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Visiting Researcher Program 2014
Asian Disaster Reduction Center



Research Topic: Community based to Flood Management
Mitigation in Japan": A Comparative study of Myanmar and
Japan'

Ms. Nyo Nyo Aye

Relief and Resettlement Department

Ministry of Social Welfare, Relief and Resettlement

The Republic of the Union of Myanmar



Research Topic: Community based to Flood
Management & Mitigation in Japan": A
Comparative study of Myanmar and Japan'

- ▶ Chapter 1 Research Background
- ▶ Chapter 2 Disaster and Community Participation in Myanmar
- ▶ Chapter 3 Disaster and Community Participation in Japan
- ▶ Chapter. 4 Finding and Conclusion

Specific Aims in the Research

- ▶ To study best practices of community participation in flood preparedness planning and mitigation process in Japan
- ▶ Look at the roles of government organizations and NGOs involvement in flood preparedness planning in Japan
- ▶ To get learned from Japan and make recommendation the best practices of flood management into Myanmar

3

Activities Performed

- ▶ Community participation in flood management planning and mitigation process in Japan
- ▶ Relations between government organizations and local community in flood management in Japan
- ▶ Flood Preparedness planning system and involvement of the community in Japan
- ▶ Field visit and observe community based flood monitoring and control systems.
- ▶ Field visit and observe the early warning system in Japan

4

Major Disasters in Myanmar



Cyclone Nargis on 2/3 May, 2008 with wind speed 120 miles p/h in 7 township in Ayeyarwaddy Region and 40 township in Yangon Region leaving 138,373 people dead

Cyclone Giri on 22 Oct, 2010 in 8 town in in Rakhine State, in 1 township in Mandalay Region and 4 townin Mgwai Region with 57 pepopel died



Tarlay Earthquake on 24 March, 2011 in Tarcheleik Township and Tarlay sub-township with 7 Richter scale with Death person 76 and Injured person 100



Thabaikkyin Earthquake on 11 Nov, 2012 in Saging and Mandalay Regions with 18 people dead



Magway Flash Flood on 20 Oct, 2011 in Pakukkyu, Sate Phyu, Pauk, Myaing with 161 People Death and lost

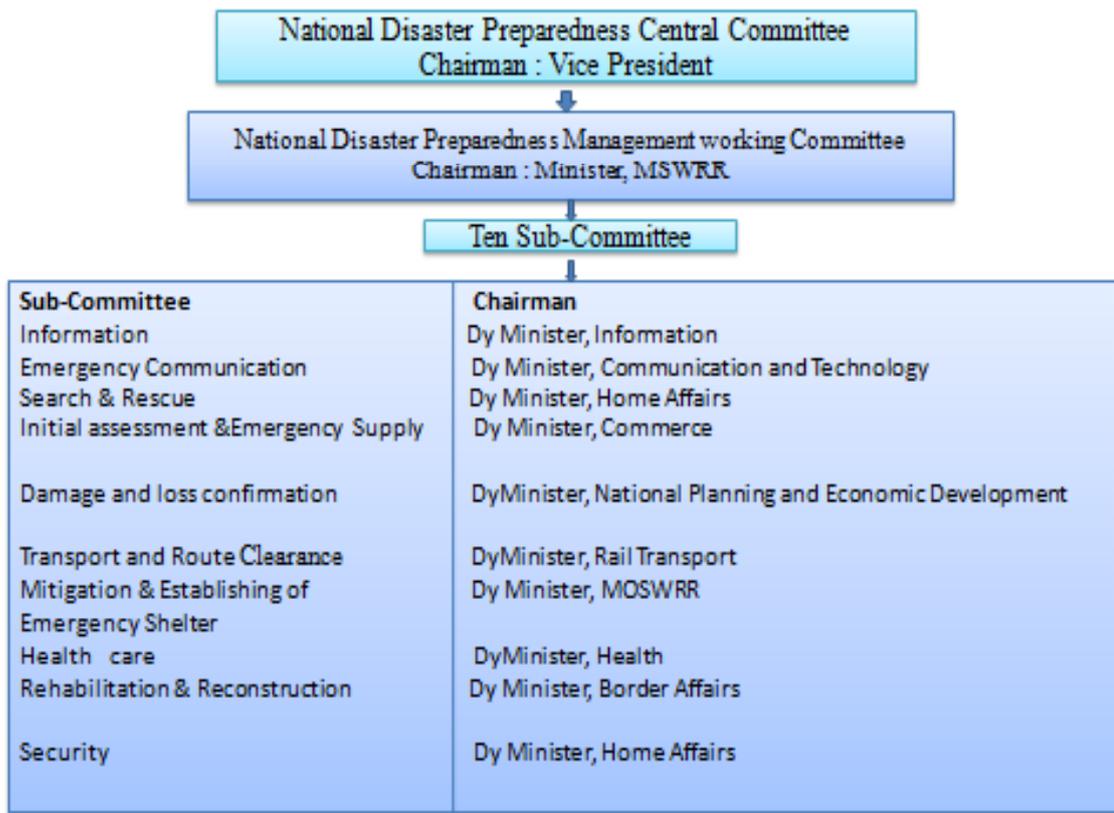


Community-based Disaster Risk Management in Myanmar

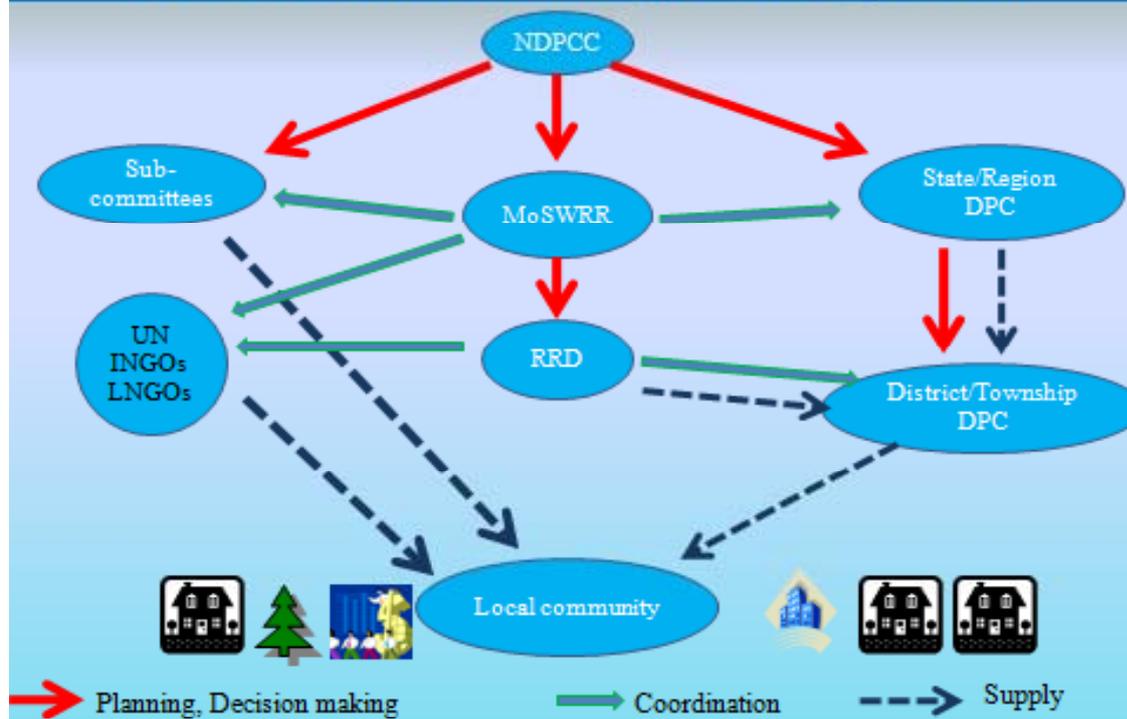
- A community-Based Disaster risk Management is a process of disaster risk management in which at risk communities are activity engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risk in order to reduce their vulnerabilities and enhance their capacities.
- This means that the people are at the heart of decision making and implementation of disaster risk management activities. The involvement is necessary. In CBDRM, local and national governments are involved and supportive NGOs.



Institutional Framework for Disaster Management at National Level



Mechanism of Disaster Response in Myanmar



After Cyclone Nargis



9

After Cyclone Nargis Disaster Preparedness in Myanmar

School-Cum-Shelters and Cyclone Shelters



10

Youth Participation in Myanmar

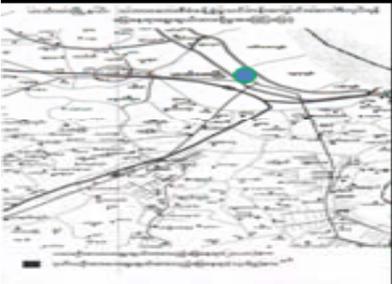


Drills and Exercises



Establishing Disaster Management Training Center

- **Place** - **Hinthada township, Ayeyarwaddy Region**
- **Time line to build** - **(2013-2014)and (2015-2016)**
- **Financial Year**



Disaster Management Law in Myanmar

-The Disaster Management Law was ratified by National government on (31,July, 2013)and Ministry of Social Welfare, Relief and Resettlement is developing regulations for disaster management

International Day for Disaster Reduction in Myanmar 2014



Disasters in Japan

► Every year there is a great loss of people's lives and property in Japan due to disasters. Up until the second half of 1950s, numerous large-scale typhoons and earthquakes caused extensive damage and thousands of casualties.

► One-half of the population of concentrated in possible inundation areas, which account for about 10% of the national land.



Societies' Capabilities in addressing flood in Japan

- Japan is prone to a variety of water and wind-related disasters including flooding, landslides, tidal waves and storm hazards, owing to meteorological conditions such typhoons and active weather-front systems and geographical conditions
- However, with the progress of society's capabilities to address disasters and the mitigation of 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.



Observation System

- ▶ The Japan Meteorological Agency observes meteorological phenomena that cause storm and flood disaster using the Automated Meteorological Data Acquisition System (AMeDAS), which automatically measures rainfall, air temperature and wind direction/speed weather radar, and geostationary meteorological satellites.
- ▶ These are used to announce forecasts and warnings to prepare against disasters, as the weather warnings and advisories for individual municipalities began in May 2010. The rainfall and the water and the water levels in rivers are observed by the Ministry of Land, Infrastructure, Transport and Tourism and prefectural governments using visual observation methods, mechanical observation equipment, and wireless telemetry systems that transmit automatically observed data from remote locations. Flood forecasts and water level information are provided utilizing the Internet and mobile phones.

17

Risk Assessment

- ▶ Flood risk is a product of the probability of occurrence of a flood hazard; the vulnerability of individuals, society, and the environment despite flood mitigation from a broad variety of measures implemented to dampen flood consequences through preparation, response, recovery and mitigation;
- ▶ The consequences that result from the mitigated hazard event. Our understanding of flood risk is affected by our ability to identify and assess these hazards, vulnerabilities, and consequences; our ability to manage flood risk is enabled by our ability to coordinate our policies and actions with numerous partners across the risk management lifecycle to address these hazards, vulnerabilities and consequences.

18

Overview of Disaster Management Planning in Japan

Outline of the Disaster Management System



▶ Disaster Management System of Japan

Figure 1. The Disaster Management Cycle



Catchment-Based Regional Flood Management Planning, the Case of the Tsurumi River Basin

- ▶ The Act was intended for a new legal system for more viable implementation of comprehensive measures. It prescribes the development of catchment flood management plan, the construction of rainwater storage and infiltration facilities by river management authorities, the enforcement of regulation to catchment area to control runoff, designation of urban flood prone areas, etc.
- ▶ Based on this Act, the Tsurumi River was designated as a specific urban river in 2005. This designation prompted river management authorities, sewage management authorities, and local public entities take concerted measures against flood damage. In 2008, the “Tsurumi River Area Flood Control Plan” was worked out to promote flood control measures together by the above competent authorities and also local residents.

21

Figure 2. Disaster Management Planning System

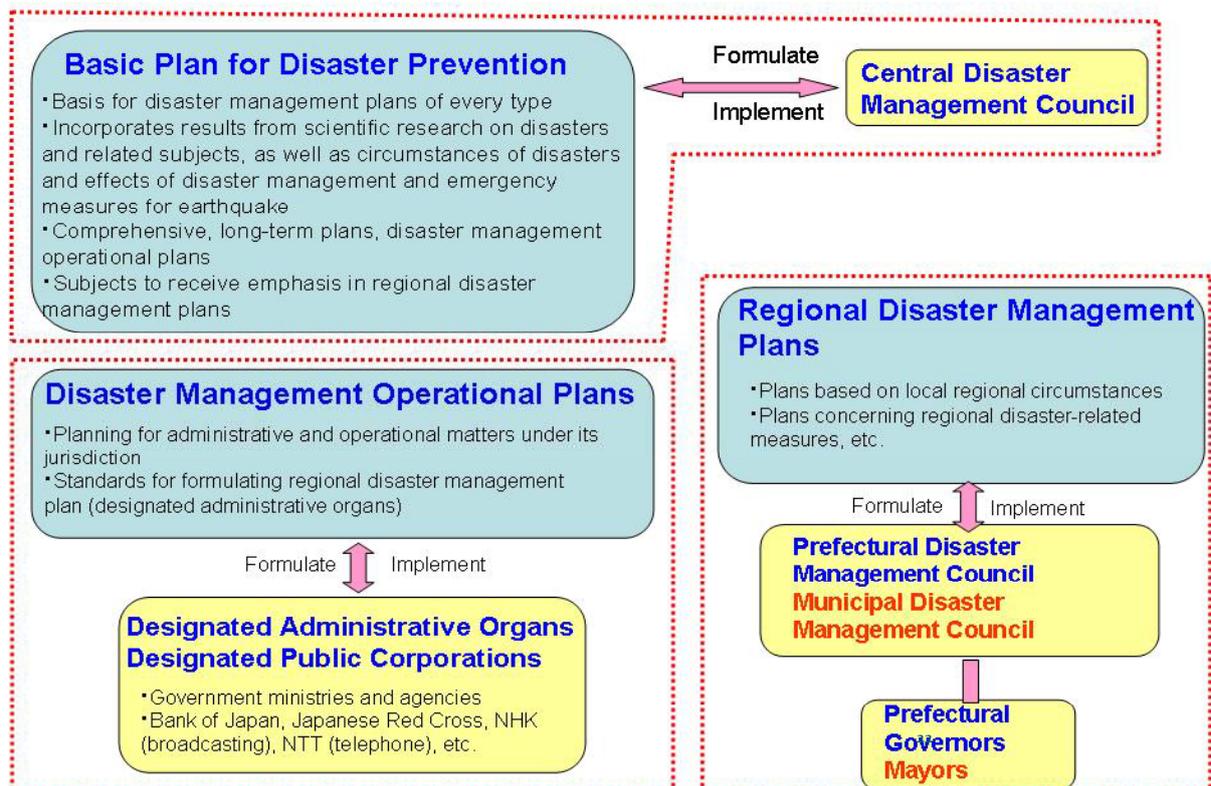
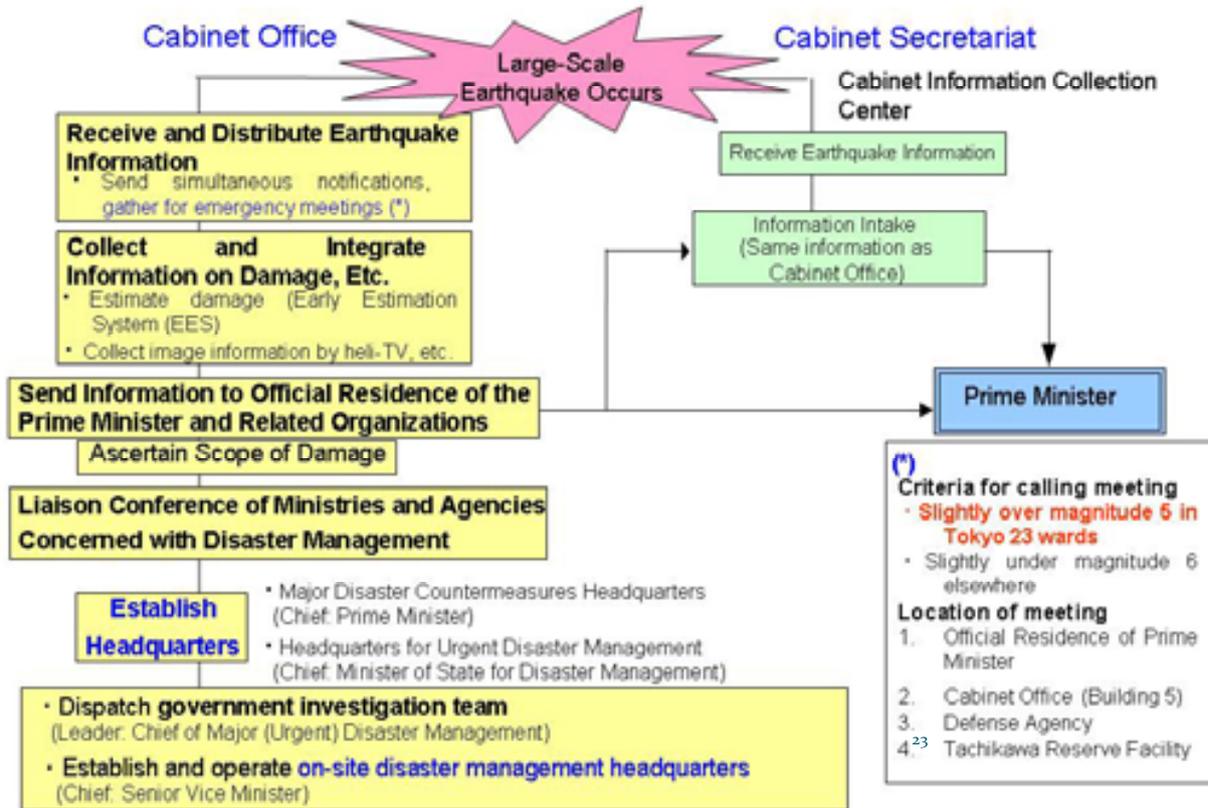


Figure 3. Government Emergency Response When Disaster Occurs



Community Participation in Disaster Risk Reduction in Japan

Japan has many experiences about natural disasters most frequently in the world. There is gained the knowledge and developed the skills of responding and preparing for disasters through its past experiences. Also “Community-based disaster Management” has drawn people’s attention in the field of disaster management. It is necessary to engage local government and community in disaster risk mitigation.

BOKOMI In japan

BOKOMIs are community based - elementary school district based disaster prevention organizations. Since 1995, based on the lessons learned from the Great East Hanshin-Awaji Earthquake, all of the districts of Kobe city – 191 districts have established BOKOMIs. To establish BOKOMI, firstly, it is discussed and decided on by local government organizations including the local city office and the local fire station, together with leader of 33 local residents associations, women’s associations, elderly associations, voluntary fire corps and etc.

- ▶ Awareness building
- ▶ Standardized marks for flooding and examples in Japan



Flooding Sign



Evacuation Sign



- ▶ Historical Flood (Toyooka, Japan) Projected Flood (Tokyo, Japan)

▶ Participation in Community-based Disaster Preparedness Activities

It is widely recognized that a community plays a crucial role in managing natural disaster risks. Capacity development is regarded as the ongoing process of enhancing the problem-solving abilities of developing countries by taking into account all the factors at the individual, organizational, and societal levels.

The community is described as the “main actor”, which plays key roles in disaster management. Other organizations around the community, such as governmental agencies, local governments, and non-governmental organizations, are described as “supporting actors” to the communities. JICA supports to develop the capacities of the communities as well as supporting actors.

Ashiya Drill 2014



Comprehensive Disaster Drill Kyoto City



Disaster Drills (BOKOMI) in Kobe City

-Kobe city calls community-based disaster prevention organization
“Disaster-Safe Welfare Communities”

- The short name for a Disaster-Safe Welfare Community is (BOKOMI).



Disaster Prevention Day Drills for FY2014 Monday, September 1, 2014



Finding and Conclusion

Both Myanmar and Japan is the most vulnerable to disasters, including those caused by climate change – from floods to droughts, earthquakes and tsunamis. In fact, over the last three decades, this region accounted for a staggering 85 per cent of deaths due to natural disasters. The disaster management has high importance in these two country, for this the community participation is inherit part of this management.

The community participation process is very important for the formation and strengthening of Community disaster response organization or community disaster management volunteer's team is the key to mobilizing communities for sustainable disaster risk reduction. The community volunteers, disaster management committee, and disaster response organization are the necessary interface or the channel for outsiders such as NGOs or government agencies to assist/support the community at-large.

Finding and Conclusion

There are no specific approach at different levels of community participation in disaster management but the approach of bottom-up have found very impressive.

The general objective of community participation is to save lives and damage to properties, by helping communities work to decrease their vulnerability and increase their capacity to reduce the impact of floods. Participation of community members and related stakeholders in flood management is essential in sustaining the flood risk reduction process for the community to meet intended aims and targets.

Community involvement in risk assessment and risk reduction planning leads to ownership, commitment and individual and concerted actions in disaster mitigation, including resource mobilization. Trusting and supporting the capacity building process results in a wide range of appropriate and do-able mitigation solutions are important for Community Based Disaster Management process, as it is cost effective, self-help and sustainable as well.

Finding and Conclusion

Community participation is fundamental and essential for each stage of the flood management, that is, preparedness for, response to and recovery from. They can seek to maximize the benefits through the related development activities within the river basin as a whole.

Community participation in flood risk assessment as well as in planning and implementation of risk management measures is a key to success of flood risk management plans.

Community activities can be successfully used at every step in flood management; in preparedness: community activities works for building consensus and collaborating with other development activities, in response: the accumulation of individual activities expects synergy effects on group advantages and in recovery.

33

Finding and Conclusion

Observing the system of, it has found the effectiveness of involving communities in disaster preparedness and mitigation. However, local communities cannot reduce all vulnerabilities on their own. While communities have built on local coping strategies and capacities to reduce some vulnerabilities, many necessary structural mitigation measures involve big capital outlay.

More important, vulnerability is also a complex web of conditions, factors, and processes, which can only be reduced through complementary and concerted action among multiple-stakeholders from various disciplines and levels of the disaster management and development planning system.

34

Among Other, the impressive visited Places Underground Channels and Disaster effected areas in Japan



Thank you for your attention

