measures through prevention, preparedness, early warning
- Promote involvement of all stakeholders in DRR

(5) Emergency Management

- Setting a standard system for emergency management
- Development of disaster response systems and tools
- Setting a standard system and standard operating procedure on disaster relief and recovery

(6) Recovery

- Adopting 3 principle in recovery: (1) affected people are able to help themselves; (2) affected people are involved in the planning and implementation stage of the recovery; and (3) affected areas as well as livelihood are built back better;
- Post disaster need assessment
- Develop disaster recovery system
- Promote build back better concept

(7) International Cooperation

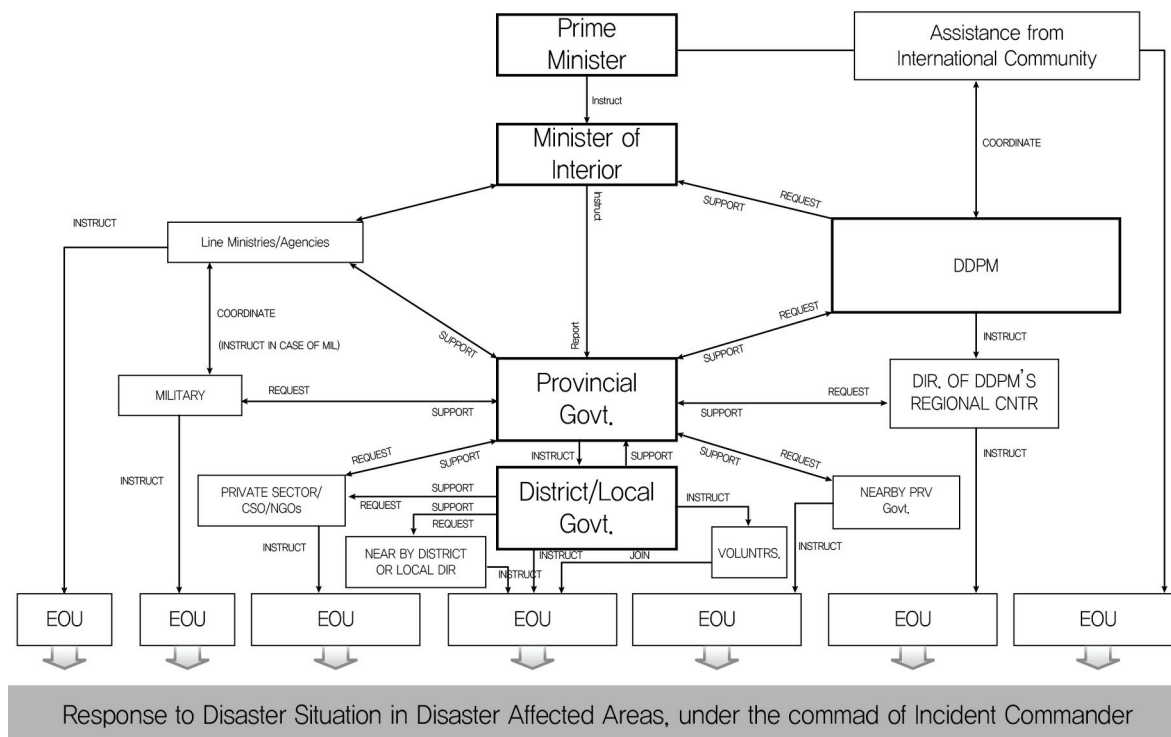
- Development of Coordination System in Receiving International Assistance
- Development of Coordination System in Offering International Assistance
- Promotion of Exchange of Knowledge and Experience at the national level
- Promotion of the country's role in disaster risk management

(8) Implementation Strategy

- Guideline for the implementation of the National Plan
- Monitoring and Evaluation
- Revision of the National Plan
- Research and Development

Figure 3 illustrates the organization structure of disaster management of Thailand.

Figure 3 Organization Structure of Disaster Management Thailand



3.6 Disaster Risk Management Activities

The following are the list of activities regarding disaster risk management in Thailand.

3.6.1 Disaster Warning

Effective Warning before a strike of disaster is vitally important for communities particularly those living in disaster prone areas. The government has established warning system for at least 3 types of disasters including tsunami, landslide and tropical cyclone. The tsunami warning system was installed along the coastline of all provinces both in the Andaman side and Gulf of Thailand side. As for landslide, warning towers have also been installed

in the landslide risky areas across the country. This is also supported by community-based warning system introduced by the government. The Government established the National Disaster Warning Center (NDWC) to be responsible for the disaster warning. Thailand Meteorological Department is responsible for forecasting Typhoon or Tropical Cyclone.

3.6.2 Community-based Disaster Management

In total, there are around 70,000 communities in Thailand in 76 provinces. Among these communities, approximately 20,000 communities are located in disaster prone areas where the possibility of having flooding, landslide or tsunami is relatively high.

In 2003, one year after the establishment of DDPM, a concept of community-based disaster risk management (CBDRM) was introduced by Asian Disaster Prepared Center to DDPM executives. CBDRM then became a regular training program for the community to learn and practice how to respond to disaster emergency effectively.

3.6.3 Capacity Building

In order to get the personnel ready to cope with disaster threat, the capacity building program for DDPM staffs is essential. In 2004, the Disaster Prevention and Mitigation Academy (DPMA) was established. DPMA has now become the national training center for disaster managers in the country.

3.6.4 Disaster Response and Preparedness

More lives can be saved if all the parties concerned are well prepared and able to respond quickly and effectively to disaster situation. The disaster response and preparedness in Thailand focus greatly on the preparation of search and rescue personnel and the exercise for the staffs involved as well as partners and general public.

3.6.5 International Cooperation

In 2005, the United Nations introduced a global strategy for disaster risk reduction (UNISDR, 2005). The document is called “Hyogo Framework for Action, HFA). The main components of HFA are: (1) Ensuring that DRR is a national and local priority, with a strong institutional basis; (2) Identifying, assessing and monitoring disaster risks and enhancing early warning systems; (3) Using knowledge and education to build a culture of safety and resilience at all levels; (4) Reducing underlying disaster risk factors, whether social, economic environment or land use; and (5) Strengthening

disaster preparedness to promote effective response at all level.

To accommodate the need to implement HFA, the government formulated The Strategic National Action Plan for Action or SNAP was approved by the Cabinet on 24 March 2009. This document provides direction for disaster risk management in Thailand for use in 10 years (2010-2019).

Regarding the cooperation with ASEAN, much progress has been made in terms of cooperation and implementation of HFA. In 2005, ASEAN introduced a binding document called “ASEAN Agreement on Disaster Management and Emergency Response. ASEAN also put in place a regional strategic plan call AADMER Work Programme. Between 2005 and 2014, ASEAN have organized activities under the AADMER Work Program. Achievement under the AADMER, helps boost the confidence of ASEAN when the 10 member countries of ASEAN will become Ten Nations, One Community.

4. Conclusions

As a summary, the disaster risk management undertaking in Thailand, which is led by the government, has been well managed and is advancing toward international standard. The management is based upon the 2007 Disaster Prevention and Mitigation Act and guided by the National Plan for Disaster Prevention and Mitigation. The policy on disaster risk management is discussed at and given by the National Committee on Disaster Prevention and Mitigation. The implementation of the policy and strategy is coordinated by DDPM in collaboration with government agencies and supported by partners.

References

Constitution Court of Kingdom of Thailand, 2014, The 2007 Constitution, Retrieved from: http://english.constitutionalcourt.or.th/index.php?option=com_docman&Itemid=4&lang=en

Department of Disaster Prevention and Mitigation (DDPM), 2007, The Disaster Prevention and Mitigation Act 2007, Retrieved from <http://61.19.54.141/inter/ddpm/ddpm%20act%20eng.pdf>

Department of Disaster Prevention and Mitigation (DDPM), 2010, The National Plan for Disaster Prevention and Mitigation 2010-2014, Retrieved from

<http://61.19.54.141/inter/ddpm/ddpm%20act%20eng.pdf>

Department of Disaster Prevention and Mitigation (DDPM), 2013, DDPM Booklet

Department of Disaster Prevention and Mitigation (DDPM), 2007, The White Paper of Disaster Management in Thailand
Thai Meteorological Department (TMD), 2013, The Climate of Thailand. Retrieved from: http://www.tmd.go.th/en/archive/thailand_climate.pdf

United Nations's Office for Disaster Risk Reduction, 2010, The Hyogo Framework for Action 2010-2015, Retrieved from: <http://www.unisdr.org/we/coordinate/hfa>

Wikipedia, 2014, Geography of Thailand, Retrieved from: http://en.wikipedia.org/wiki/Geography_of_Thailand