



ASIAN DISASTER REDUCTION CENTER Visiting Researcher Program (FY2021)

COMMUNITY-BASED DISASTER RISK MANAGEMENT IN JAPAN A LESSON LEARNED FOR VIETNAM

ADRC Visiting Researcher
THAI MINH HUONG

Division of International Cooperation and Science Technology
Viet Nam Disaster and Dyke Management Authority
Ministry of Agriculture and Rural Development



Disclaimer

This report was compiled by an ADRC visiting researcher (VR) from ADRC member countries.

The views expressed in the report do not necessarily reflect the views of the ADRC. The boundaries and names shown and the designations used on the maps in the report also do not imply official endorsement or acceptance by the ADRC.

Table of Content

ACKNOWLEDGEMENT	6
CHAPTER 1: INTRODUCTION	7
1. Background information and rationale.....	7
2. Objectives of the research	8
3. Main activities	8
CHAPTER 2: DISASTER RISK MANAGEMENT IN JAPAN	9
1. General information	9
1.1 Geography	9
1.2 Population	9
1.3 Climate and river characteristics	9
2. Japan disaster risk profile	10
3. Major disasters in Japan	11
4. Japan disaster management system.....	12
4.1 Legal basis for disaster risk management in Japan	12
4.2 Organizational structure for disaster risk management in Japan	14
4.3 Disaster Management Plans	16
CHAPTER 3: DISASTER RISK MANAGEMENT IN VIETNAM	19
1. General information	19
1.1 Geography	19
1.2 Population	19
1.3 Climate.....	19
2. Vietnam disaster risk profile	19
3. Major disasters in Vietnam.....	21
4. Vietnam disaster risk management system.....	23
4.1 Legal basis for disaster risk management in Vietnam	23
4.2. Organizational structure for disaster risk management in Vietnam.....	24
CHAPTER 4: COMMUNITY BASED DISASTER RISK MANAGEMENT	27
1. Introduction.....	27
2. Public awareness raising and community-based disaster risk management in Japan	28
2.1 Awareness Raising and Knowledge Promotion on Disaster Reduction	28
Hanshin Expressway Earthquake Museum	29

2.2 Promoting Community Disaster Management Plan at the Municipal level	29
2.4 Successful models on CBDRM	30
3. Community-based disaster risk management	32
3.1 National Program on Public Awareness Raising and Community based disaster risk management	32
3.2 Challenges of Vietnam in implementing CBDRM approach	34
CHAPTER 5: LESSONS LEARNED FOR VIETNAM.....	37
1. Lessons learned from Japan.....	37
2. Recommendations	38
REFERENCES.....	41
1. Japan	41
2. Vietnam.....	41

List of Figures

Figure 1: Map of Japan.....	9
Figure 2: River gradients in Japan and the world.....	10
Figure 3: Number of Deaths and Missing caused by natural disasters in Japan	11
Figure 4: the Great Hanshin-Awaji earthquake (1995).....	11
Figure 5: the Great East Japan earthquake (2011).....	12
Figure 6: Cabinet Office and Related Ministries and Agencies	15
Figure 7: Organization of National Disaster Management Council	15
Figure 8: Outline of the Disaster Management System.....	16
Figure 9 : Structure of Disaster Planning System	17
Figure 10: Structure of Basic Plan for Disaster Risk Reduction	17
Figure 11: Map of Vietnam	19
Figure 12: Map of hazard zones in Vietnam	20
Figure 13: Damages and losses of disaster for the period 1990 – 2020 in Vietnam.....	21
Figure 14 : Timeline of weather systems from 6 October to 15 November 2020.	22
Figure 15 : Systems of DRM in Viet Nam	24
Figure 16: Education on disaster risk management in schools in Japan	29
Figure 17 : Historical timeline of community-based organizations.....	30
Figure 18: Bokomi model.....	32
Figure 19 : CBDRM Training for the local community	35

Abbreviation

ADB	Asia Development Bank
ADRC	Asia Disaster Reduction Center
CBO	Community based organization
CCA	Climate change adaptation
CBDRM	Community-based disaster risk management
DRM	Disaster risk management
DRR	Disaster risk reduction
DRRP	Disaster Risk Reduction Partnership
GEJE	Great East Japan Earthquake
JICA	Japan International Cooperation Agency
LNDPC	Law on Natural Disaster Prevention and Control also known as Vietnam Disaster Risk Management Law
MARD	Ministry of Agriculture and Rural Development of Vietnam
MLIT	The Ministry of Land, Infrastructure, Transport and Tourism of Japan
NDPC	Natural Disaster Prevention and Control
NGO	Non-governmental organization
NSCDPC	National Steering Committee for Disaster Prevention and Control
VNDMA	Viet Nam Disaster Management Authority
UN	United Nations

ACKNOWLEDGEMENT

The study “Community based disaster risk management in Japan – Lessons learned for Vietnam” is the final results of the Visiting Researcher Program of the Asian Disaster Reduction Center (ADRC). During my stay in Japan, I have learned a lot about the disaster risk management system of Japan. Like Vietnam, Japan is also prone to disasters. However, Japan has shown strong resilience in coping with disasters by applying modern technologies, good governance, and effective international cooperation. I also learned that Japan is famous for the community based disaster risk management (CBDRM) models and best practices that promotes the active involvement of the community in preparing and responding to the disaster.

Thanks to the ADRC Visiting Researcher Program, I have a chance to witness how Japan deals with disaster risks. By taking the program activities, I can update my knowledge and skills, and learn best practices in community-based disaster risk management. After my time in Japan, when I return to Vietnam, I am excited to be able to share my new knowledge with my colleagues and practice what I have learned in my own country.

Lastly, I would like to express my sincere thanks to my ADRC colleagues for their help and support during my stay in Japan. I would like to convey my sincere thanks to Mr. Sasahara Akio (Executive Director), Ms. Miki Kodama and Mr. Makoto Ikeda and other staff of ADRC that gave us the valuable lectures, kindness and guidance. Especially I would like to thank Ms. Miki Kodama – my mentor who gives us the concrete guidance and supports to fulfil my tasks in Japan.

CHAPTER 1: INTRODUCTION

1. Background information and rationale

Over the past few decades, efforts by the international communities have gradually shifted from disaster response to disaster prevention and preparedness. This highlights the need for proactive disaster risk reduction approach and promoting the role of local community by utilizing their traditional experience and knowledge. The new community-based disaster risk management approach not only addresses local needs but also overlooks the strengths of on-the-spot resources and capacities.

The term CBDRM (community-based disaster risk management) was first commonly used in the mid-1990s in Asia after realizing that (1) People living in high risk areas will be affected the most when natural disasters strike and must take responsibility in responding and supporting each other to reduce disaster impacts; (2) Local people having best knowledge on their area's disadvantages and obtaining practical experience and skills on traditional responses suitable to the environment, economic, culture conditions; (3) The CBDRM approach focuses on building the capacity of communities to assess their vulnerability and risks to both human-induced and natural hazards and develop strategies using available resources to prevent and mitigate the impact of identified hazards. According to this approach, the local community is not only a part of planning and decision making, but also becoming a key player in the implementation process. Around the world, CBDRM models have been built and developed extensively, consistent with the characteristics and capacity of each locality and country. Sharing experiences and lessons learned contributes to reducing damages and strengthening the capacity of vulnerable communities.

Vietnam is one of the most hazard-prone countries in the Asia-Pacific Region. With the coastline of 3,300 km, the country is exposed to hydro-meteorological hazards. Among them, flood, storm, flashflood, landslides and droughts are the recurring natural disaster and claimed for the most damages. Over the past 20 years, disasters caused 500 dead and missing persons per year, and an economic loss to the GDP is about 1÷1.5%.

Japan is located in the Circum-Pacific Mobile Belt where seismic and volcanic activities occur constantly. Because of geographical, topographical and meteorological conditions, Japan is also subject to frequent natural disasters such as typhoons, torrential rains, heavy snowfalls, as well as earthquakes and tsunami. Like Vietnam, every year there is a great loss of people's lives and properties in Japan due to natural disasters.

Both countries have a long standing experience of "self-help" and "mutual help" during the disaster events. And of the reason make Japan more resilient to disaster is the full use of the community participation in disaster risk reduction activities. With many best practices arises from all parts of the country, Japan is a famous DRM model for other countries in the Asian in particular and the world in general to learn from. This report will summary some of Japanese best practices in CBDRM which are applicable for Vietnam

with the purpose wide-spreading the effective DRR models in the joint effort of minimizing disaster impacts.

2. Objectives of the research

The research will focus on the following objectives:

- Provide an overview picture of disaster risk management system in general and community-based disaster risk management activities in particular in Vietnam and Japan.
- Japan best practices on community based disaster risk management: experiences and lessons learned for Vietnam.
- Recommendations for Vietnam to apply successful CBDRM models of Japan.

3. Main activities

To obtain the research objectives, the following activities will be conducted:

- Review and analyze relevant documents on DRM and CBDRM in Vietnam and Japan:
 - Japan 2022 White Paper on Disaster Management (Cabinet Office, Government of Japan).
 - Disaster management in Japan (Cabinet Office, Government of Japan).
 - Bokomi Guidebook – Sharing lessons learned by the City of Kobe from the Great Hanshin – Awaji Earthquake (JICA, Disaster Reduction Learning Center, KOBE City Fire Bureau);
 - My TimeLine Project (Originally published in Journal of Japan Society of Civil Engineers)
 - Decision No. 553/QD-TTg, dated 06/04/2021 of the Prime Minister on approving the national program on community awareness raising and community-based disaster risk management.
- Understand the relations between the Government organizations and local communities in preparing the CBDRM Plan in Japan
 - Take part in the field visit to learn the community based disaster risk reduction activities such as the town-watching for disaster risk reduction¹, Iza! Mikaeru Caravan! (disaster prevention education event)², drills, etc.

¹ <https://www.adrc.asia/publications/TW/TownWatching.pdf>

² <http://kaeru-caravan.jp/en.html>

CHAPTER 2: DISASTER RISK MANAGEMENT IN JAPAN

1. General information

1.1 Geography

Japan is an island country located in the western Pacific Ocean. Total land area is about 377,727km²³. Japan has a total of 6,852 islands extending along the Pacific coast of East Asia. The country, including all of the islands, lies between latitudes 24° and 46°N, and longitudes 122° and 146°E. The main islands, from north to south, are Hokkaido, Honshu, Shikoku and Kyushu. The capital is Tokyo.

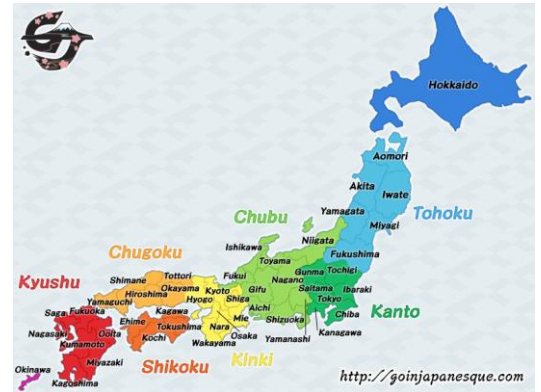


Figure 1: Map of Japan

Japan is predominantly mountainous – about 70% of the national land is mountain – and long mountain ranges form the backbone of the archipelago. The Japan Alps studded with 3,000 meter peaks bisect the central portion of Honshu – the main island. Japan is located in the Circum-Pacific Volcanic Belt (also known as the “Ring of Fire”) where seismic and volcanic activities occur constantly. Japan and its surrounding areas experience roughly a tenth of all earthquakes that occur in the world. Of the world’s active volcanoes, 7.1% exist in Japan (JMA, 2016).

1.2 Population

The population is mainly concentrated in lowland urban areas especially in Kanto, Chubu and Kinki districts along the Pacific coast of Honshu. Total population is about 127.77 million. Japan’s population density is 327 people/km² – one of the most densely populated countries in the world.

1.3 Climate and river characteristics

A major feature of Japan’s climate is the clear-cut temperature changes between the four seasons. In spite of its rather small area, the climate differs in regions from a subarctic to a subtropical climate. The side of the country which faces the Sea of Japan has a climate with much snow in winter by seasonal winds from the Siberia. Most of the areas have rainy season from May to July by the seasonal winds from the Pacific Ocean.

Due to Japan’s extreme topographical and meteorological conditions, the rivers exhibit distinctive natural characteristics. Rivers in Japan are narrow, steep and short

³ Ministry of Land, Infrastructure, Transport and Tourism website, “the Disaster Risk of the Land of Japan” https://www.mlit.go.jp/river/basic_info/english/land.html

making them prone to flooding⁴. The ratio of peak flow discharge to the basin area is relatively large, ranging from 10 times to 100 times. The water level rises and falls very quickly and the volume of sediment runoff is large.

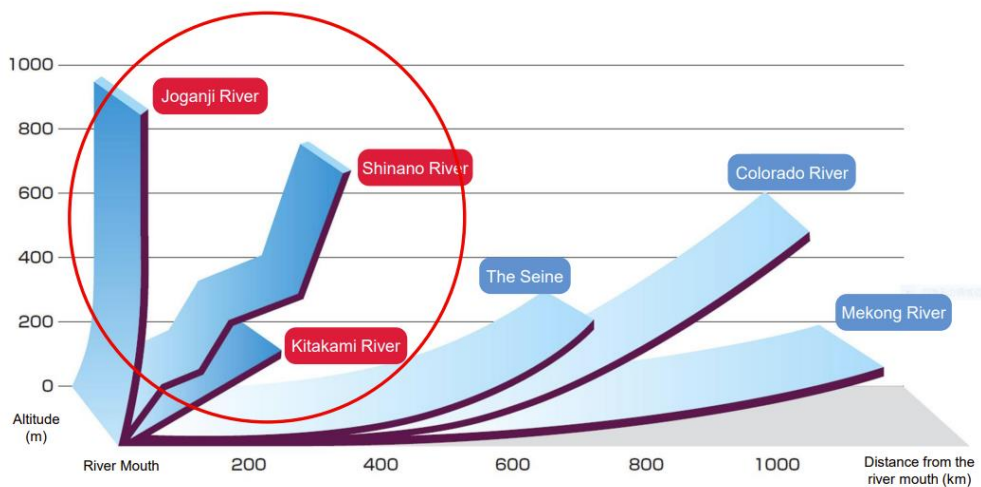


Figure 2: River gradients in Japan and the world

2. Japan disaster risk profile

Japan is located in the Circum-Pacific Mobile Belt where seismic and volcanic activities occur constantly. Although the country covers only 0.25% of the land area on the planet, the number of earthquakes and active volcanoes is quite high. Because of geographical, topographical and meteorological conditions, the country is subject to frequent natural disasters such as typhoons, torrential rains, heavy snowfalls, as well as earthquakes and tsunami. Japan is affected by typhoon mostly every year and volcanic disasters triggered by eruption and volcanic earthquake.

Every year there is a great loss of people's lives and properties in Japan due to natural disasters. Until the second half of 1960s, large-scale typhoons with earthquakes caused extensive damage and thousands of casualties. Thereafter, with the progress of society's capabilities to respond to disasters and mitigate vulnerabilities to disasters by developing disaster management systems, promoting national land conservation, improving weather forecasting technologies, and upgrading disaster information communications systems, disaster damage has shown a declining tendency.

⁴ Ministry of Land, Infrastructure, Transport and Tourism, Water and Disaster Management Bureau website, Overview of River Administration in Japan 2005.

自然災害による死者・行方不明者数の推移 The Number of Deaths and Missing Persons Caused by Natural Disasters

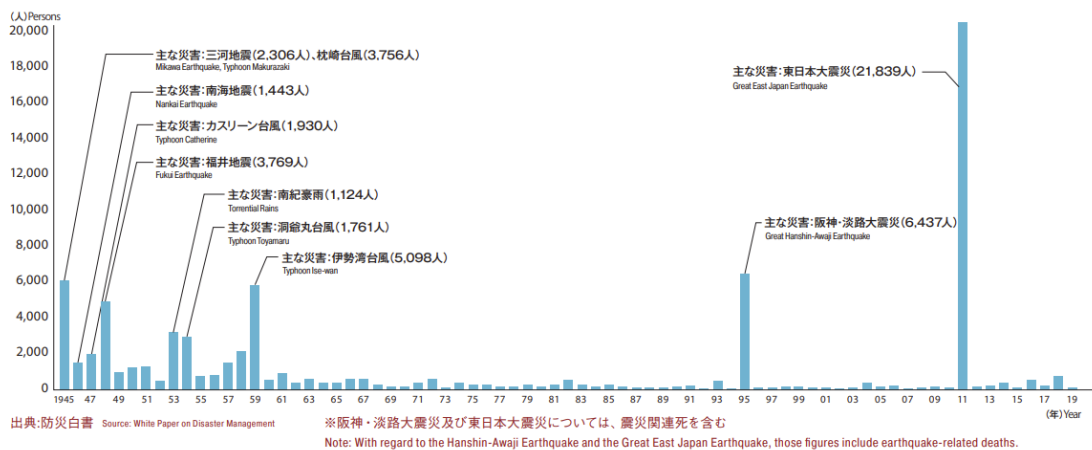


Figure 3: Number of Deaths and Missing caused by natural disasters in Japan ⁵

Source: 2022 White Paper on Disaster Management in Japan

3. Major disasters in Japan

Japan is prone to natural disaster, especially earthquake. In 1995, more than 6,400 people died of the Great Hanshin-Awaji Earthquake. Also in 2011, more than 22,000 people died or went missing due to the Great East Japan Earthquake (GEJE). There is also a high probability of the occurrence of large scale earthquakes in the near future including impending possibilities of Nankai Trough Earthquake and Tokyo Inland Earthquake. As such, natural disasters remain a menacing threat to the safety and security of the country. Followings are the summary of major disasters in Japan:

Great Hanshin-Awaji Earthquake (January 1995)

On 17 January 1995, an earthquake with a 7.3 on the Richter scale occurred at Awaji island of Hyogo Prefecture in Western Japan. It killed 6,434 people, injured 43,792 people, destroyed 104,906 houses, half destroyed 144,274 houses, and partially destroyed 390,506 houses. By the fires broke out along with the earthquake, the area of 835,858 square meters was burnt down.



Figure 4: The Great Hanshin-Awaji earthquake (1995).
 Source: Cabinet Office, White Paper on Disaster Management

⁵ With regards to the Hanshin-Awaji Earthquake and the Great East Japan Earthquake, those figures include earthquake-related deaths.

The Great East Japan Earthquake

A magnitude 9.0 earthquake hit the northeastern Japan on 11 March 2011, recording the largest earthquake ever hit in Japan. Its epicenter was located in the coast of Sanriku and its epicentral area stretched from the coasts of Iwate Prefecture to Ibaraki Prefecture. Massive shakes were observed particularly in eastern Japan including Japanese intensity scale of 7 registered in the north of Miyagi Prefecture. Furthermore, this earthquake triggered seafloor movements and generated massive tsunami. According to the National Police Agency, this earthquake and tsunami have left unprecedented human suffering: 15,870 people death, 2,814 people missing and 6,114 people injured, as well as property damage: 129,472 totally collapsed buildings, 255,977 half collapsed buildings and 702,928 partially collapsed buildings. Furthermore, the value of the destruction of the social infrastructure, housing, and corporate facilities was estimated at 16.9 trillion yen and it had a great impact on Japanese economy.



Figure 5: The Great East Japan earthquake (2011).

Source: Ishinomaki City, "Great East Japan Earthquake Archive Miyagi"

4. Japan disaster management system

4.1 Legal basis for disaster risk management in Japan

Japan has had the progress in disaster management laws and systems since 1945. It is a national priority to protect national land as well as citizens' lives, livelihoods, and property from natural disasters. The turning point for strengthening the disaster management system came into effect in response to the immense damage caused by Typhoon Isewan in 1959, and led to the enactment of the Basic Act on Disaster Management in 1961, which formulates a comprehensive and strategic disaster management system. Thereafter, the disaster management system has been continuously reviewed and revised following the lessons learned from large-scale disasters.

In order to applying to all of the disaster phases of prevention, mitigation and preparedness, emergency response as well as recovery and rehabilitation, relevant laws and regulations were enacted. They include Basic Act on Disaster Management (1961), Disaster Relief Act (1947), Building Standard Law (1950), Landslide Prevention Act (1958), River Act (1964), and Act on Special Measures for Large-scale Earthquakes (1978).

Japan's legislation for disaster management system have addressed all of the

disaster phases of prevention and preparedness, emergency response as well as recovery and reconstruction with roles and responsibilities among the national and local governments clearly defined. It is stipulated that the relevant entities of the public and private sectors are to cooperate in implementing various disaster countermeasures.

The Basic Act on Disaster Management has constantly been reviewed and amended since its first enactment, and with lessons learned from the Great East Japan Earthquake, provisions were added including enhancement of the measures concerning support activities mutually done by local governments in 2012 and the measures for ensuring smooth and safe evacuation of residents and improving protection of affected people in 2013. In 2014, provisions were added for strengthening measures against unattended cars in order to promptly clear them from the roads for emergency vehicles. In 2021, in order to ensure smooth and prompt evacuation in the event of a disaster and strengthen the implementation system for disaster measures, evacuation information was reviewed, individual evacuation plans were legalized, and consultation rules for wide-area evacuation were established. In addition, the government has taken measures such as making it possible to establish a disaster management headquarter for disasters of a scale that has not been able to establish a national disaster response headquarters

Table 1: Outline of the Basic Act on Disaster Management

<p>1. Clearer definition of the philosophy and the responsibilities for disaster management.</p> <ul style="list-style-type: none"> ○ Clarification of basic principles of disaster countermeasures: Clarification of basic policies including the concept of disaster reduction ○ Responsibilities of the government, prefectures, municipalities, and designated public institutions: Formulation and implementation of the plan for disaster management, mutual cooperation ○ Responsibilities of residents: Self-preparedness for disaster, stockpiling of basic necessities, voluntary participation in disaster preparedness activities 	
<p>2 Organization: Development and promotion of comprehensive disaster management administration</p> <ul style="list-style-type: none"> ○ National government: Central Disaster Management Council, major (extreme) disaster management headquarters ○ Prefectural and municipal governments: Local disaster management headquarters 	<p>3. Planning system: Development and promotion of systematic disaster management measures</p> <ul style="list-style-type: none"> ○ National Disaster Management Council: Disaster Management Basic Plan ○ Designated local government organizations and public institutions: Local Disaster management plan ○ Prefectures and municipalities: Local disaster management operation plan ○ Residents: Community disaster management plan
<p>4. Promotion of Disaster Countermeasures</p> <ul style="list-style-type: none"> ○ Definition of the roles and responsibilities to be performed by each actor in each stage of prevention, preparedness, response and recovery ○ Primary disaster response procedures including evacuation order by the head of municipalities taking over emergency 	<p>5. Protection of affected people and their livelihood</p> <ul style="list-style-type: none"> ○ Prior preparation of the lists of the people requiring assistance in the case of disaster ○ Clarification of the standards for evacuation centers and facilities in the case of disaster ○ Improvement and expansion of protection measures for affected people through

measures by prefectures or designated administrations in case of the large-scale disaster	preparation of the certificates and the list of affected people <ul style="list-style-type: none"> ○ Stipulation of the framework for wide-scale evacuation and goods transportation
6. Financial measures <ul style="list-style-type: none"> ○ Implementation of laws are funded by each responsible party ○ Financial measures for extreme disasters by the government 	7. State of Disaster Emergency <ul style="list-style-type: none"> ○ Declaration of disaster emergency state →Cabinet decision of government's policy (basic policy for countermeasures) ○ Emergency measures (restriction on distribution of basic necessities, moratorium on financial obligation, urgent enactment of Cabinet Order related to acceptance of international support, automatic enforcement of the Act on Special Measures concerning Preservation of Rights and Interests of Victims of Specified Disaster)

4.2 Organizational structure for disaster risk management in Japan

4.2.1 Cabinet Office and related ministries in DRM system

Since the reforms of the central government system in 2001, a Minister of State for Disaster Management is placed to integrate and coordinate disaster risk management policies and measures of ministries and agencies. With the revision of the Basic Act on Disaster Management in 2021, the Minister of State for Disaster Management is legally required, and the government's disaster prevention system is being further strengthened in terms of organization. In the Cabinet Office, which is responsible for securing cooperation and collaboration among related government organizations in wide-ranging issues, the Director General for Disaster Management is mandated to undertake the planning of basic disaster management policies and response to large-scale disasters, as well as conduct overall coordination. To prepare for disasters, the National Disaster Management Council with the Prime Minister as the Chair and all Cabinet members decides the national government's disaster management policies. Such decisions are carried out by respective ministries and agencies, accordingly. In the event of a large-scale disaster, the Cabinet Office is engaged in collection and dissemination of accurate information, reporting to the Prime Minister, establishment of the emergency activities system including the Government's Disaster Management Headquarters, overall wide area coordination concerning disaster response measures.

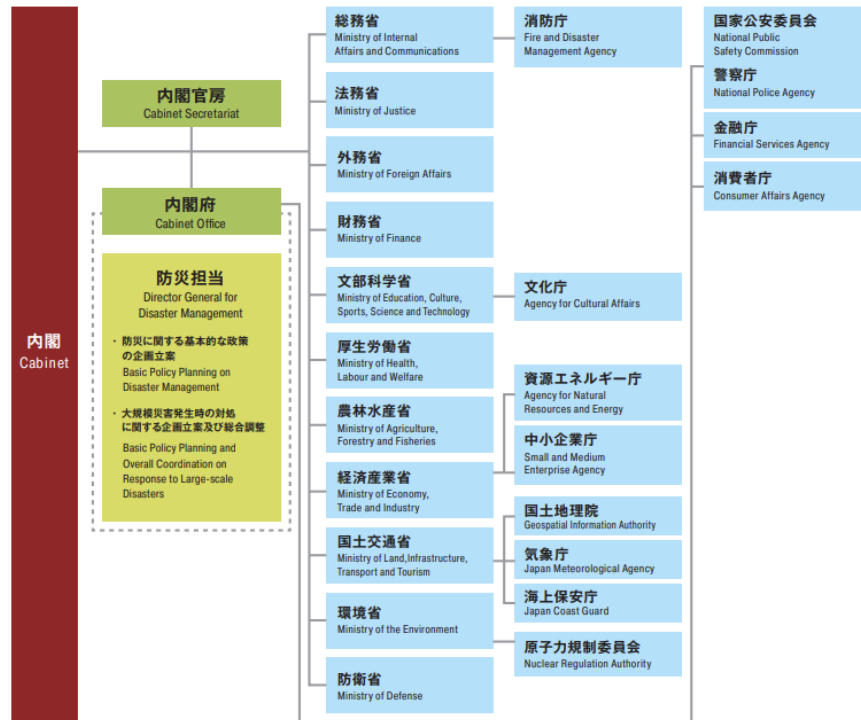


Figure 6: Cabinet Office and Related Ministries and Agencies

4.2.2 National Disaster Management Council

The National Disaster Management Council is one of the councils that deal with crucial policies of the Cabinet and is established in the Cabinet Office based on the Basic Act on Disaster Management. The Council consists of the Prime Minister as the chairperson, all members of the Cabinet, heads of major public corporations and experts. The Council develops the Basic Disaster Management Plan and establishes basic disaster management policies and plays a role of promoting comprehensive disaster countermeasures including deliberating important issues on disaster management upon requests from the Prime Minister or Minister of State for Disaster Management.



Figure 7: Organization of National Disaster Management Council

Within the Cabinet Office, which is the secretariat for this Council, the Minister of State for Disaster Management has been assigned as the Minister State for Special Missions for this issue. This Minister is assisted by the department of the Cabinet Office Director-General for Disaster Management his mandate being to handle planning and central coordination with regard to matters relating to basic policy on disaster risk reduction, and matters concerning disaster countermeasures in the event of a large-scale disaster.



Figure 8: Outline of the Disaster Management System

4.3 Disaster Management Plans

Japan is governed by a three-tiered administration: the national government, prefectures and municipalities. The head of each level takes full responsibility for that jurisdiction in a structure similar to that of a nation. Comprehensive disaster prevention plans are developed in accordance with the roles to be performed at each stage. Followings are the disaster management planning system in Japan

3.4.1 Disaster Management Planning System

- **Basic Disaster Management Plan:** This plan is the highest-level plan and constitutes the basis for disaster management activities prepared by the Central Disaster Management Council based on the Basic Act on Disaster Management.
- **Disaster Management Operation Plan:** This is a plan made by each designated government organization and designated public corporation based on the Basic Disaster Management Plan

- Local Disaster Management Plan:** This is a plan made by each Prefectural and Municipal Disaster Management Council, subject to local circumstances and based on the Basic Disaster Management Plan
- Community Disaster Management Plan:** This is a disaster management activities plan at the community level which is established by residents and businesses jointly on a voluntary basis.

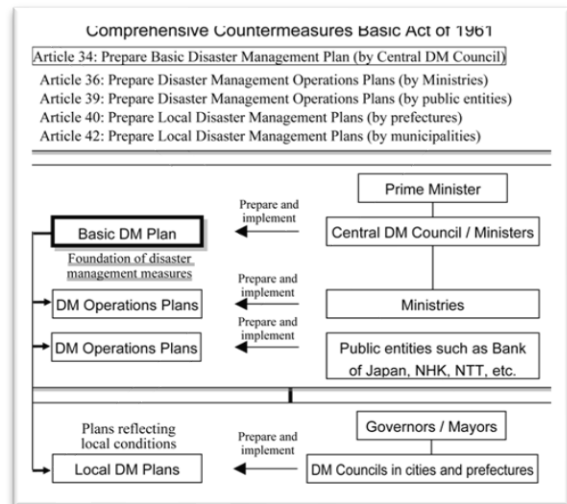


Figure 9 : Structure of Disaster Planning System

3.4.2 Basic Disaster Management Plan

The Basic Disaster Management Plan is a comprehensive and long-term disaster management plan forming a foundation for the Disaster Management Operations Plan and Local Disaster Management Plan. It stipulates provisions for the establishment of the disaster management system, promotion of disaster management measures, acceleration of post disaster recovery and reconstruction measures, and promotion of scientific and technological research on disaster management.

防災基本計画の構成 Basic Plan for Disaster Risk Reduction



Figure 10: Structure of Basic Plan for Disaster Risk Reduction

3.4.3 Community Disaster Management Plan

In order to encourage and promote proactive disaster management activities among residents (including both individual and corporate residents) in a given area

based on the spirit of self-help and mutual help, and to enhance the disaster management capabilities of the area in a bottom-up manner, it is stipulated that a community disaster management plan should be mentioned in the municipal disaster management plan. In developing a community disaster management plan, more active and proactive participation of the area residents is necessary at an early stage of the development. As such, it is stipulated that the area residents may jointly make a proposal to the municipal disaster management council that a community disaster management plan be stipulated in the municipal disaster management plan.

The 2013 amendment to the Basic Act on Disaster Management established a community disaster management plan system for voluntary community disaster management activities. The characteristics of the community disaster management plan system are as follows⁶:

- It is a bottom-up type of plan that adopts a plan proposal system,
- It is a “plan suited to the characteristics of the community” prepared by residents who are familiar with the community, and
- It is a “plan to continuously improve community disaster preparedness” that emphasizes implementation, periodic evaluation and review, and continuity of activities based on the plan.

Thus far, the plans reflected in the community disaster management plans are that of 30 prefectures, 73 municipalities and 901 communities (as of April 1, 2020).

⁶ Extract from White Paper on Disaster Management 2014 (https://www.bousai.go.jp/kaigirep/hakusho/h26/honbun/0b_3s_01_00.html).

CHAPTER 3: DISASTER RISK MANAGEMENT IN VIETNAM

1. General information

1.1 Geography

Vietnam is located in Southeastern Asia, bordered with China, Lao PDR and Cambodia. Vietnam comprises a total land area of 330,210 km² including 310,070 km² of land and 21,140 km² of water. On a map, Vietnam appears as an S-shaped strip of land. The terrain is mountainous with coastal lowlands and forested inland regions.

The geography of the land can be divided into three major areas: The Red River delta to the north, which is bordered by mountains on three sides; a large plateau with a narrow coastal plain in the middle of the country; and the Mekong Delta plain to the south.

1.2 Population

Vietnam's population is estimated to be 99.4 million people (as of January 2023). One-third of the country's total population lives in urban centers. The remaining two-thirds live in coastal areas and low-lying deltas. The largest urban centers are in the major cities of Ho Chi Minh City and Ha Noi. Vietnam recognizes 54 ethnic groups. The largest of them and their percent of the population are: Kinh (Viet) 85.3%, Tay 1.9%, Thai 1.9%, Muong 1.5%, Khmer 1.4%.

1.3 Climate

Vietnam has both a tropical climate zone and a temperate climate zone, with all of the country experiencing the effects of the annual monsoon. Rainy seasons correspond to monsoon circulations, which bring heavy rainfall in the north and south from May to October, and in the central regions from September to January. Vietnam's climate is also impacted by the El Niño Southern Oscillation, which influences monsoonal circulation, and drives complex shifts in rainfall and temperature patterns which vary spatially at a sub-national level.

2. Vietnam disaster risk profile

Vietnam is one of the most hazard-prone countries in the Asia-Pacific Region. With the coastline of 3,300 km, the country is exposed to hydro-meteorological hazards.

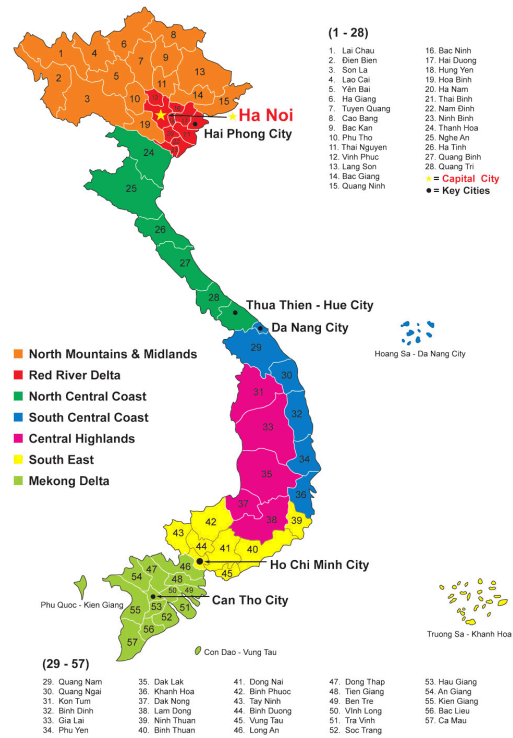


Figure 11: Map of Vietnam

According to the Law on Natural Disaster Prevention and Control 2020⁷, According to Vietnam’s disaster management law, Vietnam is prone to over 22 types of natural hazards. Natural hazards recognized by law include typhoon, tropical low pressure, whirlwind, lightning, heavy rain, flood, flashflood, inundation, landslide and land subsidence due to floods or water currents, water rise, seawater intrusion, extreme hot weather, drought, damaging cold, hail, hoarfrost, earthquake, tsunami, and other types of natural disaster. Among them, flood, storm, flashflood, landslides and droughts are the recurring natural disaster and claimed for the most damages.

For 2022, the INFORM Global Risk Index ranks Vietnam 91 out of 191 countries for disaster risk and assigned Vietnam to a medium risk category. This ranking is based on Vietnam’s high exposure to hazards but relatively low vulnerability and above average coping capacity⁸

In addition, Vietnam is ranked among the five countries likely to be most affected by climate change. The majority of the country is low-lying coastline and low-lying delta region are highly vulnerable to rising sea levels. The statistics show that disasters tend to increase abnormally, with higher intensity, wider scope, irregular and tend to increase in both danger levels, extremes and repeat cycles.

Over the past 20 years, disasters caused 500 dead and missing persons per year, and an economic loss to the GDP is about 1÷1.5%. The figures below showed the damages and losses of disaster for the period 1990 – 2020.

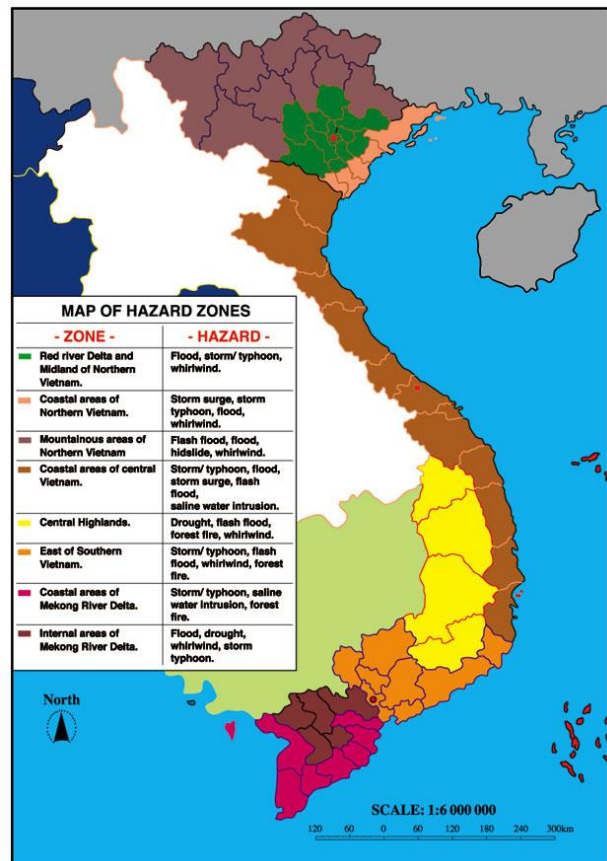


Figure 12: Map of hazard zones in Vietnam
Source: Vietnam Disaster Management Authority

⁷ As known as the Disaster Risk Management Law (DRM Law)

⁸ “Country Profile 2022: Viet Nam”, European Commission, Disaster Risk Management Knowledge Centre (DRMKC), INFORM Global Risk index, <https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk/Country-Profile>

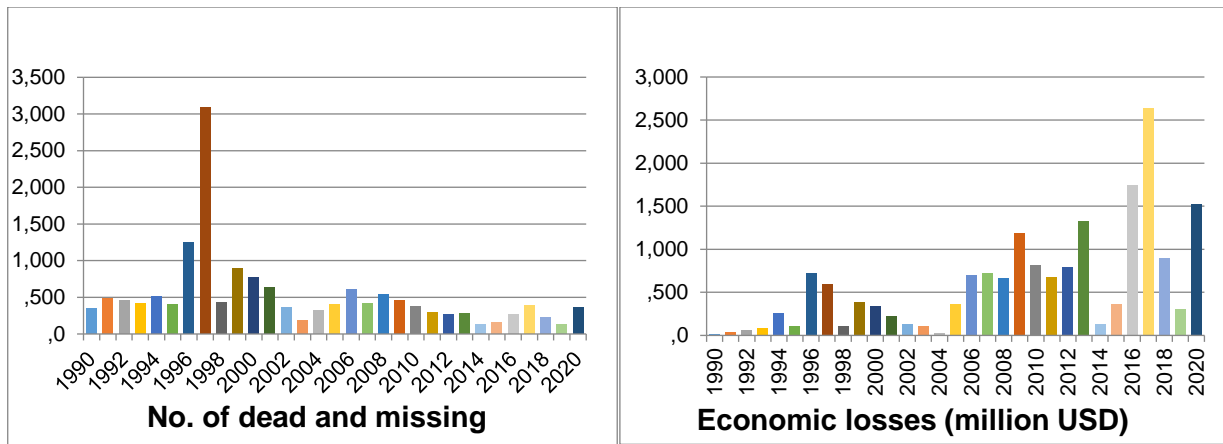


Figure 13: Damages and losses of disaster for the period 1990 – 2020 in Vietnam

Source: Vietnam Disaster Management Authority

3. Major disasters in Vietnam

The following is a list of major natural disasters in Vietnam since 2015:

October 2021 – Floods and Tropical Depression

Floods and landslides caused by heavy rain affected northern and central Vietnam, resulting in casualties. In Quang Binh province, up to 1,903 residents across seven towns and districts were evacuated, and more than 1,300 houses were damaged. In Quang Ngai and Quang Nam at least one person died, 7,000 people were evacuated, and more than 16,400 houses were flooded. Floods and landslides blocked many of the main roads across central and north Vietnam, and power outages were reported in Thua Thien-Hue Province⁹.

October to November 2020 – Central Vietnam Floods

In October and November 2020, Vietnam experienced the worst flooding in the past decade with the Inter Tropical Convergence Zone combined with six consecutive tropical depressions, storms, and tropical typhoons that resulted in widespread flooding in most of central Vietnam, killing 291 people with an additional 66 persons reported missing, and severely affecting 1.5 million people. The disaster destroyed over 500,000 houses, 144,000 ha of rice paddies, 787 km (489 miles) of dykes and canals, and eroded and damaged 272 km (169 miles) of coastline, resulting in economic damage worth US\$1,443,850¹⁰. The VNDMA reported that many areas in central Viet Nam recorded a total rainfall of more than 2,400 mm, and in some locations, floodwaters exceeded the

⁹ Relief Web, 18 October 2021, accessed 28 October 2021, <https://reliefweb.int/report/vietnam/viet-nam-flooding-landslide-storm-and-wind-central-regions-and-central-highlands-19>;

¹⁰ IFRC, “Operation Update”, Vietnam Floods, Appeal No. MDRVN020, Report No.4, 7 July 2021, accessed 28 October 2021

previous historical high recorded in 1979 and 1999¹¹. Figure below shows a timeline of the weather systems involved in this disaster.

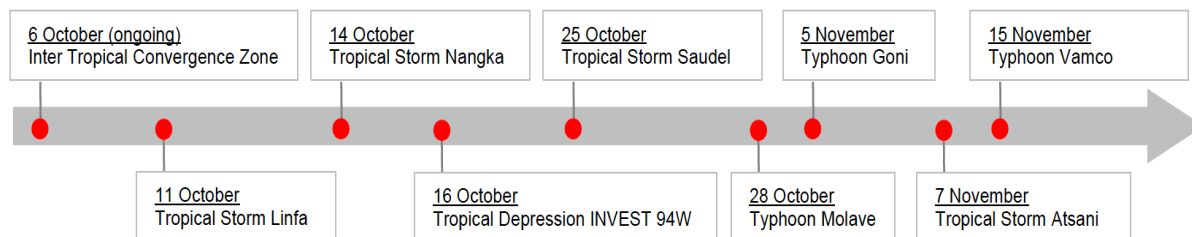


Figure 14 : Timeline of weather systems from 6 October to 15 November 2020.

Source: UNOCHA and VNDMA

Typhoon Molave, which made landfall on 28 October 2020 with winds up to 145km/h (90 miles per hour (mph)), was one of the most devastating typhoons in the country for decades.

February-April 2020 – Severe Drought and Saltwater Intrusion

During this period, 10 of the 13 provinces in the Mekong River Delta area were affected by drought and saltwater intrusion, resulting in water shortages, significant damage to crops, and limited access to water for over 200,000 households. More than 685,000 people had access to livelihoods and basic services disrupted, with an estimated loss of production from 460,000 ha of rice paddy¹².

October 2019 – Typhoon Matmo, Floods, and Landslides

Typhoon Matmo passed over central Vietnam on 30 October, destroying 179 houses and damaging 2,314 others in the provinces of Quang Ngai, Binh Dinh, Phu Yen, Gia Lai, and Thua Thien Hue. As a result one person was reported missing and 14 more people were injured¹³. In the same month, heavy rain caused flooding in other parts of central Vietnam including Nghe An, Binh Dinh, and Ha Tinh, where three fatalities and damaging to over 5,000 houses was reported. The heavy rain also triggered landslides, which blocked major roads in several areas¹⁴.

November 2017 - Typhoon Damrey

The aftermath of Typhoon Damrey affected 4.3 million people in 9 provinces and left 107 people dead. The typhoon destroyed approximately 3,400 houses and damaged

¹¹ "Flood Response Plan", UN Resident Coordinator Office Vietnam, Issued 31 October 2020

¹² IFRC, Vietnam DREF Operation No. MDRVN019, Emergency Plan of Action, 5 February 2020, accessed 28 October 2021

¹³ "Typhoon Matmo injures 14, leaving 1 missing". Relief Web, 3 November 2019, accessed 28 October 2021

¹⁴ "Vietnam – Deadly Floods in Central Provinces", Floodlist, 22 October 2019, accessed 28 October 2021

approximately 141,100 houses. The Government evacuated more than 36,000 people in the coastal Can Gio district of Ho Chi Minh. The typhoon also submerged 5,296 ha of paddy fields and nearly 15,000 ha of vegetables and fruit fields.

2015-2017 - Drought

The worst drought Vietnam had seen in 90 years started in 2015 and lasted until 2017. The drought was attributed to the El Niño weather event, with 52 out of 63 provinces affected. In addition, the drought was aggravated by saltwater intrusion that extended up to 90 km inland in some coastal areas, leaving river water too salty for human or animal consumption, or to irrigate crops and continue fish-farming production. In total, 2 million people including 520,000 children and 1 million women, were in need of humanitarian assistance.

4. Vietnam disaster risk management system

4.1 Legal basis for disaster risk management in Vietnam

Most of the laws and regulations on natural hazards are concerned with high-risk hazards such as floods and storms, while other hazards were addressed in separate laws and regulations. This reflects the historical origins of Vietnam's natural disaster management framework in 1946 when the Central Dike Protection Committee the forerunner of the present NSCNDPC was established by decree of President Ho Chi Minh. The following are some of the key legal instruments relevant to disaster management in Vietnam:

- **The Law on Disaster Prevention and Control**, adopted by the National Assembly of Socialist Republic of Viet Nam (Law No. 33/2013/QH13 on 19/06/2016) and the Amendment of Law on Natural Disaster and Control and Law on Dyke Management (Law N0/60/2020/QH14 on 17/06/2020). The LNDPC is the first stand-alone law to set out Vietnam's institutional arrangements, functions, and mandates for disaster management. It is also the first law to cover all natural hazards in the country.

Other documents guiding the implementation of the Law include:

- Decree No. 66/2021/ND-CP dated 06/07/2021 of the Government on the guidelines of the law on disaster prevention and control.
- Decree No. 79/2021/ND-CP dated 01/08/2021 of the Government on the establishment of the Disaster Risk Management Fund.
- Resolution No. 76/NQ-CP dated 18/06/2018 of the Government on disaster prevention and control.
- Decision No. 553/QD-TTg, dated 06/04/2021 of the Prime Minister on approving the national program on community awareness raising and community-based disaster risk management.
- Decision No. 18/2021/QD-TTg, dated 22/04/2021 of the Prime Minister on detailed regulations on the disaster forecast, warning and information transmission and risk levels.

- Joint Circular No. 43/2015/TTLT BNNPTNT-BKHDT, dated 23/11/2015 of the Ministry of Agriculture and Rural Development and the Ministry of Planning and Investment on providing guidance on the statistical analysis, the collection of statistics and assessment of damage caused by disasters.
- Circular No. 10/2021/TT-BKHDT, dated 22/12/2021 of the Ministry of Planning and Investment on guiding the integration of disaster prevention and control content into the socio-economic development plans and sectoral plan and development plans.

4.2. Organizational structure for disaster risk management in Vietnam

Since the enactment of the Law on Natural Disaster Prevention and Control (LNDPC) in 2013 and its amendment by Law 60/2020/QH14 in 2021, Vietnam has further systematized its disaster management apparatus.

The structure and responsibility for DRM and disaster response is set out in the LNDPC and its supporting decrees (regulations), which lay out a multi-agency and hierarchical model for disaster management. The Government of Vietnam coordinates its work at the national level under the umbrella of inter-ministerial committees, which are replicated at the provincial, district, and commune/ward-level. The system of disaster risk management in Viet Nam is shown in the figure below:

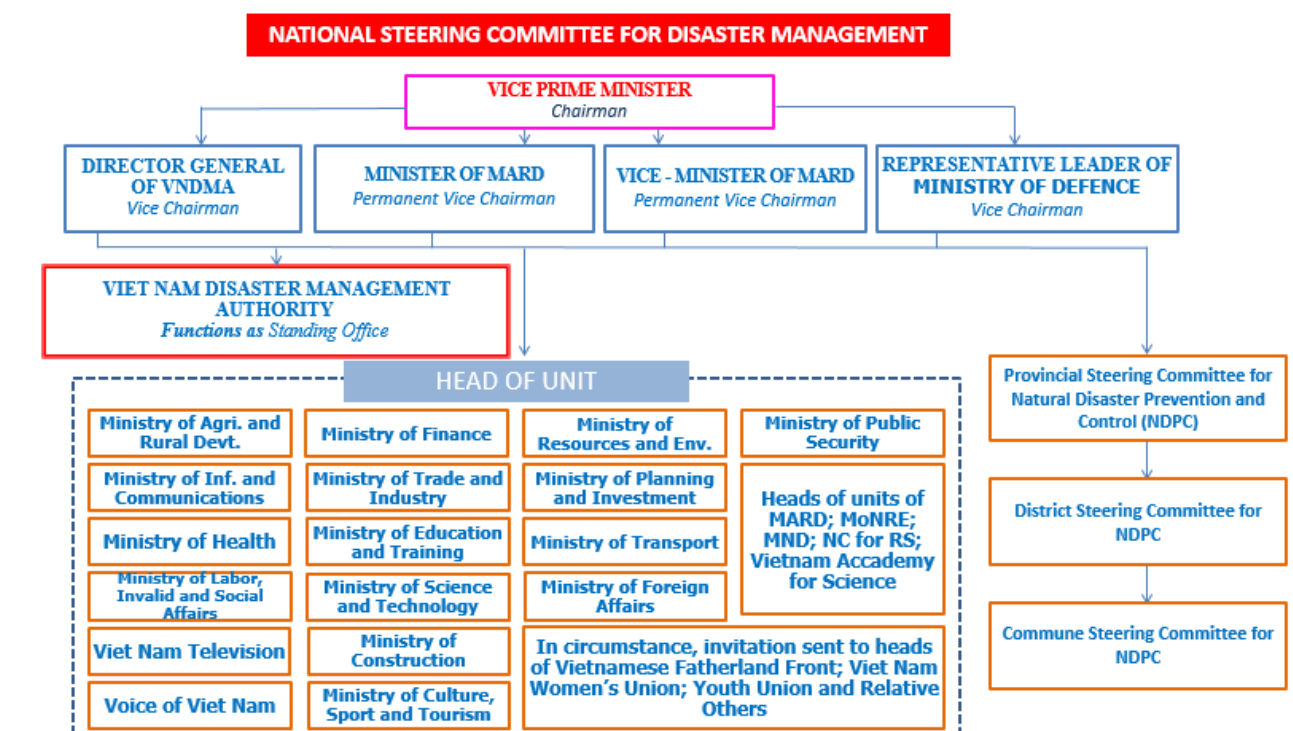


Figure 15 : Systems of DRM in Viet Nam

4.2.1 National Steering Committee for Disaster Prevention and Control

The National Steering Committee for Disaster Prevention and Control, formally the Central Steering Committee for NDPC is the top body for the Vietnamese Government disaster management policy development and decision-making. The Standing Office of

the NSCNDPC is the VNDMA, an agency under the MARD. Although the NSCNDPC is established under the LNDPC, its mandate and structure is further elaborated through supporting decrees issued by the Prime Minister, which has allowed the government to refine the role and responsibilities of the NSCNDPC over time through periodic amendments.

The Deputy Prime Minister chairs the NSCNDPC. The Minister of MARD is the Permanent Vice-Chairperson of the NSCNDPC, and the Prime Minister has discretion to appoint other Deputy Chairs. In practice, the General Director of the VNDMA and the Head of the Ministry of Defense (MOD) have acted as effective Vice-Chairpersons of the NSCNDPC. Members of the NSCNDPC include senior representatives of ministries, ministerial agencies, and governmental agencies senior representatives of Vietnam Television, Voice of Vietnam, Vietnam News Agencies, and the Chief of the Office of the National Committee for Incidents and Disasters Response, Search and Rescue (VINASARCOM).

The mandate of the NSCNDPC is wide-ranging from policy and planning to directing disaster response, and includes the following responsibilities:

- Provide guidance for the formulation and implementation of national strategies and plans, and policies and laws on natural disaster management;
- Preside over the preparation of disaster response plans;
- Direct and coordinate disaster response and recovery nationwide: direct response to “Level 3” disasters;
- Provide advice on directing response to “Level 4” and “Level 5” natural disasters;
- Coordinate and assist or direct local authorities to respond to “Level 1” and “Level 2” natural disasters if such disasters have unanticipated developments which may result in serious consequences;
- Depending on the natural disaster developments and actual situation, decide to take urgent measures and mobilize resources of ministries, ministerial agencies, governmental agencies, organizations and individuals to respond to and remedy the consequences of natural disasters in accordance with regulations of LNDPC;
- Direct the production of statistics on damage and local authorities and ministries’ demands for emergency assistance, recovery and reconstruction;
- Consolidate and consider proposing to the Government and Prime Minister for their decision on measures, use of central government budget and other legal resources for emergency response and disaster recovery nationwide;
- Inspect, expedite and provide guidelines for natural disaster management by ministries and local authorities as prescribed by law;
- Direct, organize drills and provide training for forces involved in natural disaster management; direct, implement and organize the implementation of measures to gradually increase civil capacity for natural disaster response;

- Direct and organize the provision of infrastructure, equipment, materials and special-purpose vehicles; establish database to serve issuance of decisions on command over disaster management at all levels;
- Call for, receive and provide domestic and foreign assistance in case of disaster-related emergency due to natural disasters;
- Provide guidelines, inspect, expedite and consolidate results of provision of assistance resources and report same to the Prime Minister;
- Direct and prepare documents, provide training, disseminate and communicate information via social networks and raise community awareness of natural disaster management on an annual basis;
- Provide guidance on activities of internal voluntary forces in charge of natural disaster management;
- Advise the Prime Minister on establishing a Front Line Steering Committee responsible for provide directions in the areas affected by disasters in special situations;
- Preside over developing and publishing a white paper on disaster management on an annual basis;
- Provide directions and formulate an operating plan and plan for provision of funding for performance of tasks on an annual basis.

4.2.2 Vietnam Disaster Management Authority

The VNDMA is the Standing Office of the NSCNDPC. From its origins 20 years ago as the Department of Dike Management and Flood Control, VNDMA's mandate has widened to cover the 22 or so different types of hazards identified under the LNDPC. VNDMA serves as a natural disaster management authority all year round. During the October 2020 historical flooding in Central Vietnam, the VNDMA was as an active responder and implementer of disaster relief funds. With the establishment of the Natural Disaster Prevention and Control Funds (NDPCFs), to be managed by MARD/ VNDMA, VNDMA will have more authority to mobilize funds from domestic and international donors to strengthen its role in supporting relief efforts.

4.2.3 Disaster Risk Reduction Partnership

The DRR Partnership is an initiative established under the NSCNDP, and has members from key UN agencies, international NGOs, and bilateral and multi-lateral partners. It provides a forum to effectively enhance cooperation and coordination between the Vietnamese government, donors and development partner community, NGOs, and private sector entities in a concerted effort for disaster risk reduction. The ADB is co-chair of the DRR Partnership with the MARD/VNDMA in 2021 and 2022.

CHAPTER 4: COMMUNITY BASED DISASTER RISK MANAGEMENT

1. Introduction

Vietnam and Japan have traditionally experienced many natural disasters due to its topography, climate, and other natural conditions. Both countries have the legislative and institutional arrangements on disaster risk management and implement efficient structural and non-structure measures to reduce the disaster impacts. In order to prepare for the disaster, both Vietnam and Japan take structural measures to prevent or mitigate damage from disasters, such as the construction of dyke system and improvement of earthquake resistance capacities. Beside the structural measures, non-structural measures are applied effectively such as awareness raising campaign, hazard mapping and education for disaster risk reduction. The role of community in disaster risk management has been increased significantly in recent years. Instead of spending much on mobilizing the resources from outside, the capacity building for the local residents to response to disaster is more cost effective. That is also the main reason for the promotion of community based disaster risk management approach.

Throwback to the 1995 Great Hanshin-Awaji Earthquake, about 80% of those buried alive were rescued by “self-help” including family members and “mutual support” by neighbors, and only about 20% were rescued by public rescue teams. As for the case of the torrential rain of July 2020 that caused damage in Kumamoto and other prefectures, many residents of Kuma village responded to a survey that the “trigger” for them to consider evacuating outside their homes was not only the surrounding conditions such as heavy rainfall and evacuation information or disaster prevention weather information, but also evacuation calls from family, friends, acquaintances, neighborhood associations and neighbors. This indicates that “self-help” and “mutual support” are as important as “public support”.

In Vietnam, the CBDRM concept was adopted in 2000s by the international non-governmental organizations. After nearly 10 years of piloting and implementing in Vietnam, in 2009, the first time Vietnam approved the National Program on community awareness raising and community based disaster risk management. It has been another 10 years passed and Vietnam is on the way to enhance the community resilience by promoting the best practices on CBDRM.

In the context of climate change, natural disasters are increasingly extreme, causing serious damage to residents and property, raising awareness and CBDRM is an important activity that has been adopted in many parts of the world. The knowledge exchange is a best tool for the disaster prone country like Vietnam to enhance its capacity in DRM and reach the ultimate goals of reducing disaster impacts to the community. This part will partly summarize the community awareness raising and CBDRM activities in Japan and Vietnam. From that, lesson learned will be raised along with the recommendations for best applied Japanese models in Vietnam.

2. Public awareness raising and community-based disaster risk management in Japan

2.1 Awareness Raising and Knowledge Promotion on Disaster Reduction

Promotion of efforts for disaster reduction: In order to strengthen the community resilience and reduce the disaster impacts, there must be close cooperation among individuals, families, local community and relevant entities, to build momentum for a nationwide movement. The Government has designated the first day of September as the “Disaster Preparedness Day” and the week including this day as the Disaster Preparedness Week and carries out various events to raise awareness and readiness about the disaster. Disaster drills and promoting events are held in various parts of Japan. In 2011, the Act on Promotion of Tsunami Countermeasures was enacted, and November 5th was designated as the “Tsunami Preparedness Day.” In the 70th UN General Assembly, November 5th was designated to be the “World Tsunami Awareness Day”.



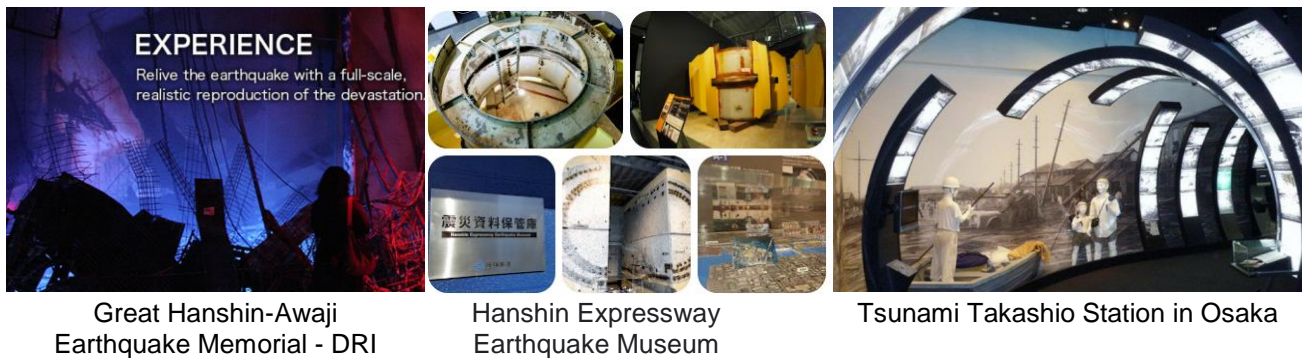
Education for disaster risk reduction is quite important for enabling individuals to have correct understanding about natural disasters and be able to act on their discretion to prevent and reduce damages from a disaster. In the Great East Japan Earthquake, a case of an elementary school was reported to have safely evacuated based on their daily education of the past disasters and training about evacuation. Thus, it is important to enhance education for disaster risk reduction at schools and in local communities so that people are nurtured to be equipped with correct understanding about disaster awareness. The Cabinet Office implements “Disaster Reduction Education Challenge Plan” to nurture a positive environment for more proactive disaster reduction education by picking up active local groups, schools and individuals who demonstrated better disaster reduction plans and actions, give support to them, and publicize their achievements, through the web site, intending that such plans and programs be widely recognized and utilized throughout the nation. Also, the Cabinet Office and the Council for Promoting Disaster Risk Reduction implement the award for posters with the aim of further raising awareness of disaster prevention and reducing disaster damage by soliciting poster designs related to disaster prevention from the general public. In addition, the Ministry of Education, Culture, Sports, Science and Technology has enhanced contents regarding disaster reduction in the new Curriculum Guidelines announced in 2017/2018. Further improvement with disaster management education is promoted through development of materials such as “Guide to Make a Disaster Reduction Manual for Schools (Earthquake and Tsunami),” and “Development of a Disaster Reduction Education to Nurture Power to Live On,” providing guidance for disaster reduction at schools.



Figure 16: Education on disaster risk management in schools in Japan

Source: https://web-japan.org/kidsweb/cool/20/202011_disaster-prevention-education_en.html

Transmission of the lessons learned from generation to generation: Japan is also famous for the wide range of museums in disaster risk management. Although the natural disaster cannot be resisted, the communities have been revived by human power and wisdom. For that reason, there is a strong need to pass on the experience of disaster to future generation. To learn from the earthquakes, tsunami, landslides in the pasts, there are famous museum to exhibit the severe damages, build back better process as well as the lessons learnt through Japanese spirit. Followings are some museums for the awareness raising and learning purposes:



Great Hanshin-Awaji Earthquake Memorial - DRI

Hanshin Expressway Earthquake Museum

Tsunami Takashio Station in Osaka

2.2 Promoting Community Disaster Management Plan at the Municipal level

Municipalities have also made good progress with their own initiatives to raise awareness among local residents based on the model projects of the Cabinet Office. For example, Ichihara City of Chiba Prefecture started the Ichihara Disaster Management 100 Members Meeting in February 2018. It comprises 60 residents recommended by voluntary disaster management organizations and randomly selected 2,000 citizens and hold workshops for formulating a community disaster management plan once every month as a place for residents to consider local disaster management.

To foster disaster management awareness, the Cabinet Office has collaborated with municipalities to showcase effective ways of raising the community interest such as publishing the Guide to Initiatives to Increase Awareness of Disaster Preparedness

among Local Citizens via Random Sampling in March 2017 based on the outcomes of this demonstration project. There are various methods to formulate community disaster management plans, which municipalities strive to disseminate to make a suitable plan in collaboration with each other while nurturing reliable relationships with local residents. Disaster mitigation and prevention awareness may be fostered and propagated from one community to another when municipalities provide rear area support for communities, and prefectures and municipalities spread information horizontally in and out of communities through seminars, etc. It is preferable for each of these communities to start planning voluntarily; based on the model projects of the Cabinet Office and initiatives taken by local governments. The Cabinet Office will also strive continuously to increase public awareness by disseminating this system of formulating community disaster management plans as best it can.

2.4 Successful models on CBDRM

Community based organizations

In Japan, community-based organizations (CBOs) have existed for centuries. They are Suibo-dan for flood risk dating from the 17th century, Syobo-dan for fire fighting from the 18th century, and Jisyubo for earthquake disasters from the 1970s. The volunteer fire corps (Syobo-dan) members have regular jobs but, when disaster strikes, they take part in disaster management activities in their own communities, such as fire fighting, issuing warnings, assisting evacuations, conducting search and rescue operations, and operating facilities. There are currently some 890,000 active volunteers across Japan, which is almost six times the number of career fire fighters.

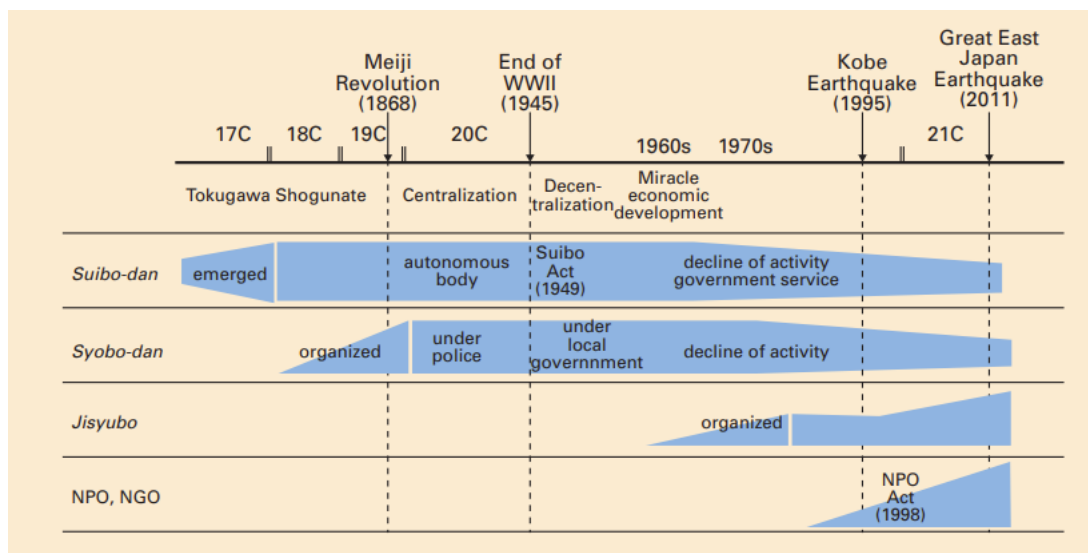


Figure 17 : Historical timeline of community-based organizations

The Fire Defense Organization Act and its under law supporting documents stipulate the corps' roles, organizational structures, members' status as part-time government staff, and compensation and allowances. The local government has principal responsibility for the corps, while the central government subsidizes their facilities. The

Syobo-dan responded to the GEJE at the risk of their lives. Some 250 members were killed or are missing, including 51 in Rikuzentakata City. Based on lessons learned from the GEJE, the Fire and Disaster Management Agency requested local governments to reinforce the volunteer fire corps in October 2011 with equipment, increased allowances up to the level stipulated by law, and the recruitment of new members.

BOKOMI model of Kobe City

The Great Hanshin-Awaji Earthquake occurred at 5:46 on January 17, 1995 caused numerous damages in Kobe City. It destroyed a large number of houses and fires broke in many parts of the city. In this case, the rescue and firefighting units cannot reach and operate at all the disaster site. Therefore, the rescue operations were conducted by citizens. Learn from the earthquake lessons, the Kobe city government focused on the development of the voluntary organizations for DRR in communities. The community based disaster risk reduction organization was known as “Disaster Safe Welfare Communities” which short name is BOKOMI¹⁵. The establishment of BOKOMI was promoted after the Great Hanshin-Awaji Earthquake. Model organizations were established in 11 districts in the city starting from 1995. Currently, 191 districts in the city have their BOKOMI, covering the whole area of Kobe City.

Bokomi model was established based on the municipal elementary school districts by the residents. The reason why Bokomi are based on elementary school district is because there is an existing “welfare community” organization established for welfare purposes in each schools and a disaster risk reduction organization was integrated into the existing organizations. Also elementary schools serve as evacuation sites for community in emergencies in Japan. It is also the reason why Bokomi is established in each school district. The process of establishing Bokomi in local areas is illustrated in the following chart specifically:

- Firstly, the establishment of a community based voluntary organization for DRR is discussed and decided by local authority such as local city office, local fire station, leaders of local resident’s associations, women’s association, elderly associations, volunteer fire corps, etc.
- Once the establishment of Bokomi is agreed, the equipment and materials needed for the DRM activities are distributed from the local government. It is Kobe City in this case. And storehouses are installed in local parks in preparation for emergencies.

¹⁵ BOKOMI is the abbreviation of Japanese name “Bosai Fukushi Komyunithi”

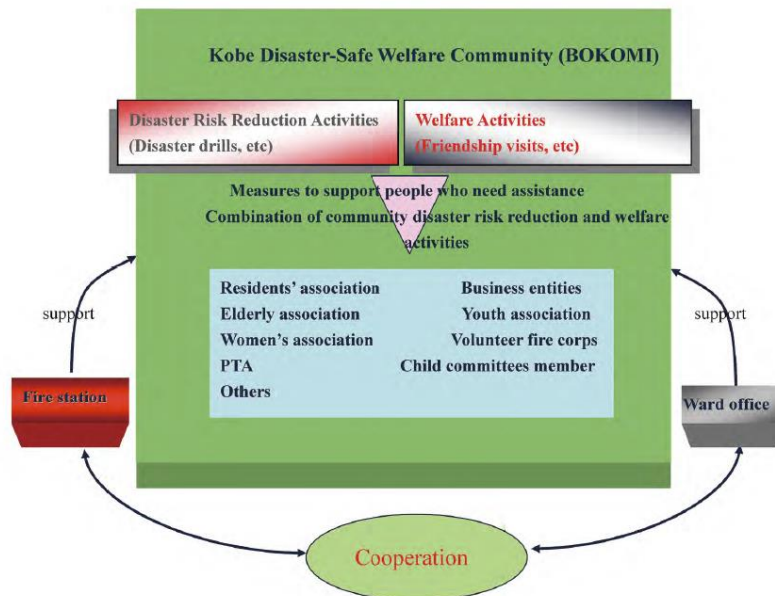


Figure 18: Bokomi model

This is a characteristic features of the community based voluntary organization for disaster risk reduction in Kobe city which were established based on the lessons learned from the Great Hanshin-Awaji Earthquake.

3. Community-based disaster risk management in Vietnam

3.1 National Program on Public Awareness Raising and Community based disaster risk management

Before the National Program on Public Awareness Raising and Community based disaster risk management adopted in 2009, the non-structural measures DRM in Vietnam had many shortcomings, specifically:

- The DRR activities were undertaken passively and heavily deal with situations.
- Insufficient response capacity when disaster strikes.
- Not fully used the local knowledge and experience.
- There were excess human resources on the spot but sometimes cannot mobilize.
- DRM propaganda and education to raise public awareness was implemented irregularly, unsystematically, mainly propagated through the mass media, not unified in bringing education programs on knowledge about DRM into schools.

Until 2007, the National Program on Disaster Prevention, Response and Mitigation to 2007¹⁶ adopted by the Government laid the foundation to the latter National Program on community awareness raising and community based disaster risk management.

¹⁶ Decision No. 172/2007 / QD-TTg of the Prime Minister in 2007

The National programme “Community Awareness Raising and Community-Based Disaster Risk Management” was approved by the Prime Minister in Decision No.1002/QĐ-TTg on 13 July 2009 (also known as the National Program 1002) with the specific objective to ensure that by 2020 all relevant officials will have participated in training and their capacities and knowledge in natural disaster prevention and response have increased. In addition, 70 per cent of the population in disaster-prone areas will be provided with knowledge and information on natural disaster prevention and response. Through this process, people will actively participate in risk assessments, identifying resources and developing natural disaster prevention and control plans focusing on the “four on-the-spot motto”. The Ministry of Agriculture and Rural Development’s (MARD) assumed the prime responsibility for, and coordinate with, related agencies, non-governmental organizations and donors in researching, summarizing and developing guidelines on community-based disaster risk assessment. This will provide local commune and village authorities with specific instructions on how to identify natural disaster risks, vulnerabilities and resources ‘on the spot’, and how to develop suitable solutions for disaster risk reduction. This National Program has the effective date to end of 2020.

On 6 April 2021, in continuance with the National Program 1002, the Prime Minister issued Decision No. 553/QĐ-TTg approving the new ten-year programme “Community awareness raising and community-based disaster risk management up to 2030” (also known as the National Program 553). The main objectives of this programme are to: raise public awareness on disasters and strengthen the DRM capacity of relevant staff, local authorities and communities in disaster-prone areas; increase the climate and disaster resilience of communities at the commune and district levels; and enhance disaster preparedness through active participation in DRM activities and risk-informed development. There are several specific goals of the new National CBDRM Programme, including:

- 100 percent of people in communes with frequent storms, flash floods, landslides, floods, inundation, drought, saltwater intrusion and at least 50 percent of people in other areas are disseminated knowledge about disasters and disaster prevention skills, especially the types of disasters that frequently occur in the area;
- 100 percent of general training levels include disaster risk reduction (DRR) and disaster prevention in some subjects for teaching;
- 100 percent of communes develop disaster prevention and control plans with the participation of the community; and
- Striving for 100 percent of households to receive full information on disasters and information on disaster prevention and control.

The program consists of three components that are closely related to each other, specifically:

- Component 1 focused on consolidating the mechanisms, policies and guiding documents to organize the implementation of activities to raise public awareness and

CBDRM. This includes capacity building activities and integration of DRM contents into teaching materials at schools/universities.

- Component 2, focused on capacity building for staff involved in disaster prevention and control activities; target group 4 and the general community; and government officials at all levels in managing and implementing community awareness-raising activities and CBDRM. In which focus on training activities, training; diversify forms of capacity building for forces engaged in disaster prevention and control as well as individuals and organizations directly implementing the National CBDRM Programme.

- Component 3, focused on strengthening education and awareness, and building capacity and skills for the community on DRR. This includes communication activities on disaster prevention for all groups in the community, and mobilizing people to directly participate in disaster prevention, response and recovery activities at the commune level.

Programme 553 has inherited the lessons learned from National Programme 1002, as well as adjusted and added some new points to be appropriate for the context and practice of disaster prevention and control in the current period. For instance, adding Component 3 on awareness-raising and communication activities; on funding sources for implementing a number of additional activities from the Natural Disaster Prevention and Control Fund; Regarding the subjects participating in the training, target group 4 and local people with high prestige in the community, reputable people in the residential community; related universities; especially the team of propagandists and reporters at all levels; Emphasizing the role of propaganda, media, reporters, press, and shock forces in disaster prevention and control.

3.2 Challenges of Vietnam in implementing CBDRM approach

In the history of disaster risk management, the Vietnamese people have had many lessons and experiences handed down to their children and grandchildren in folk songs when looking at natural events “around” to have proper responses. Residents living in riverside areas have built dyke system, prepared bundles of bamboo and sand to prevent dyke failure in case of floods, those living in coastal areas where storms occur frequently reinforce and support roofs, or select the direction of the house to avoid heat, cold, ... Experience from major natural disasters shows that the community's awareness and skills of disaster risk reduction are a cost-effective non-structural investment solution - low cost but high efficiency. The motto is that people know how to "protect" themselves, their relatives and neighbors before receiving outside support. Every year, we have to deal with many types of natural disasters, so in order to minimize the damage, this work needs to be done regularly, continuously, systematically and "smartly", and good lessons need to be spread everywhere, every time.

Thoroughly grasping that importance, the National Program on CBDRM was promulgated in the international context where it must be recognized that “structural” solutions have not yet brought high efficiency. Changes from passive response to proactive prevention, towards "managing" disaster risks in a "proactive" way. Domestic

and foreign organizations engaged in DRM in Vietnam are very interested in mobilizing resources to organize the implementation.

Over the past 10 years of implementing the National Programs, there have been about 200 documents in the central level and localities guiding, formulating plans, and organizing the implementation; organized more than 3,500 training courses for about 1485 provincial trainers, and 109 thousand school teachers; more than 8,000 training courses for nearly 4 million participants. Along with that, document development and communication activities were also promoted, more than 100 thousand documents and manuals were distributed in the community, nearly 1,000 performances were organized, 1.6 million activities in communication of disasters are carried out. Construction activities for community-based DRM works, and procurement of equipment to support simultaneous implementation of NDPC work by localities. However, some objectives set out in the National Program have not been completed due to a number of subjective and objective reasons.



Figure 19 : CBDRM Training for the local community

In the first phase, the documents guiding the implementation of the National Program are still slow to implement, the leadership level still disregards the effectiveness of the Program, and residents are not enthusiastic to participate or the activities are heavy in form. While the support from international organizations and NGOs is very large, accounting for more than 54% (compared to 40% of the Program) of the total implementation budget for most of the Scheme's activities at central level and localities.

One of the biggest difficulties in the process of implementing the Scheme is the financial resource, the financial allocation structure, the local's expectation on the central support. Although the integrated projects have reached 120% of the plan; however, the budget structure is about 48% lower than the plan of the Program. The main group of activities in training and communication exceeded the funding in the Scheme (reaching VND 474.3 billion, exceeding 73.6 billion) due to a number of projects (ODA, technical assistances, grants) with a large budget but concentrated in a few beneficiary communes. This is one of the gaps for the Scheme for Lead agencies to consider and advise in terms of the effectiveness of the project and the achievement of the objectives in the Scheme.

Decree No. 83/2019/ND-CP and No. 94/2014/ND-CP on the establishment and management of the DRM fund at the provincial level and newly adopted DRM Law required the establishment of a DRM fund at the central level, is an important source for all levels to implement the National Program in the period of 2021-2030.

One of the important activities in need of prioritization in implementation in the coming period is the monitoring and evaluation of the National Program implementation results. The Lead Agency is in charge of reviewing, correction and supplementing to promulgate the set of indicators and request localities at all levels and organizations to participate in the implementation. Annually, reports together with the results of evaluation of the Program implementation must be sent to the VNDMA for monitoring, synthesis and reporting to the Government.

CHAPTER 5: LESSONS LEARNED FOR VIETNAM

1. Lessons learned from Japan

Japan is an island nation located in East Asia, which is known for many major natural disasters in the world. The CBDRM has been built, promoting a “bottom up” approach in harmony with the top-down approach, to address challenges and difficulties caused by natural disasters. In order to effectively implement CBDRM, there must be a cooperation among residents, local authorities, central authorities.

The legal basis for implementing CBDRM activities is based on legal documents such as: Basic Act on Disaster Management, Flood Control Act, Disaster Relief Act, etc. This is also the foundation for the establishment of Flood Response Team and Fire Response Team in the community. While the Flood Response Team is responsible for conducting preventive actions before a flood occurs, the Fire Response Team is responsible for implementing response activities during and after a disaster (including earthquakes, floods, fires, ...). Some localities have grouped these two tasks into one, specifically, the Fire Response Team performed both tasks above. Followings are summarized of responsibilities of relevant stakeholders in applying the CBDRM approach:

- Responsibilities of local authorities in response to floods: patrol the system of NDPC works during the time when there is no flood; developing and issuing flood risk maps and conducting drills.
- Responsibilities of the Flood Response Team in the community: implementing flood prevention and control activities in the community on a voluntary basis. Team members are appointed by the local government to perform part-time “special” duties as a local civil servant in addition to their main job.
- Financial resources for CBDRM activities: supported by local authorities from the allocated budget based on the team's activities. In addition, additional funding is provided from the central budget for activities such as: building disaster hazard maps, organizing drills, purchasing equipment. Funding from the central government through the regional representative agency accounts for about 50% of all expenditures. For major natural disasters, the support from the central government will help local authorities respond and recover more quickly.

With all the information collected, there are some lessons from the CBDRM model in Japan for Vietnam:

- Empower the community in communication activities to help achieve efficiency and sustainability in CBDRM.
- Integrate safe livelihoods with CBDRM activities.
- Facilitate the community to develop the hazard map containing high risk areas, the route to the evacuation centers, the information of contact persons. The hazard map

developed by the community should be distributed to every house. The hazard map is also used to develop the local DRM Plan.

- Get the involvement of community in developing the DRM Plan.
- Since natural disasters are difficult to accurately predict, the important thing is people's awareness of the disaster and how to prevent it.
- Make CBDRM activities transparent, disseminate knowledge and information to encourage participation of people.
- Organizing trainings to raise awareness and knowledge about disaster risk management for the next generation is very important. Japan has the wide range of museums in which the visitors who are interested on DRR can see the image of past disasters and receive the messages from the victims of the disaster. The maintenance of the records (photos, documentary, and samples of broken physical features) about the past disasters is very systematic.
- The institutionalization of CBDRM activities, clearly stating the responsibilities of the parties, especially the participation of the private enterprises sector plays an important role in promoting more sustainable DRM programs.
- Successfully built up a model of Community Based Voluntary Organization for Disaster Risk Reduction ("BOKOMI") after the earthquake disaster in Kobe in 1995. BOKOMI implements disaster risk reduction activities combined with community development through cooperation between the above Response Teams and other organizations in the community (Association of the elderly, youth, women, parents, students, enterprises, ...). BOKOMI is being widely deployed in primary schools.
- It is necessary to ensure stable financial resources for implementing CBDRM.
- In the evacuation center, place the stockpiling items, chargers, blankets, heaters and some radio communication facilities which can be used in the emergency case.
- Regularly conduct the DRM drills. Most of cities have the schedule for monthly drills. The CBOs distributed the lists to every house and anybody who are interested to participate can join.

2. Recommendations

As mentioned earlier, Vietnam and Japan have long standing experience in coping with natural disasters as well as implementing CBDRM activities. The experiences and techniques that applied in Japan are useful in Viet Nam as well. Meanwhile, if the Japanese disaster management models were implemented in Viet Nam, knowledge would be shared and created and it would make synergy, so that disaster management power of both countries would be further improved.

To achieve the ultimate goals of DRM in reducing the people suffers due to disaster, CBDRM is considered as a cost effective measure. Of which raising people's awareness and capacity on community-based DRM is the work of the whole society, so it needs to be done regularly, continuously and systematically. During the implementation process of the CBDRM activities, the legal framework should be regularly updated and

adjusted based on practical lessons learned in the community combined with scientific and technical progress. Based on the successful models of Japan in raise community awareness and CBDRM, followings are some valid recommendations that Vietnam can pick up to enhance the community resilience to disaster under the context of climate change:

- Most people saved from major disasters are rescued by relatives and neighbors within the first 24 hours—before professional responders can get there. Statistics show that in the 1995 Kobe earthquake, 80 percent of those rescued were saved by their neighbors. So, while local and national authorities have key responsibilities for civil protection in hazard events, communities are always the first responders and should be empowered in that role.

- Community plays a central role; therefore, the local DRM Plan should have the strong involvement of the community in development process. In addition, creating equal opportunities for men, women, and vulnerable groups to participate and benefit from CBDRM activities.

- The establishment of the community based organization such as the flood prevention team or firefighting team should be promoted. The in-place human resources who understand the situation and people will be an advantage in effectively response to disaster.

- Strong and effective community-based DRM requires grassroots support and linkages to the day-to-day life of the community. Linking disaster risk awareness and preparedness activities to local cultural events can be extremely effective in maintaining a culture of preparedness.

- In addition to grassroots support, building effective and sustainable capacity for community-based DRM requires the formal recognition and support of local and national authorities. In addition to providing financial and technical assistance, local and national governments should develop legislation on and institutionalize the role of CBOs.

- Prioritize implementation in areas frequently affected by natural disasters; promote the integration of CBDRM into the education program both official curriculum and extra curriculum.

- It is quite amazing when Vietnam is one of the most disaster affected countries but the country doesn't have any museum to display the disaster consequences as well lessons learned for the next generation. Vietnam should consider to develop one where all the historical disaster events are recorded and disaster response measures can be passed to everyone.

- Continue learning from BOKOMI model - a community-based disaster risk reduction model widely implemented in Japan. In cooperation between Viet Nam and Japan, UNICEF Vietnam worked on disaster risk reduction by improving disaster management power and resilience of communities in Viet Nam, including the implementation of BOKOMI model. This initiative should be continued in the effort of reducing disaster risks for the children in Vietnam.

- Vietnam is the member of ADRC since 1997. From the very first time joining ADRC, Vietnam has attended all the activities initiated by ADRC. For FY2022, Vietnam Disaster Management Authority sent its staff to join the visiting researcher program as well as attending the Asia Conference in Disaster Reduction (ACDR) in Sendai. Since, ACDR is a knowledge hub in disaster risk reduction, the strong collaboration between VNDMA and ACDR should be realized in a joint project, especially focusing on the community awareness raising and community based disaster risk management.

REFERENCES

1. Japan

White Paper on DM, Japan 2022 - Cabinet Office, Government of Japan (https://www.bousai.go.jp/en/documentation/white_paper/2022.html)

Disaster Management in Japan - Cabinet Office, Government of Japan (https://www.bousai.go.jp/1info/pdf/saigaipamphlet_je.pdf)

Bokomi Guidebook – Sharing lessons learned by the City of Kobe from the Great Hanshin – Awaiji Earthquake (JICA, Disaster Reduction Learning Center, KOBE City Fire Bureau, https://openjicareport.jica.go.jp/216/216/216_000_11980877.html)

The disaster Risk of the Land of Japan, Ministry of Land, Infrastructure, Transport and Tourist website (<https://www.mlit.go.jp/en/mizukokudo/index.html>)

Knowledge Note of Great East Japan Earthquake: Cluster 2 – Non-structural measures: Community Based Disaster Risk Management by Japan Government, Global Facility for Disaster Risk Reduction (GFDRR) and the World Bank (<https://www.gfdr.org/sites/default/files/publication/knowledge-note-japan-earthquake-2-1.pdf>)

Japan Meteorological Agency, 2016, Monitoring of Earthquake, Tsunami and Volcanic Activity (<https://www.jma.go.jp/jma/en/Activities/earthquake.html>)

Booklet of Tokyo Metropolitan government (<https://www.bousai.metro.tokyo.lg.jp/1002147/1008042/1008046/index.html>)

Shizuoka Prefecture: (<https://www.pref.shizuoka.jp/bosaikinkyu/sonae/jishubosai/1030002.html>)

Kochi Prefecture: (https://www.pref.kochi.lg.jp/soshiki/010201/files/2021072000154/file_20217202145525_1.pdf)

My TimeLine Project (<https://www.mlit.go.jp/river/bousai/main/saigai/tisiki/syozaiti/mytimeline/index.html>)

Presentation of Sasahara Akio – Executive Director of ADRC on Disaster Risk Reduction Administration in Japan.

Presentation of Prof. Satoru Nishikawa, Disaster Mitigation Research Center, Nagoya University on Mainstreaming Disaster Reduction and Enlargement of Scope and participation in disaster reduction.

2. Vietnam

Law on Natural Disaster Prevention and Control (2013) and the Law amending the Law on Disaster Prevention and Control and the Law on Dike Management (2020);

National Strategy on Disaster Prevention and Control to 2030 with a vision to 2050;

Prime Minister's Decision No. 553/QĐ-TTg on raising public awareness and CBDRM to 2030 (Programme 553) and National Programme 1002.