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Factors Contributing to the High Resiliency and Capacity of Japan to Natural Hazards in the Context of Social Institutions

A Paper
Presented to the
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Kobe, Hyogo, Japan
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OUTLINE OF PRESENTATION

- Introduction
- Statement of the Problem
- Significance of the Study
- Scope and Limitation of the Study
- Research Methodology
- Presentation and Interpretation of Data
- Findings
- Conclusion and Recommendations

INTRODUCTION

- Japan and the Philippines are highly vulnerable to a variety of natural hazards including earthquakes, tsunamis, volcanic eruption, typhoons, storm surges, floods, landslides and others because of their geographic location.

- Although Japan has suffered enormous damages due to repeated mega disasters since ancient times, at present the country is considered to be leader in disaster management because it has increased its resilience every time a large-scale disaster is experienced.

INTRODUCTION

- Typhoon Ise-wan in 1959 was the turning point for strengthening the disaster management system and led to the enactment of the Disaster Countermeasures Basic Act in 1961, which formulates a comprehensive and strategic disaster management system. Likewise, the Great-Hansin Awaji Earthquake in January 1995 and the Great East Japan Earthquake in March 2011 prompted the nation to continuously review and revise its Disaster Management (DM) system and strongly pursue building national resilience.

INTRODUCTION

- Philippines is currently the 3rd country at risk to disasters worldwide based on the World Risk Index Report 2015. It is based on the Philippine's risk profile that the country took the paradigm shift to disaster risk reduction and management (DRRM). The paradigm shift to DRRM is brought about by the enactment of Republic Act 10121 or the Philippine Disaster Risk Reduction and Management Act of 2010.

- Resilience of Filipino communities has been the framework of the Philippines in the implementation of PDRRM Law. However, the country is confronted with various challenges when it comes to implementing DRRM.

STATEMENT OF THE PROBLEM

This study sought answers to the following questions:

1) What is the Disaster Management System in Japan and the Philippines?

2) What are the examples of DM-related social institutions that promote resiliency and enhance capacity to natural hazards in Japan particularly in Kansai Region and the Philippines particularly in Caraga Region as the researcher's area of concern, in terms of:

   2.1 Government Institutions;
   2.2 Educational/Learning Institutions;
   2.3 Health Care Institutions; and
   2.4 Community/Volunteer Organizations?

STATEMENT OF THE PROBLEM

3. What are the institutional factors that contribute to resiliency and capacity of Kansai Region and Caraga Region as lessons learned from the past disasters as well as good practices and innovations, in terms of the following:

   3.1 Institutional Mechanisms;
   3.2 DRRM-related Plans; and
   3.3 Approaches

SIGNIFICANCE OF THE STUDY

- The result of this study provides a better understanding on the institutional factors that influence Japan's resiliency and capacity against natural hazards as lessons from past major disasters.
- The findings may give clear view of the disaster management system of Japan and Philippines.
- The result of the study will enable better appreciation of the institutional factors in terms of mechanisms, plans and approaches as lessons learned from past disasters, as well as good practices and innovations in DRRM in Japan for possible replication/adoption in the Philippines especially in Caraga Region to further promote resiliency and enhance capacity.
- The information is not only valuable for the researcher in performing her duties and responsibilities as Civil Defense Officer and DRR practitioner/advocate but also for partner-stakeholders in the Philippines.

SCOPE AND LIMITATION OF THE STUDY

- This study is focused on the factors contributing to the high resiliency and capacity of Japan to natural hazards in the context of social institutions.

- Primary sources of data are the actual experiences and learning that the researcher has gained and accumulated through the various field visits to DRRM-related institutions/offices across Japan, orientations/briefings/lectures with local and international experts and interview with key officials in the period of three (3) months as a Visiting Researcher.

- Secondary data include online/electronic sources and personal readings of reference materials provided during the term under the Visiting Researcher Program of the Asian Disaster Reduction Center (ADRC) on August 23-November 18, 2016. The study does not include other factors such as physical, social, economic, motivational/attitudinal aspects.

RESEARCH METHODOLOGY

Research Design

This study used the descriptive research design utilizing the list of guide questions to collect the relevant data for the study. Interviews were conducted to validate and further expound the data gathered. This method is preferred for this kind of research because the expected responses and results are best presented by descriptions.

Research Locale

This research was conducted in the various disaster management-related institutions located in Kansai Region.

Map showing the location of examples of DM-related Social Institutions in Kansai Region

Japan National DM System

"DRR is our DNA"

an important precept in Japan shared with the international community during the Third UN World Conference on Disaster Risk Reduction (WCDRR) held in Sendai in March 2015

For the Government of Japan, ***disaster countermeasures are never "costs", but rather investments in the future*** in achieving safe and secure living

Eriko Yamatani
Minister of State for Disaster Management, Japan

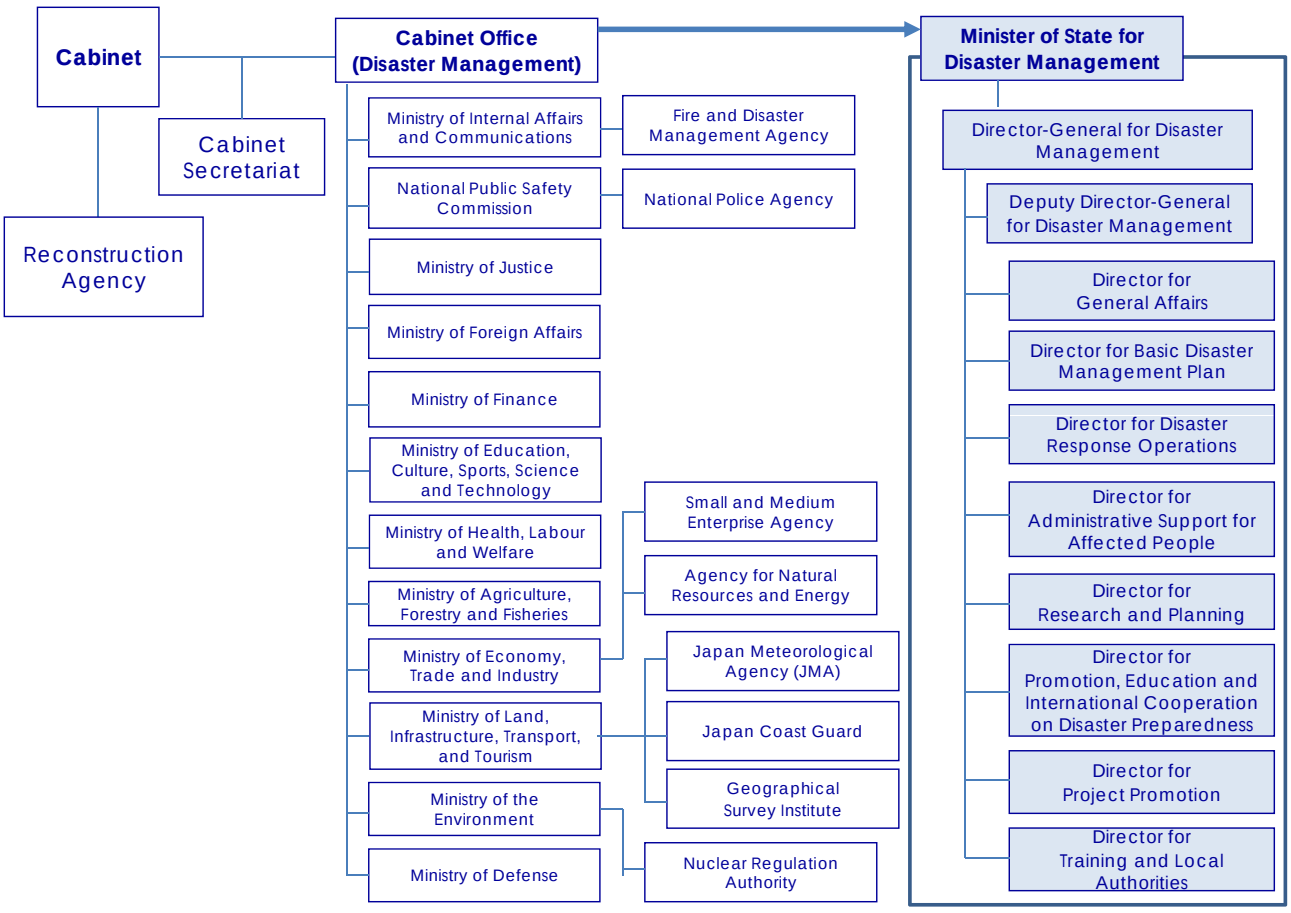
(White Paper on Disaster Management in Japan 2015 – Summary)

DM System in Japan

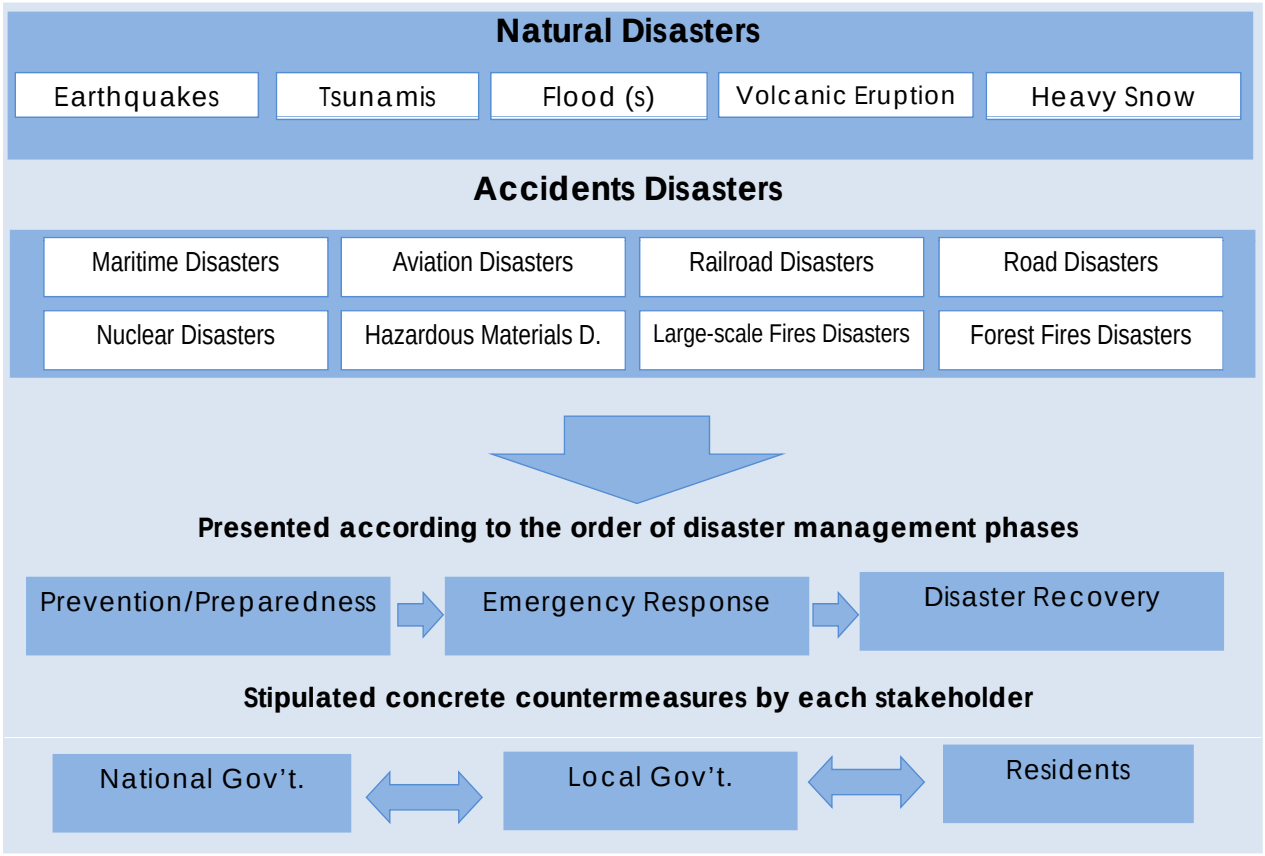
Disaster Countermeasures Basic Act

- Enforced in 1962
- comprehensive and strategic Disaster Management System
- addresses all of the disaster phases of prevention, mitigation and preparedness, emergency response as well as recovery and reconstruction
- clearly defines the roles and responsibilities among the national and local governments
- cooperation of relevant entities of the public and private sectors in implementing various disaster countermeasures

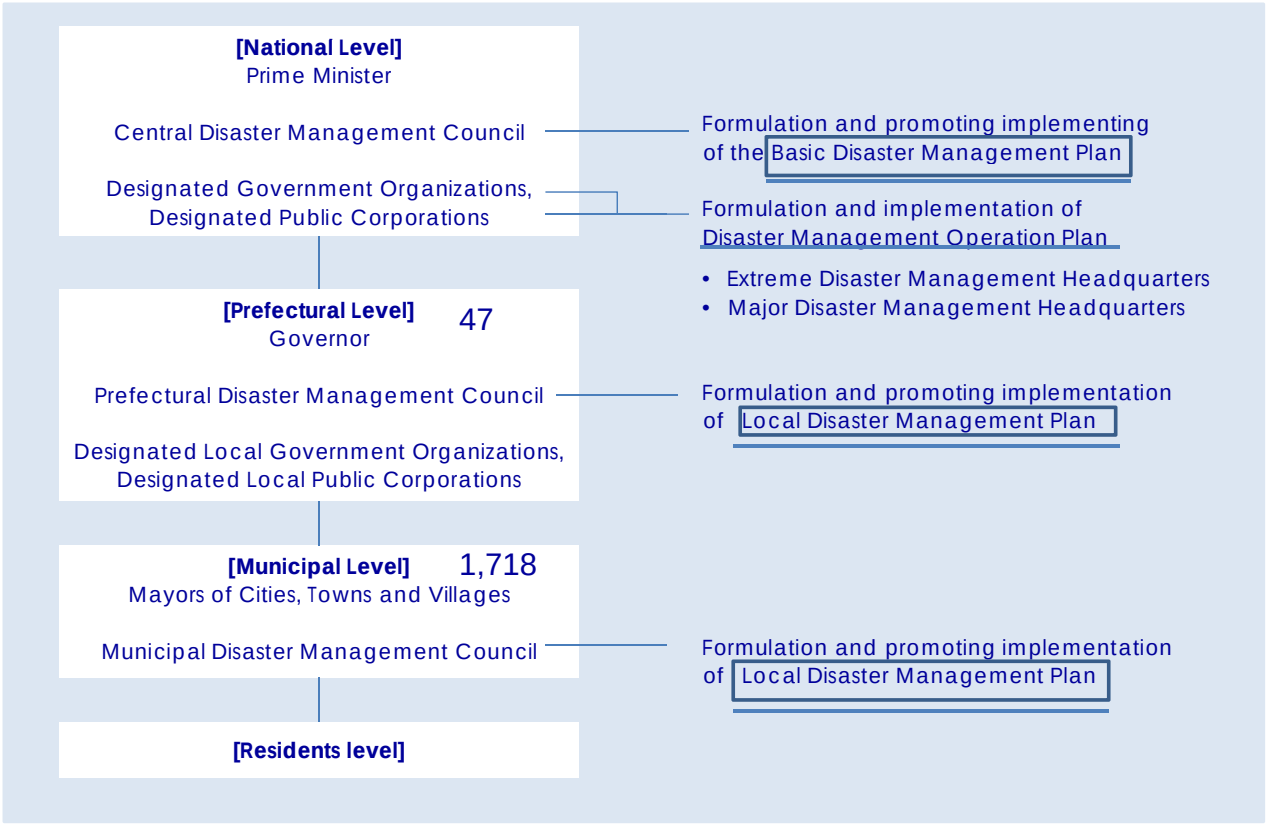
Organizational chart of the national government of Japan



Structure of Basic Disaster Management Plan



Outline of Disaster Management System



Japan National DM System

Main elements of the country's DRM system:

1) Investments in structural measures (such as reinforced buildings and seawalls), cutting edge risk assessments, early- warning systems, and hazard mapping— all supported by sophisticated technology for data collection, simulation, information, and communication, and by scenario building to assess risks and to plan responses (such as evacuations) to hazards;

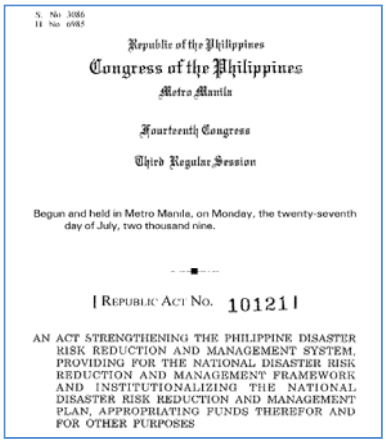
2) A culture of preparedness, where training and evacuation drills are systematically practiced at the local and community levels and in schools and workplaces;

3) Stakeholder involvement, where the national and local government, communities, NGOs, and the private sector are all aware of their roles;

4) Effective legislation, regulation, and enforcement— for example, of building codes that have been kept current; and

5) The use of sophisticated technology to underpin planning and assessment operations.

Philippine DRRM System



S. No. 3086
H. No. 6985

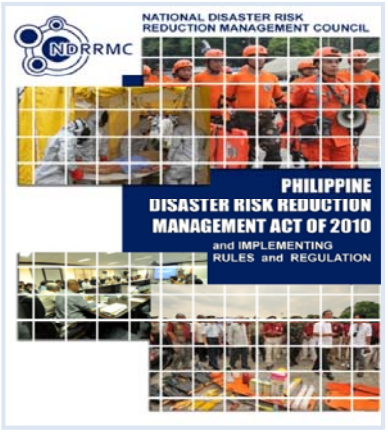
Republic of the Philippines
Congress of the Philippines
Metro Manila

Fourteenth Congress
Third Regular Session

Begun and held in Metro Manila, on Monday, the twenty-seventh day of July, two thousand nine.

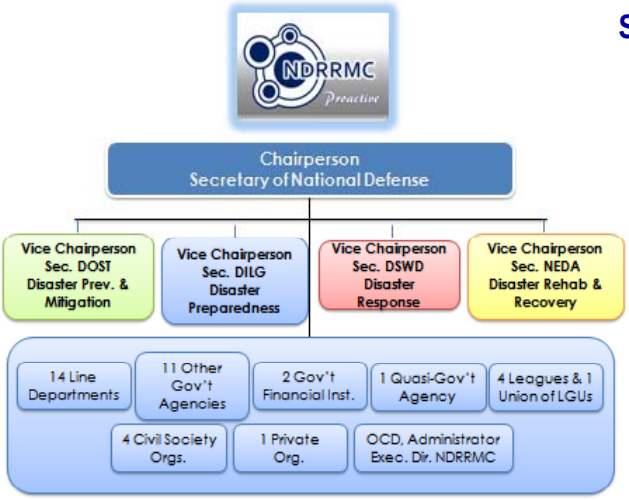
[REPUBLIC ACT NO. 10121]

AN ACT STRENGTHENING THE PHILIPPINE DISASTER RISK REDUCTION AND MANAGEMENT SYSTEM, PROVIDING FOR THE NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT FRAMEWORK AND INSTITUTIONALIZING THE NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT PLAN, APPROPRIATING FUNDS THEREFOR AND FOR OTHER PURPOSES



- Legal basis for the paradigm shift from just disaster preparedness and response to disaster risk reduction and management;
- Enacted on 27 May 2010;
- Implementing Rules and Regulation was approved on 27 September 2010;
- Adopt a DRRM approach that is holistic, comprehensive, integrated, and proactive in lessening the socio-economic and environmental impacts of disasters including climate change, and promote the involvement and participation of all sectors and stakeholders concerned, at all levels, especially the local community;
- "sunset review" of the law was conducted by the congressional oversight committee in 2015

Philippine DRRM System



Salient Features of the PDRRM Law

- repealed PD 15166 and transformed **NDCC into National Disaster Risk Reduction and Management Council (NDRRMC)** which is empowered with policy-making, coordination, integration, supervision, monitoring and evaluation functions which will be carried out through the seventeen (17) main responsibilities stipulated in the law.

- **OCD serves as Executive Arm and Secretariat of the NDRRMC**

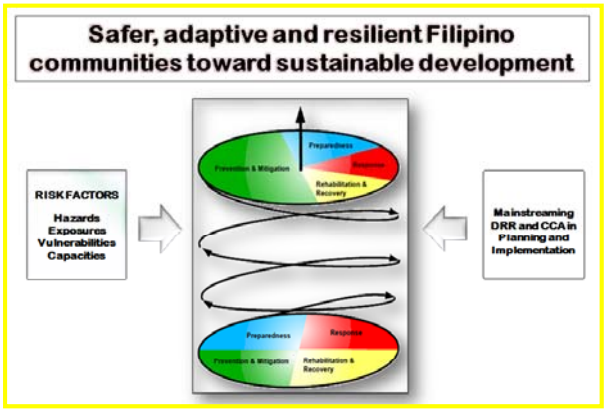
- Primary mission: administer a comprehensive national civil defense and disaster risk reduction and management program

Philippine DRRM System

Salient Features of the PDRRM Law

- establishment of the "**DRRM Network", or the replication of the NDRRMC from the national down to the regional, provincial, city, municipal and barangay levels**

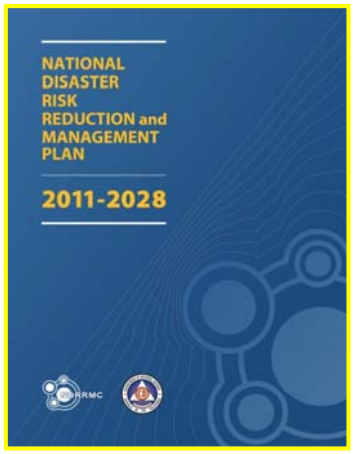
- LDRRMCs' primary responsibility in preparing for, responding to, and recovering from the effects of any disaster;



- Establishment of **LDRRMOs** in every Province, City and Municipality, and Barangay to set the direction, development, implementation and coordination of DRRM programs in their areas;

- **NDRRM Framework** approved on 16 June 2011 as the overall guide to achieve the vision of safer, adaptive and resilient Filipino communities toward sustainable development;

Philippine DRRM System



- **NDRRM Plan** approved on 7 February 2012 to implement all our DRRM targets
- Serves as the national guide on how sustainable development can be achieved through inclusive growth while building the adaptive capacities of communities; increasing the resilience of vulnerable sectors; and optimizing disaster mitigation opportunities with the end in view of promoting people's welfare and security towards gender-responsive and rights-based sustainable development
- The plan has four (4) distinct yet mutually reinforcing priority areas, namely, (a) Disaster Prevention and Mitigation; (b) Disaster Preparedness; (c) Disaster Response; and (d) Disaster Recovery and Rehabilitation.

Examples of DM-related social institutions in Japan (Kansai Region)

Government Institutions

• Hyogo Prefecture Disaster Management Center

- established in August 2000 as the first local government office dedicated to disaster management in Japan;
- serves as the central base for the preparedness and information collection and the regional hub/headquarters for Disaster Management activities;
- capable of functioning even when lifelines have been disrupted in the aftermath of a major disaster;
- utilizes the **Phoenix Disaster Management System** where functions for collection of observation data, prompt damage forecasts, the collection of damage information, map information, image information, estimation of supply and demand of personnel goods and others.

Government Institutions

• Kobe City Hall Crisis Management Center

- Established in April 2002 is one of the policy measures that build upon the history of earthquakes in the city;
- dedicated as a central facility in coordinating a range of emergency response systems and procedures that enable the city to respond to all forms of disaster including wind, flood and earthquakes.
- Key principles of facility design include:
  1) central crisis management facility with high level of disaster protection;
  2) environment friendly and people friendly design; and
  3) urban design consistent with Design City Kobe philosophy

Government Institutions

• Tsunami/Storm Surge Disaster Prevention Station, Osaka City

- considered to be a disaster prevention base responsible for the Osaka area
- flood barriers are installed inside the station to prevent flooding;
- comprises the Disaster Prevention Building and Display Building;
  - Disaster Prevention Building provides collective control for tsunami and tidal surge protection facilities such as seawalls and gates, administered by the Nishi Osaka Flood Control Office.
  - Display Building seeks to enhance awareness of disaster prevention among Osaka residents.

Educational/Learning Institutions

•Disaster Reduction and Human Renovation Institution (DRI)

- also known as the Great Hanshin-Awaji Earthquake Memorial was founded by Hyogo Prefecture in April 2002 with the support of the Japanese government;
- Hyogo co-manages the DRI in cooperation with the national government as a base for sharing the experiences and lessons learned from the earthquake;
- aims at cultivating disaster prevention culture, mitigating social vulnerability, and developing policies for disaster reduction by transferring experiences of the GHAE and applying lessons learned from the Earthquake for the better future, thereby contributing to realizing a safer and more secure civil society along with education regarding the value of life and the preciousness of co-existing.

Educational/Learning Institutions

• Osaka City Abeno Life Safety Learning Center

- helps people prepare against natural disasters such as earthquakes, urban flooding and severe rainstorms by simulation;
- Provides learning and practical knowledge/skills on what to do after an earthquake, both indoors and on the streets, including how to put out fires, evacuate, rescue others, and a series of other necessary disaster preparedness training activities

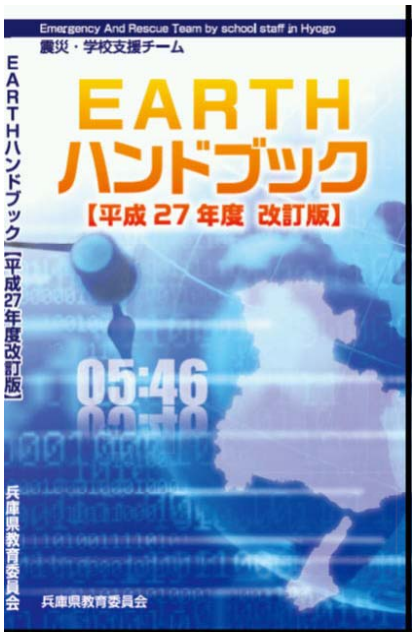
Educational/Learning Institutions

• Inamura-no-Hi no Yakata Tsunami Educational Center, Wakayama

- facility was opened in April 2007 where the virtues of the great local pioneer of "Hamaguchi Goryo" and the danger of tsunamis could be handed down for posterity and for visitors to also learn about the mechanism of and best response to tsunamis
- aims to enhance education on disaster prevention for children;
- consists of the Hamaguchi Goryo Archives and the Tsunami Educational Center;
- as a central base facility for the nationwide PR activities of Hirogawa-cho as the "town of the fire of rice sheaves" in the future.

Educational/Learning Institutions

• Emergency And Rescue Team by School Staff in Hyogo (EARTH)



- established on April 1, 2000 by the Hyogo Board of Education
- the system led by Hyogo Prefecture Government in order to promote school disaster education and improve school disaster management through training professional teachers and staff.
- a knowledge sharing platform to enhance disaster preparedness making the best use of Hyogo's experience and to reciprocate the vast amount of assistance it received from other prefectures during the earthquake
- consists of five (5) groups, namely: School Education, Psychological Care, Evacuation Place Management, School Meals, and Research and Planning

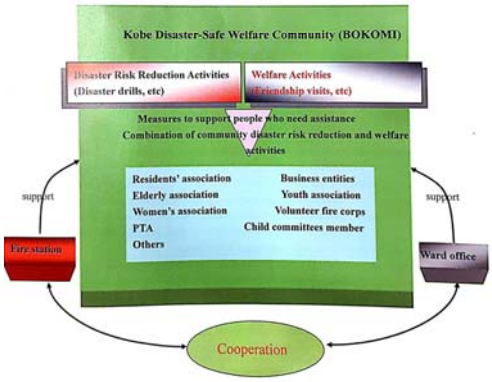
Health Care Institutions

• Hyogo Institute for Traumatic Stress (HITS)

- opened on April 1, 2004 as first research institute ever established in Japan in order to address mental health issues of trauma survivors and those who suffer from Post-Traumatic Stress Disorder (PTSD);
- a multi-functioned facility which include:
  1) Research Department
  2) Clinic & Counseling
  3) Liaison & Networking
  4) Training and Lectures
  5) Information on Traumatic Stress

Community/Volunteer Organizations

•Disaster-Safe Welfare Communities or "BOKOMI"



Bosai Tsunagari Fiesta at Kobe Gakuin University on August 28, 2016

- Kobe City's Community-based voluntary organizations for disaster risk reduction
- Established with local government organizations including the local city office (ward office) and the local fire station, together with leaders of local residents' associations, women's associations, elderly associations, child committee member, youth associations, PTA, local fire station, and local business entities;
- Provided with equipment and materials needed for the activities and storehouses are installed in local parks, usually in elementary school parks which also serve as evacuation centers, in preparation for emergencies.
- Conducts Disaster-prevention and risk reduction activities which include disaster drills and training to promote ties and cooperation in the community

Examples of DM-related social institutions in the Philippines (Caraga Region)

Government Institutions

Provincial DRRM Office of the Province of Dinagat Islands

- focused on efforts in building disaster resilience from its governance, administration, leadership from top to bottom, and community-based Disaster Risk Reduction-Climate Change Adaptation
- consistent in sustaining DRRM programs, projects and activities making it excellent beyond the standard in the 4 thematic areas of Disaster Prevention & Mitigation, Preparedness, Response, and Rehabilitation and Recovery

Government Institutions

•Municipal DRRM Office of Hinatuan, Surigao del Sur

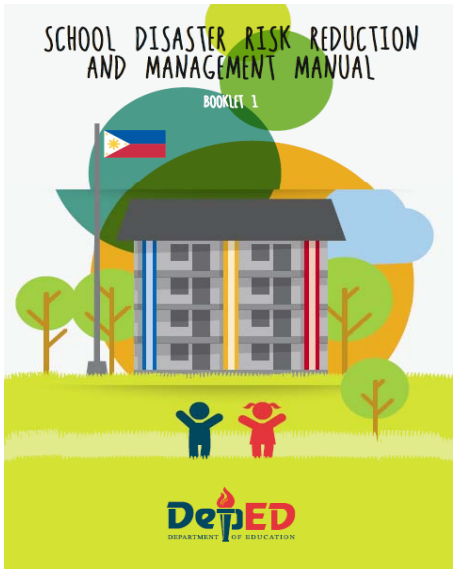
- established in 2011 as mandated by Republic Act 10121
- banking on planning and political will to keep its constituents safe during extreme weather events

" I'd rather spend millions of pesos for prevention, mitigation and preparedness to ensure the safety and well-being of my people rather than spend it for search and rescue."

ATTY. CANDELARIO J. VIOLA, JR.
Municipal Mayor & MDRRMC Chairman

Educational/Learning Institutions

- **Office of the Disaster Risk Reduction and Management Service (DRRMS)**



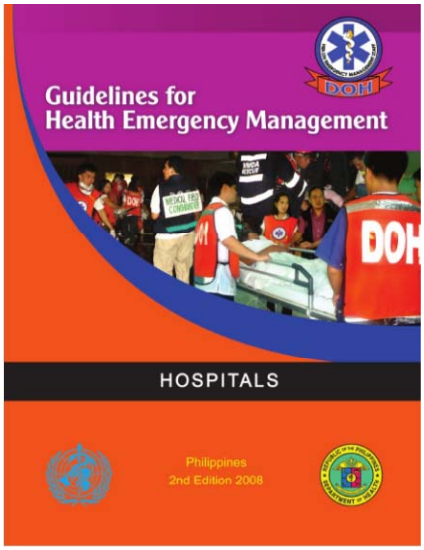
- responsible for ensuring that schools have a functioning DRRM Team
  - School DRRM Team has core functions as it facilitates the harmonization of various efforts of DRRM in Education, externally and internally.

Department Order 37, s. 2015 dated August 12, 2015 re: Comprehensive DRRM in Basic Education Framework

- *guide DRRM efforts in the basic education sector towards resilience-building in offices and schools, and to ensure that quality education is continuously provided and prioritized even during disasters and/or emergencies.*
- *institutionalize DRRM structures, systems, protocols and practices in DepEd offices and schools.*

Health care Institutions

- **Health Emergency Management Staff (HEMS) under the Department of Health (DOH)**



- Created by virtue of Executive Order 102 of 1999
- ensure a comprehensive and integrated Health Sector Management System to prevent or minimize the loss of lives during emergencies and disasters in collaboration with government, business and civil society groups;
- HEMS operates on a 24-hour basis, the facility closely coordinates with the concerned agencies of the health sector;
- provides services on Health, Water, Sanitation and Hygiene (WASH), Nutrition, Mental Health and Psychosocial Support (MHPSS), Medical Consultation & Rapid Assessment in and outside the region during emergencies/disasters.

Community/Volunteer Organizations

- **Rescue and Emergency Service Provider On Disaster, Inc.**

- aims to help the community to be prepared and resilient by providing disaster risk reduction and response services as well as humanitarian assistance
- identified as the only active and sustaining volunteer group in Caraga in line with DRRM & CCA programs
- institutionalized regular community services & activities like medical missions, environmental /ecology protection, support to local events, health information drive, school based endeavours, and trainings
- Actively engaged in capacity-building and policy making especially with local government units and national agencies

Institutional factors contributing to resiliency and capacity of Kansai Region as lessons from the past disasters and good practices/ innovations

Institutional Mechanisms

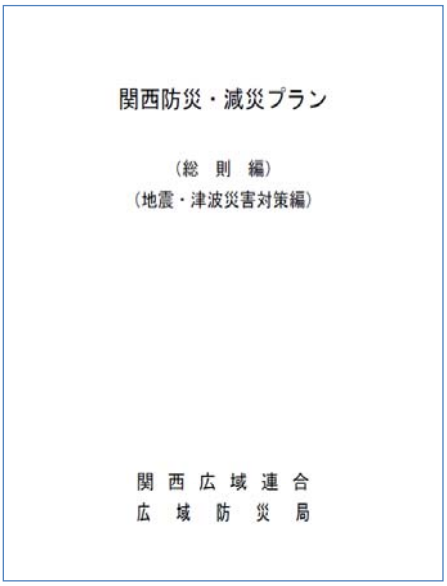
• Union of Kansai Governments (UKG)

関西広域連合
UNION OF KANSAI GOVERNMENTS

- local public entity established in December 1, 2010
- Japan's first cross-prefectural union of local governments, founded jointly by Kansai's seven prefectures, namely: Shiga, Kyoto, Osaka, Hyogo, Wakayama, Tottori and Tokushima with common intention to create a new Kansai-based era
- aims to address issues such as regional disaster prevention that are difficult for one prefecture alone to deal with
- wide-area disaster prevention include disaster prevention drills , stockpile of materials and supplies , support and arrangement to conduct administrative work relating to disaster management, training of personnel, cooperation and coordination of the affiliated body in emergency involving the spread of infection and other non-natural disaster, and research and investigation

DRRM-related Plans

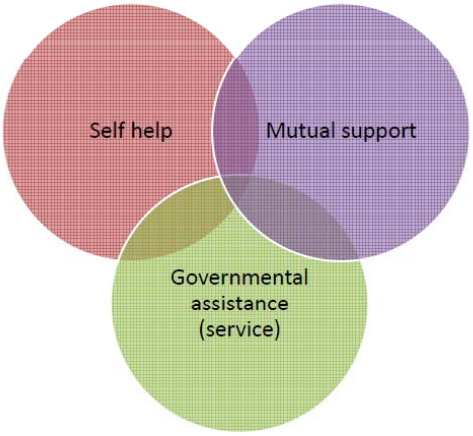
• Kansai Disaster Prevention and Mitigation Plan



- nation's first full-scale plan for large-scale disaster prevention and mitigation;
- stipulates responses and procedures to be taken by the Union of Kansai Governments (UKG) during the occurrence of massive wide-area disasters such as Tonankai and Nankai earthquakes;
- include measures concerning earthquake and tsunami disaster, wind and flood disaster, nuclear disaster, infectious disease such as new strain of influenza, bird flu and foot-and-mouth disease and others;
- promotes cooperation and mutual agreement among the affiliated body and municipalities and among companies, voluntary organizations, residents of prefectures

Approaches

- **Self-Help, Mutual Help and Public Help**



- One of the lessons of the Great Hanshin-Awaji Earthquake is the importance of combination of public help (government help), mutual help, and self-help

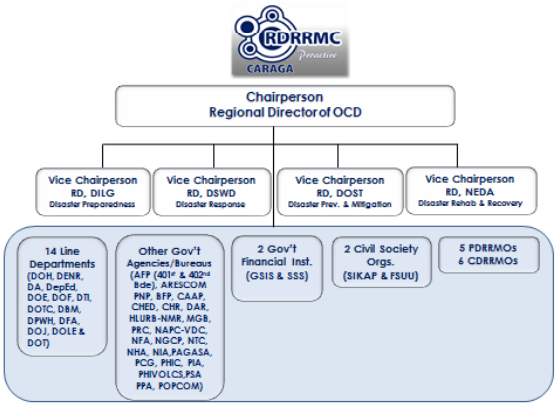
- considered essential to disaster management in Japan to ensure that damage from natural disasters is kept to a minimum

  - "Self-help' refers to safeguarding one's own life.
  - "Mutual help" refers to helping each other and protecting their community.
  - 'Public help" refers to governmental assistance (service)

Institutional factors contributing to resiliency and capacity of Caraga Region

Institutional Mechanisms

- **Regional Disaster Risk Reduction and Management Council (RDRRMC) Caraga**



- coordinates, integrates, supervises, and evaluates the activities of the local Disaster Risk Reduction and Management Councils (LDRRMCs)
- Constitute fifty (50) members of the RDRRMC from national-line agencies, civil society organizations and Local DRRM Officers
- responsible for ensuring disaster sensitive regional development plans, and in case of emergencies, it convenes the different regional line agencies and concerned institutions and authorities
- Established a 24-hour operating facility known as Regional DRRM Operations Center (RDRRMOC)

Institutional Mechanisms

- **RDRRMC Caraga is reinforced by the following:**

1) **Technical Working Group** composed of representatives of the member-agencies that coordinates and meet as often as necessary to effectively manage and sustain regional efforts on DRRM;

2) **Four (4) Standing Committees** (Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response and Disaster Rehabilitation and Recovery)

3) **Regional Selection Committee (RSC) and Provincial Selection Committee (PSC)** for Gawad KALASAG Search for Excellence in DRRM and Humanitarian Assistance;

4) **Caraga Regional Alliance of Local DRRM Officers (CADRRMOs)**

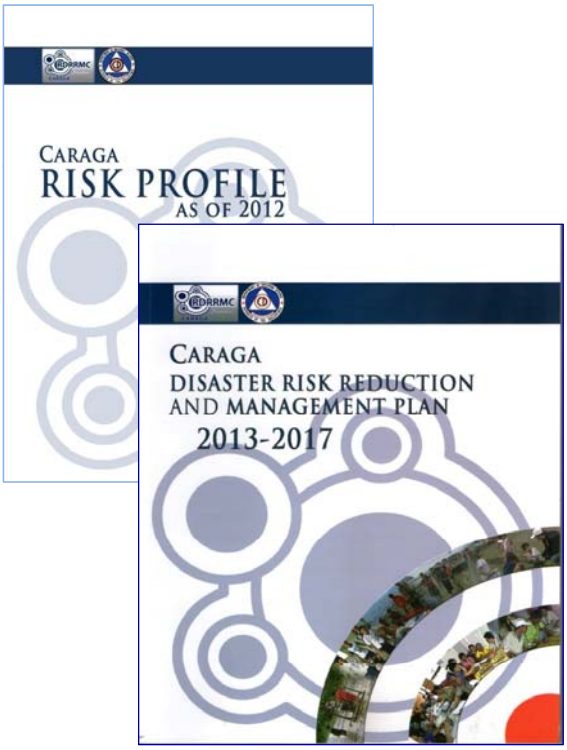
5) **Technical Working Group for the Harmonization of Vulnerability Assessment Tools**

6) **Regional Disaster Response Teams**

7) **Disaster Preparedness Committee's Disaster Capability Preparedness Assessment**

DRRM-related Plans

- **Regional Risk Profile and DRRM Plan 2013-2017**



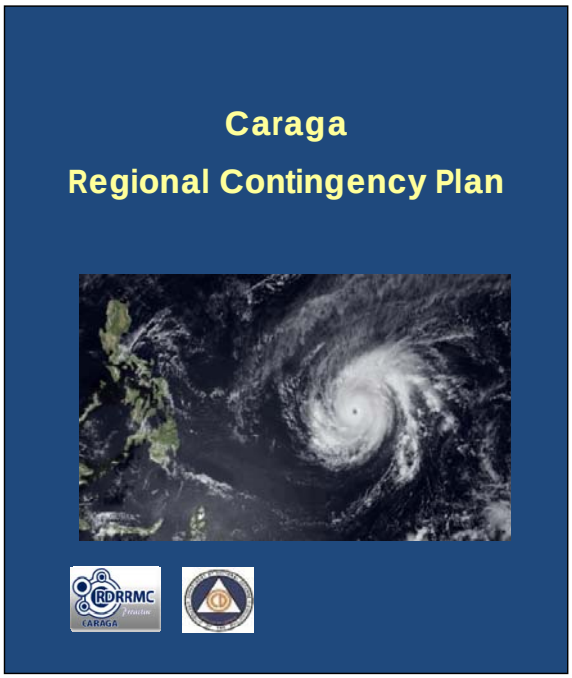
Risk Profile - a complementary document of the 5-year Regional Disaster Risk Reduction and Management Plan;

serves as the planning environment of the plan as it provides information types of risks (natural and human-induced), and impact of risks affecting the region in the last ten (10) years

Caraga RDRRMP 2013-2017(RDRRMP) provides strategic direction and road map for effective DRRM at the local level

DRRM-related Plans

- **Regional Contingency Plan for Typhoon**



- a scenario-based plan as basis for strategic response during disaster similar to Super Typhoon Yolanda.
- The goal is to provide effective, efficient, timely and coordinated response needed in order to save lives and alleviate impact of disaster in the affected communities.
- Adopts the Cluster System and ICS

DRRM-related Plans

- **Regional Disaster Response Plan**

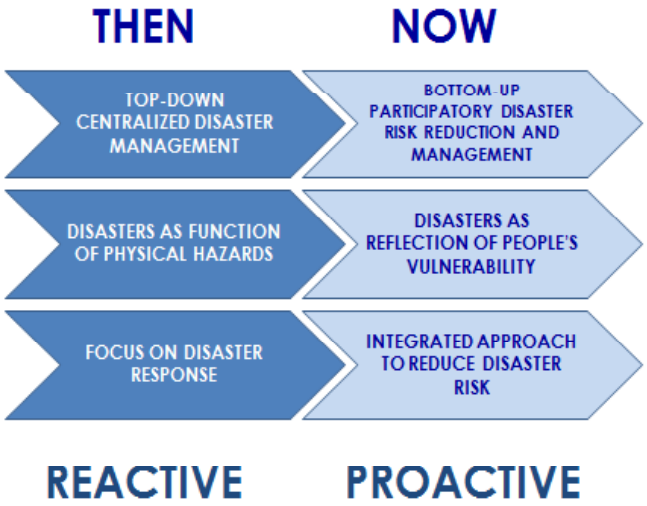
- Serves as reference for strategic action in providing response assistance for all natural disasters;

  - to ensure the delivery of resources augmentation to affected areas;

  - to establish an efficient, effective, systematic means of direction, supervision, control, coordination and other communication in all disaster relief and rehabilitation activities

Approaches

- **Paradigm shift from reactive to proactive DRRM**



- provides a better perspective in the way people, communities and governments think, act and respond to the current and emerging risks that continually face them;

- aims to increase peoples' resilience and decrease their vulnerabilities to disasters

FINDINGS

The following are the salient findings of the study:

1) Japan and the Philippines embrace a bottom-up disaster management systems which place the primary obligation to deal with disasters at the local government level and both DM systems mandate a multi-tiered, multi-stakeholder approach needing coordinated action across sectors and levels.

2) DM-related institutions in Kansai Region are established and operated by the Local Government Units as lessons from mega disasters. These institutions have developed an exceptional system through research using highly sophisticated technology to promote the importance of preparedness, cooperation among DM-related organizations and communities, regional disaster-response capability as well as the importance of building resilience against large-scale disasters.

FINDINGS

In the case of Caraga Region, DM-related institutions are created in fulfillment to the requirement of the PDRRM Law. These institutions play critical roles as they work hand-in hand together with concerned stakeholders in achieving the goal of resilience and enhancing capacity of communities.

3) There are peculiarities to some extent in the institutional factors such as institutional mechanisms, DRRM-related plans and approaches between Kansai Region in Japan and Caraga Region in the Philippines.

In the case of Kansai Region, the UKG is a mutual-aid agreement decided among local governments in their own initiative. Although the region-wide union is stipulated in Article 284 of the Local Autonomy Act, there was no explicit mechanism of support coordination among local governments. Further, the UKG formulated the Kansai Disaster Prevention and Mitigation Plan, as the nation's first full-scale plan for large-scale disaster prevention and mitigation with clear guidelines and wide-area arrangement during the occurrence of massive wide-area disasters such as Tonankai and Nankai earthquakes and other threats.

FINDINGS

In the case of Caraga Region, the RDRRMC is established as an institutional mechanism and replication of the NDRRMC at the regional level as mandated by PDRRM law. The roles and responsibilities of the regional council, local DRRM council and other concerned stakeholders in DRRM are explicitly provided in the law. The RDRRMC is further reinforced with several institutional mechanisms to strengthen collaboration and support system, and to recognize initiatives pertaining to DRRM efforts in the region. Likewise, the regional council formulated varied plans in its pursuit to reduce risk and make disaster response and rehabilitation more effective.

In terms of approaches, Japan's Self-help, Mutual help and Public help and Philippine's paradigm shift from reactive to proactive stance in DRRM provide a better perspective in the way people, communities and governments think, act and respond to the current and emerging risks that continually face them.

CONCLUSION & RECOMMENDATIONS

Based on the findings of the study, the following conclusions and recommendation are drawn:

- The ability to deal with natural hazards, and the potential disasters associated with them differs considerably from each country.
- Social Institutions play important roles to transfer the lessons, and experience of good practices at various levels in different fields.
- Japan is resilient as a nation as far as its institutional capacity is concerned because it has largely invested on research and infrastructure to combat the effects of natural disasters. Indeed, "DRR is Japan's DNA" evident in Japanese way of life. DRR is mainstreamed in their education system, health, infrastructure development, private sector and environment as a result of the past disasters.

CONCLUSION & RECOMMENDATIONS

- The PDRRM Law is still paving the way for the mainstreaming of DRR in all aspects of the Filipino way of life. Clear definition of roles and tasks of the national government and local government, appropriate budget allocations, mutually supportive institutions, strong partnerships and engagements with society, the private sector and the community can contribute to resiliency and enhance capacity against natural and human-induced hazards.

- The strength, flexibility, and overall resilience of society to recover from disasters and better cope with future stresses can be enhanced through a combination of top-down and bottom-up approaches and a combination of both hard and soft institutional measures.

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