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COMMUNITY-BASED DISASTER MANAGEMENT IN MYANMAR:
THE CASE OF CYCLONE NARGIS AFFECTED COMMUNITIES IN BOGALE
TOWNSHIP, AYEYARWADY DIVISION



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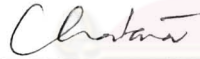
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งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาและประเมินความพยายามของคนท้องถิ่นในการจัดการภัยพิบัติในระดับชุมชน รวมทั้งศึกษาเงื่อนไขที่สำคัญต่อการส่งเสริมการจัดการภัยพิบัติโดยชุมชน ในที่นี้เป็นการศึกษาชุมชนจำนวน 3 ชุมชนในเขตโบกาเล พื้นที่ปากแม่น้ำอีระวดี ซึ่งได้แก่หมู่บ้านมะถุยวาร์มะ หมู่บ้านเปชวงเล และหมู่บ้านคาร์ ยาร์ โคน

วิธีการวิจัยที่ใช้เป็นการวิจัยเชิงสำรวจ และเชิงคุณภาพ มีการวิเคราะห์ข้อมูลจากการสังเกตในพื้นที่ โดยใช้แนวทางการศึกษาตามกรอบการจัดการภัยพิบัติขององค์การสหประชาชาติ องค์การพัฒนาเอกชนระหว่างประเทศ และองค์กรพัฒนาเอกชนระดับท้องถิ่น รวมทั้งทำการประเมินผลนโยบาย และกรอบการทำงานของรัฐบาลในเรื่องการจัดการภัยพิบัติ และบทบาทของชุมชนท้องถิ่น ในกิจกรรมด้านการบรรเทาทุกข์จากภัยพิบัติ โดยมีการสัมภาษณ์สมาชิกครัวเรือนในชุมชน

ผลจากการวิจัยแสดงให้เห็นว่าคนในชุมชนสามารถจัดการช่วยเหลือตนเองได้อย่างน้อยที่สุดในเรื่องการเก็บรักษาเครื่องบรรเทาทุกข์ต่างๆ ในโรงเก็บของของชุมชน และการซ่อมแซมโรงเรียน แต่ยังไม่มีการพัฒนารูปแบบการจัดการภัยพิบัติโดยชุมชนในเรื่อง ระบบการเตือนภัย แผนการอพยพหนีภัย และการดำเนินงานด้านการบรรเทาทุกข์ ความสามารถในการระดมทรัพยากร และการใช้ความสามารถของชุมชนท้องถิ่นยังคงได้รับการสนับสนุนอย่างต่อเนื่องในระดับชาติ และนานาชาติ การควบคุมที่เข้มงวดของรัฐบาลต่อการดำเนินงานด้านการบรรเทาทุกข์ ทำให้การจัดการภัยพิบัติโดยชุมชนท้องถิ่นไม่สามารถทำได้เต็มที่ เนื่องจากความจริงที่ว่าชุมชนจำเป็นต้องเข้าถึงการบรรเทาทุกข์เบื้องต้นก่อนเพื่อให้สามารถฟื้นฟูชีวิตความเป็นอยู่ของตนเองได้ รวมทั้งยังไม่เกิดช่องทางการสื่อสารแบบสองทางระหว่างชุมชนกับองค์กรอื่นๆ รวมถึงองค์กรภาครัฐ

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ลายมือชื่อนิสิต.....
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AFFECTED COMMUNITIES IN BOGALE TOWNSHIP, AYEYARWADY
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This study aims to identify and assess existing efforts of the local people in managing natural disaster at the community level. It also explores the necessary conditions for the promotion of community-based disaster management focusing on three communities of Bogale Township, Ayeyarwady delta, including Ma Gu Ywar Ma, Pay Chaung Lay and Thar Yar Gone villages.

Exploratory and qualitative methods are used in the study. Analysis is based on empirical field observations guided by disaster management framework of the UN agencies, international non-governmental organizations and local non-governmental organizations concerned. The study evaluates the government policies and framework on disaster management, and the role of local communities in disaster relief activities. Local household members were interviewed.

The study finds the villagers were able to organize themselves at a minimum level, e.g., maintaining relief items in their communities' warehouses, and reconstructing the school. Aspects of community disaster management were not well established such as early warning system and evacuation protocols as well as the humanitarian relief operation. This reflects upon the government's initial arrangement for the community was not adequate. The ability to mobilize and utilize local resources and the capacity of local communities still requires continuous national and international assistance. Under the strictly control of the government's command over the relief operation, the community-based disaster management cannot be fully exercised. This is due to the fact that the community needs to access to the initial humanitarian relief to be able to play a greater role in reviving their livelihoods; and the two-way communication channels with other actors including the government agencies is not established.

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LIST OF ABBREVIATIONS

ADPC	Asian Disaster Preparedness Center
APELL	Awareness and Preparedness for Emergencies at the Local Level
CBDM	Community-Based Disaster Management
CBOs	Community-based Organizations
DMH	Department of Meteorology and Hydrology
FAO	Food and Agriculture Organization
GoM	Government of Myanmar
IFRC/RC	International Federation of Red Cross and Red Crescent
INGOs	International Non-governmental Organizations
LNGOs	Local Non-Governmental Organizations
MYM	Magu Ywar Ma village
NDMOC	National Disaster Management Operation Committee
NDPCC	National Natural Disaster Preparedness Central Committee
PCL	Pay Chaung Lay village
PONJA	Post Nargis Joint Assessment
TEARFUND	The Evangelical Alliance Relief Fund
TYG	Thar Yar Gone village
UN	United Nations
UNICEF	the United Nations Children Fund
UNDP	the United Nation Development Programme
UNEP	United Nations Environment Programme
UNFCCC	UN Framework Convention on Climate Change
UN/ISDR	the United Nations International Strategy for Disaster Reduction
VDPC	Village Disaster Preparedness Committee
WFP	World Food Programme
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

“There is a need for community-based disaster preparedness (in Myanmar), which builds on community initiative, and maximizes the use of community resources, capacities and local knowledge” (TCG, 2008)

1.1 Background of the Study

We cannot control and avoid the forces of nature, but can surely be better prepared and managed to reduce the loss of life, injury, property and infrastructure damages by applying a comprehensive disaster management framework. Thus, the International Federation of Red Cross and Red Crescent (IFRC) (2008) defined disaster management as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters.¹

The United Nations International Strategy for Disaster Reduction (UN/ISDR) recognizes that the disastrous impacts of natural hazards on vulnerable communities and all countries are encouraged to have comprehensive national assessment of natural hazards and risks integrated into national development plans and to address long-term disaster prevention, preparedness, and community awareness in mitigation plans (UN/ISDR (b), 2005). While disaster preparedness and mitigation should be done at the national level, it should integrate practices at the community level as well. As Myanmar faces a high risk of natural disasters and has experienced some natural disasters like earthquakes, flooding and tsunamis, it is needed to create a practicable and operational management framework in accordance with the international norms.

¹International Federation of Red Cross and Red Crescent Societies (IFRC)
<http://www.ifrc.org/what/disasters/management/index.asp> (Retrieved May 25, 2008)

1.2 Background Information

Cyclone Nargis crossed Myanmar on May 2nd and 3rd in 2008. It hit five divisions and states – Ayeyarwady, Yangon, Bago, Mon and Kayin, with the heaviest casualties and infrastructure damages occurring in Ayeyarwady and Yangon. According to the ‘Post Nargis Joint Assessment (PONJA)’², Cyclone Nargis caused catastrophic destruction and the official death or missing toll stood at 138,373 people, and 19,359 injured (TCG, 2008: 1).

Moreover, PONJA stated as many as 2.4 million were severely affected and estimated 7.35 million people have been living in affected townships. The United Nations Food and Agricultural Organization (FAO) estimated that 700,000 hectares of paddy fields in the delta – about 20 percent – would need rehabilitation. About 2.3 percent of Myanmar’s annual rice crop was lost and about 280,000 cattle used for plowing died in the storm.³

Most affected Ayeyawady delta has long been Myanmar’s most important rice-growing area, accounting for about 65 percent of total annual rice production. However, Nargis has given the devastation of homes and infrastructure, loss of agriculture land and loss of access to fishing grounds due to the persistent flooding and the shifting of sands. Many people have been displaced and most farming families lost all their seeds, fertilizer and livestock leaving them without the basics for planting while land has been salted. Before Nargis, Ayeyarwady delta has an extensive fishery industry along its coast. The loss of crops, shrimp farms, fishing ponds, hatcheries, fishing boats and other productive assets has led to increased unemployment of the extreme poor who depend on wage.

² PONJA was published by Tripartite Core Group (TCG), comprised of the representatives of the government of the Union of Myanmar, the United Nations (UN) and the Association of Southeast Asian Nations (ASEAN), based in Yangon.

³ Center for excellence in disaster management and humanitarian assistance : <http://coe-dmha.org/Myanmar/Cyc05302008.htm> (Retrieved June 15, 2008)

Key findings of the PONJA report included: 1) US\$ 4 billion for damages from the cyclone while a total of US\$1billion was need for recovery over the following three years. 2) Economic losses amounted to 2.7 percent of GDP in 2008. 3) Storm hit areas' households – over 55 percent – were extremely vulnerable. 4) Over 90 percent of needs were at the community level and could be addressed through community-based approaches.

Geographical setting of Myanmar is exposed to natural disasters, particularly cyclone seasons are before and after the monsoon. Myanmar is the largest country in the South-east Asia Peninsula sharing borders with Bangladesh, India, China, Laos and Thailand. The total land area of Myanmar is 676,577 square kilometer. The country stretches over 2,090 km from the north to south and over 925 km from the east to west. Nearly half of the total land area covered with forests. Myanmar has long coastline of about 2,400 km, which covers almost all the east of Bengal Bay. Having long coastal line and situates on the top of an active fault line (Sagaing fault), as well as exposing to a range of frequently coming about hydro-meteorological and geophysical hazards, Myanmar is a highly potential natural disaster prone.

Natural hazards in Myanmar can be classified as earthquake, tsunami, tropical cyclone, flood, deforestation, desertification and landslide. Natural hazards become natural disasters when people's lives and livelihoods are destroyed. The whole country, especially central plain regions, suffers from earthquakes, droughts, and fires, at the same time hilly regions are also exposed to landslide and flash flood risks. There were at least 14 major windstorms, 6 earthquakes, and 12 major floods in Myanmar during 90 years from 1910-2000 (TCG, 2008). Cyclone is the most devastated disaster type in Myanmar; especially the recent cyclone Nargis is the historic incidence in Myanmar history of disasters.

Myanmar's economy is chiefly agro-based, with the sector, including fisheries and forestry, accounting for nearly half the total economy and employing more than 60% of the total labor force. Poverty incidence is estimated at 26.6% (20.7% for urban areas and 28.4% for rural areas, with a sample size of 30,000 households from

75 townships) (ADB, 2007). The Ayeyarwady Division covers 13,566 square miles with a population of over 6.5 million giving a population density of 466 persons per square mile. In fact, Ayeyarwady Delta has had moderately experiences of severe tropical storms, recurring seasonal floods, and fire during the dry season. Cyclone Nargis is the 8th deadliest cyclone of all time while the 2004 Indian Ocean tsunami also affected some coastal areas of the Delta (TCG, 2008).

Since the population growth and shifting to lowland areas as expanding the rice fields leads to the people like to face the adverse effects of any extreme natural events. Enormous devastation of Cyclone Nargis witnessed that institutional framework (disaster management plan) failed to commit the integrated community plan to prepare and respond the disasters.

1.3 Statement of the Problem

The fundamental issues to be explored in the thesis are how the local communities and civil organizations can initiate and participate in disasters relief and rehabilitation endeavors. Thus, community-based disaster management in the Cyclone Nargis case should be explored. A few months after the storm, we can analyze how the local communities have responded to the disaster incidence either by their own efforts or by getting assistance from the government and other agencies. How did local groups manage their communities for rehabilitation and what is their future perspective for disaster management?

It is interesting to find that, the private sector and local communities those who were relieved from the storm have taken a leading role in rescue and relief activities, even though they have no prior humanitarian experience in coping with such catastrophe before. During the first week after cyclone Nargis struck, the local business people, students and local activists went into the affected townships and villages with private cars and hired trucks to carry emergency aids to the affected

areas.⁴ However, the reliefs and aids efforts are facing with many difficulties such matters as logistics, health care and shelters. It seems that local community might not be able to sustain a long-term rehabilitation and short period of rescues operations without taking into consideration an additional assistance.

The existing natural disaster management framework that was updated in January 2005 is complex – 20 laws, at least 16 ministries, one national committee and 10 sub-committees (Win Pe, 2006). There is a lack of legislation to mandate all aspects of the disaster management structures including the accountability of institutions for both governmental and non-governmental organizations concerned and the role of communities in the disaster management. Cyclone Nargis revealed that government alone could not respond the relief efforts to cope with enormous devastated and chaotic situation. Efforts of local community have been played a critical role in every step of disaster relief initiatives.

1.4 Research Question

What are conditions necessary for the promotion and practices of community-based disaster management in Myanmar?

1.5 Research Objectives

Specific objectives of the research are as follow:

- To identify existing efforts of the local people in managing disaster situations
- To assess community perspectives and potential for community-based disaster management
- To identify obstacles for ongoing disaster relief and rehabilitation in cyclone Nargis affected communities in Ayeyarwaddy Division

⁴The United Nations Office for the Coordination of Humanitarian Affairs, Humanitarian News and Analysis : <http://www.irinnews.org/Report.aspx?ReportId=78661> (Retrieved June 27, 2008)

1.6 Research Methodology

This is an exploratory research using qualitative approach to data collection. Fieldwork was conducted 20-30 July, 2008, three months after the incident. Three communities in Bogale Township were selected for the research sites. They are listed as follows:

- Ma Gu Ywar Ma (153 Households),
- Pay Chaung Lay (90 Households) and
- Thar Yar Gone village (55 Households).

Data collection method is based primarily on observation and key informant interview with semi-structured questions. Altogether 31 key informants and villagers were interviewed. The list of respondents was shown in Table 1.1.

Table 1.1 Total Number of Target Interviewed Informants

Target interviewed informants	Bogale	MYM	TYG	PCL	No. of Respondents
Government officer	1				1
Local NGOs	4				4
International Aid Organization (local staffs)	6				6
Villagers		6	5	5	16
Village disaster preparedness and response committee members		2	2		4
Total					31

Interviews were conducted during the people's engaging in relief activities, in the mean time observation was made. Interview questions are meant to reflect upon the people's responses and perspective on community management of disaster as well as their observations on the relief operations.

Secondary data was gathered from different sources such as evaluation reports of the government, international and local nongovernmental organizations documents,

publications, journals, and relevant websites. These will provide an insight into international organizations' concepts on community-based disaster management and similar situations in other countries, screening that how their experiences and norms are developed in their disaster management framework.

1.7 Ethical Considerations

The objectives of the research were explained to all interviewees. However, villagers and relief organizations are working under sensitive issue and restrict rule of military government of Myanmar. Some villagers and organizations did not want to share information. Some respondents answered only half questionnaire and they left for their works. Therefore, the names of individual interviewees were changed in the thesis for their right to self identify.

1.8 Significance of the Study

Though an increase in the frequency and severity of disasters, particularly those of hydro-meteorological origin, great strides have been made in the management of disasters in international disaster reduction mechanism. The important notion for community-based disaster management is the effort to shift the typical relief assumption of top down disaster management to community oriented one, with recognition that disaster risk and vulnerability reduction are getting important to development planning, as well as the development of self-reliance and self-help in communities to promote partnerships in disaster risk reduction.

There is rapidly growing interest in community-based disaster management and respond programs recognizing the potential of local resources and capacities. Thus, there is a need for community initiation and participation in the recovery and reconsideration process is regarded as the critical for communities in Myanmar, Ayeyarwady Division in particular.

1.9 Research limitations

The field study was conducted in July 2008, almost three months after the cyclone Nargis. This period was the ongoing relief operations in the villages and it had been difficult for NGO to appoint its staffs for interview as they were being back and forth between the villages and Bogale town in providing humanitarian assistance. Therefore, most of the interviews with the NGO staffs and officials were scattered due to the time constraints. Moreover, sensitivity of the issue and the restrict rule of the government obstruct some INGOs based in Bogale which were unwilling to make interviews or to give information about their activities and limited to mention the primary source of the data. The time constraint on the researcher side was also another factor preventing from having an extensive elaboration on certain points. Finally, in Myanmar, disaster management field has not only few research works, but also scarcity of publications, the researcher have faced the scarcity of official documents and data.

1.10 Organization of the Study

This research paper is structured into five chapters. The first chapter provides an introduction to the research includes the background of the study, statement of the problem, research question, purpose of the study, significant of the research and limitations of the study. It also describes the methodology used for this research study.

Chapter Two provides the conceptual framework for the study, drawing on literature on the impact of disasters on development, impact of climate change on disaster risks, projected impacts of climate change in Myanmar, international policy process on disaster management mainly focus on 'Five Hyogo Commitments', local level disaster management approach of the United Nations Environment Programme, the role of local community in disaster management, and lessons learned from the other countries (Thailand and Philippines).

Chapter Three describes a history overview of research areas and presents the study's findings including profiles, responses to the cyclone Nargis from the communities, government and international relief organizations. Chapter Four describes the analysis of the findings and discussion on potential of community-based disaster management in Ayeyarwaddy Division. It includes community perspective on existing disaster management framework, disaster preparedness, and strength and challenges of the communities. Finally, Chapter Five provides a summary of the findings for theory and practices of the community-based disaster management in Myanmar and conclusions.



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CHAPTER II

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

“By 2025 over half of all people living in developing countries will be highly vulnerable to floods and storms”

(IFRC/RC, World Disasters Report 2000)

This chapter provides an overview of the impacts of disasters on the people especially those who live in developing countries. Then it discusses international commitments and approaches related with disaster management, the impact of climate change on disasters in the world as well as in Myanmar. It also presents the experiences of other countries on disaster preparedness and responses. Finally, the chapter draws and present the conceptual framework used in this research.

2.1 Impact of Disasters on Development

Natural disasters and development have opposite meanings and natures. Disasters can destroy within a moment what people have constructed for a lifetime. In 2006, according to IFRC/RC's 2007 Natural Disaster Report, 427 natural disasters occurred worldwide, similar to the total number of 433 in 2005. The number of affected people by these disasters was reported at 142 million, with 23,833 deaths. Comparing data for the past decade (1997-2006) with data for the previous decade (1987-1996), the number of reported disasters grew from 4,241 to 6,806 which represent an increase of 60 percent.

Over the same period, the number of reported deaths doubled, from more than 600,000 to over 1.2 million, the average number of people reported affected per year rose by 17 per cent, from approximately 230 million to 270 million. The link between disasters and development is now apparent as mentioned above, and disaster management is gaining increasing importance as a major component for development

initiatives in national policy. In international arena, the eight UN Millennium Development Goals (MDGs), a blue print adopted by the United Nations (UN) and international development agencies in 2000 acknowledged the importance of reducing the number and effects of natural and man-made disasters (Schipper and Pelling, 2006: 23).

However, most developing countries have limited ability to integrate a strategic approach of adaptation strategies into national policy due to the availability of financial resources. Therefore, it is observed that the poorest countries and communities in the disaster areas are hardest hit by losses and setbacks for lack of effective adaptation and mitigation working plans.

Disasters have direct and indirect effects on developing countries. First, during and after a disaster people lose their homes, their belongings, and the very basis of their livelihoods. Then, direct losses in production are followed by indirect impacts. In the largely agrarian economies of the poorest countries and communities in affected areas, production losses lead to the dismissal or unemployment of daily wages laborers (Garatwa & Bollin, 2002). From a purely economic standpoint, direct losses can be overshadowed by indirect impacts, a result of lost production time, and secondary losses, which are felt by the regional or national economy, such as increased indebtedness or inflation of food and material prices.

In this point, we need to define what is disaster? It is a serious disruption of the functioning of society, causing widespread human, material or environmental losses, which exceed the ability of affected society to cope using only its own resources (Bildan, 2003). However, not every extreme natural event is a disaster. A volcanic eruption in an unoccupied area is a natural event but not a disaster. Floods can also have many beneficial effects – the soil is supplied with fresh nutrients and made more fertile again, resulting in higher yields.

The world disaster report of the International Federation of the Red Cross and Red Crescent Societies (IFRC/RC) (2003) highlighted "... A dramatic rise in the number of events over the past decade and a geometric increase in the number of

people affected by disasters associated with natural hazards documented since the beginning of reliable recording in the 1960s have been observed.”

Natural disasters are caused by extreme occurrences in nature for which society is generally unprepared. They destroy the basic conditions of life for the victims, who often lack the resources to recover in the short or medium term. As disasters often have a very significant detrimental impact on past development efforts, various institutions have recognized the importance of disaster preparedness and prevention as effective strategy for natural disaster management framework.

2.2 Impact of Climate Change on Disaster Risks

‘Warming of the climate system is unequivocal’¹ and observational evidence from all continents and most oceans shows that regional climate changes are having an impact on natural systems, particularly temperature increases. Global warming and natural hazards are severe and extreme in all parts of the world. Some regions are more vulnerable to certain hazards than the other regions, especially for small islands and coastal areas (IPCC, 2007). The risk of disasters can also be expected to raise in the future, particularly for developing countries if they could not take steps to address air, water, and land pollution and to manage their natural resources more sustainably.

There are two reasons for this trend: An increase in extreme natural events, primarily due to climatic change; increased vulnerability of populations to these natural events (Garatwa & Bollin, 2002). Climate change will increasingly adverse impacts on all aspects of daily living, such as access to clean water and availability of food, stable health conditions, ecosystem resources and human settlements. Human security and livelihood will lean on climate change in reality.

Global warming demands an international response, based on a shared understanding of long-term goals and agreement on frameworks for action. The UN

¹ Cited by the Intergovernmental Panel on Climate Change Fourth Assessment Report (IPCC AR4, 2007).

Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol provide a basis for comprehensive policy guidelines for international co-operation, along with a range of partnerships and other approaches. Adaptation has been comprised not only by the climate change community, but also by the development assistance community. Bilateral and multilateral development agencies, as well as non-governmental development organizations, play a greater role to reduce the vulnerability of developing countries to climate change.

Since, climate change and extreme weather phenomena are undeniable in the globe, natural disasters like flood, haze, forest fire, tsunami and air and water pollutions have been caused human and material losses in Southeast Asian region. On average, more than 200 million people have been affected every year by disasters (UN/ISDR (a), 2005) in the past two decades. Natural hazards become disasters when it takes the lives and livelihoods are destroyed.

However, most of the vulnerable developing countries and regions have lack of enough adaptation and mitigation strategies in their development policies. It is because of 'grow fast and clean later' approach held by the both government and communities. There are also many small-scale, local disasters that are not recorded in official statistics, but that impact significantly on local communities and require preparedness and planning. Even more pronounced than the increase in the numbers of disaster events is the magnitude of the physical damage caused and particularly the loss of human life.

Adaptation has been comprised not only by the climate change community, but also by the development assistance community. Mitchell & Tanner (2006: 11) stated how to assist local community to be realized a disaster resilience community as

“...As with work on disaster risk reduction, community-based adaptation recognizes that environmental knowledge and resilience to climate impacts lie within societies and cultures. The focus should therefore be on empowering communities to take action on vulnerability to climate change, based on their own decision-making

processes. The ‘bottom-up’ aspects of community-based adaptation are in part a reaction to many ‘top-down’ energy-based interventions...”

TEARFUND (2004: 18), a leading Christian relief and development international agency, highlights bottom up aspect, as

“...Governments, aid agencies and local authorities should work alongside poor communities to identify and reduce the risks they face”.

The potential for work at this level includes not only community involvement in decision-making on disaster hazards projects, but enabling communities to develop their own preparedness measures and emergency response plans. It leads to a disaster resilient community that has an ability to recover quickly from or adjust easily to catastrophe situation.

According to the critical guidelines of community-based disaster risk management of the Asian Disaster Preparedness Center (ADPC) (2006), the community should have following characteristics:

Before a disaster

- using traditional experience and knowledge (coping mechanisms);
- preparing for any possible hazard by having emergency kits or supplies;
- having family or community plans as well as adaptive behavior (strengthening houses, providing emergency protection of doors and windows from high wind, etc.);
- organizing training courses in first aid, etc;
- temporary evacuation before an impending flood or cyclone;
- permanent relocation of the community away from unsafe sites

During and after a disaster

- drawing on the support of their community;
- taking stock to determine what they have and what or who is missing;
- restoring communities to facilitate aid distribution;
- mitigation future risk (both psychological as well as material threats);

- recognizing that physical recovery work can combine bereavement therapy with a possible income source; and
- regarding the entire experience as a learning process.

2.3 Projected Impacts of Climate Change on Myanmar

U Tun Lwin, the director general of the DMH, comments that “climate change has become a hot issue around the world and Myanmar is not exempt from its effect... the DMH recorded 11 tornadoes in the country in 2007 alone. *“This is the highest number I have ever seen in my entire 43-year career at the weather department”* (Sann Oo, 2007).

Myanmar has been witnessing the changing weather events in almost every year during the last three decades. These include the onset, withdrawal, duration and intensity of monsoon, and the frequency of the monsoon depressions (Tun Lwin and Khin Cho Cho Shein, 2006). Myanmar’s Department of Meteorology and Hydrology (DMH) observes a gradual warming for over the last 40 years in the Bay of Bengal region which is closed to the Ayeyarwady Delta, as well as a gradual southward movement of the monsoon trough that forms around the onset of the monsoon in the Bay of Bengal, from 20 degree N to 10 degree N near the Ayeyarwady Delta coast (TCG, 2008).

At present, the literatures on the impact of climate change in Myanmar and disaster management are limited. Especially, normal citizen do not have much interested to read in Burmese language literatures of disaster risks, prevention and responses. For a positive improved awareness on disasters could be seen in some private magazine and journals. For example, Yangon based ‘The Voice’ weekly journal has concluded free extra pages for the Nargis relief and rehabilitation in Yangon and Ayeyarwady Divisions. However, it is appeared to be some emerging climate change trends that have been researched by DMH. These were presented in the form of initial, unpublished research findings by DMH at the recent ADPC-DMH Monsoon Forum. Within the context of a broader context of climate related hazards outlined above, there is a need to undertake a scientific diagnostic of Cyclone Nargis

since the dimensions of climate change hazard is also growing complicated ever with time which differed from historical cyclone tracks in the Bay of Bengal. In addition, it is important to highlight that delta region is encountering special vulnerabilities to the impacts of climate change.

2.4 International Policy Process on Disasters Management “Five Hyogo Commitments”

Immediately following the Indian Ocean Tsunami of December 2004, governments met in Kobe, Japan for the second World Conference on Disaster Reduction². They adopted the Hyogo Declaration and agreed upon a Framework for Action for the decade between 2005 and 2015 aimed at building the resilience of nations and communities to disasters.

Table 2.1 The Framework of the Five Hyogo commitments

<i>Make disaster reduction a priority</i> Governments should integrate disaster risk reduction into their laws, programmes and plans, and ensure the participation of local communities in planning.
<i>Know the risks and take action</i> Countries should define and understand potential risks so that they can develop early warning systems adapted to the needs of each community.
<i>Build understanding and awareness</i> Governments should provide information, include disaster reduction in formal and informal education, and ensure that invaluable local knowledge about disaster risks is preserved and transmitted.
<i>Reduce risk</i> Countries should apply safety codes to ensure that schools, hospitals, homes and other buildings do not collapse in earthquakes; avoid sitting communities in hazard-prone areas such as flood plains; and protect forests, wetlands and reefs that act as a natural barrier to storms and flooding.
<i>Be prepared and ready to act</i> Governments and regional or local authorities should conduct risk assessments; adopt contingency plans; test preparedness by such measures as evacuation drills; and ensure emergency services, response agencies, policy makers and development organizations are coordinated.

Source: United Nations Education, Scientific and Cultural Organization (UNESCO), (2007). *Disaster Preparedness and mitigation: UNESCO's role*. Paris: UNESCO. (p.16)

²World Conference on Disaster Reduction of the United Nations was held in Kobe, Hyogo Japan, from 18 to 22 January 2005. The first conference on disaster risk reduction was Yokohama Conference of 1994.

2.5 Local-level Disaster Management Approach

2.5.1 The United Nations Environment Programme (UNEP)

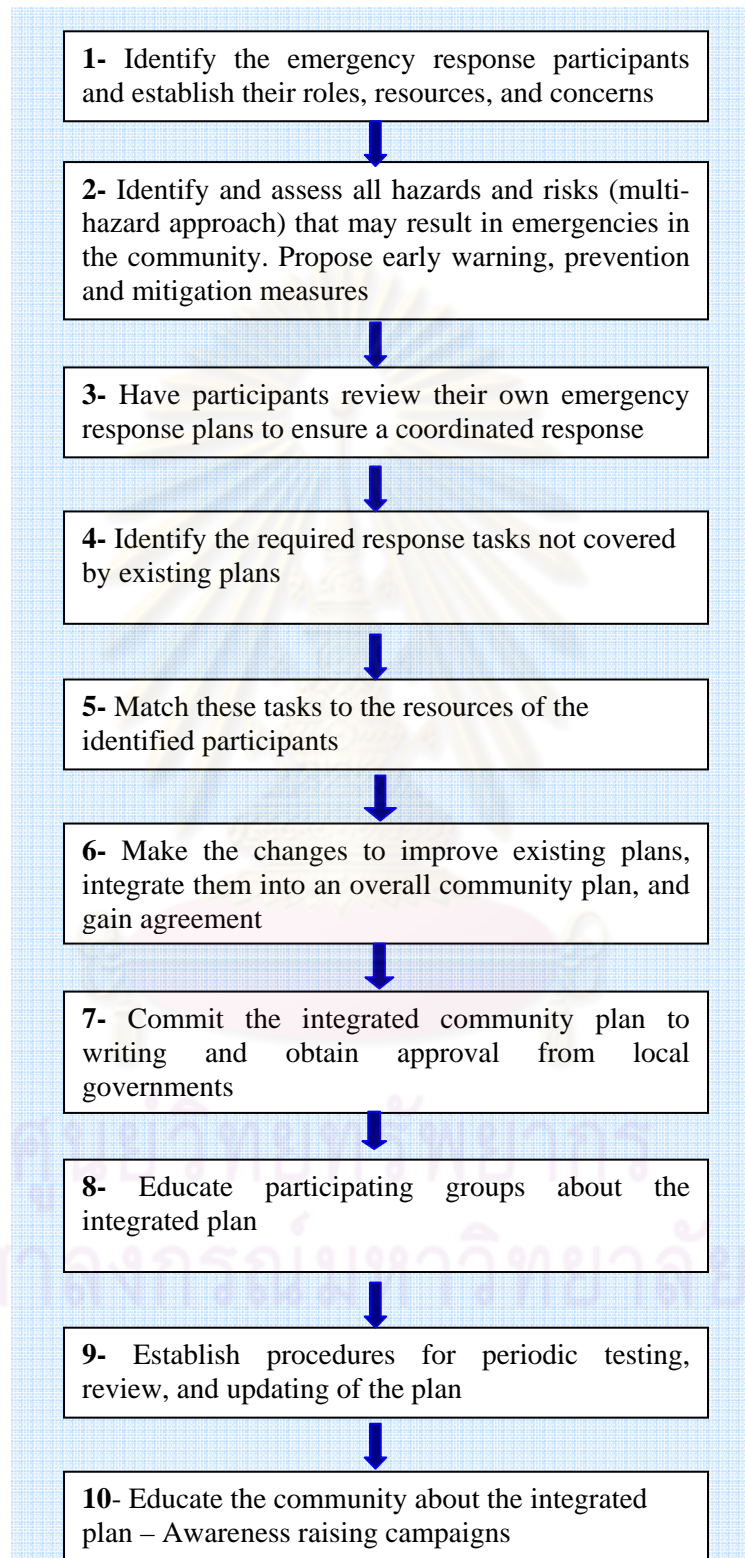
UNEP's Awareness and Preparedness for Emergencies at the Local Level (APELL) is a process designed to create public awareness of hazards and to ensure that communities and emergency services are adequately trained, coordinated and prepared to cope with disasters (UNEP, 2008).

APELL in practice mainly focuses on – an emergency plan to which the community has provided substantial input and which ordinary citizens can understand; communities that have emergency plans, evacuation routes and centers; hospitals prepared to deal with evacuees and injured people; and local authorities ready and able to receive warnings and to communicate them to communities at risk in order to trigger immediate evacuation (Figure 2.1).

UNEP's 10-step approach puts emphasis on how the community can contribute to reduce the impact of a disaster, especially in the event of a Tsunami. However, this concept can be used as a basic part of community-based disaster management. It gives emphasis to the role of vulnerable communities and potential hazards as elements to be integrated into the disaster management plan of the community.

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Figure 2.1 APELL 10-step Approach

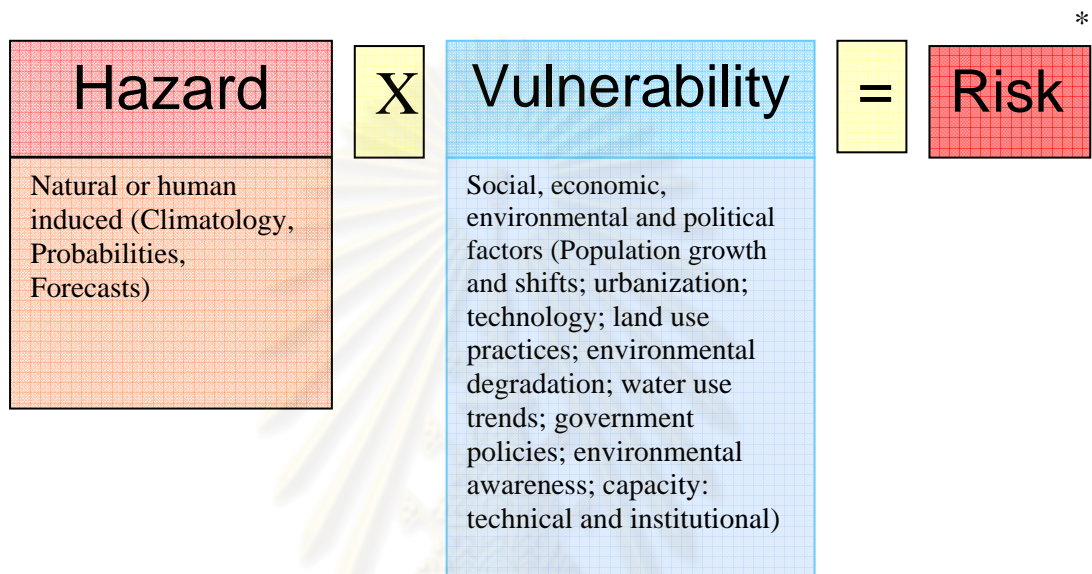


Source: United Nations Environmental Program (UNEP), (2008). *Awareness and preparedness for emergencies at the local level (APELL)*. Available from: <http://www.unep.org/apell>

The following formula explains why communities have been confronted with disaster risk and why they should prepare an integrated disaster management plan.

Figure 2.2 Disaster Risk

Disaster risk = Hazard x Vulnerability (Garatwa, & Bollin, 2002: 17)



Note: *The United Nations International Strategy for Disaster Reduction (ISDR) defines risk as the probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human induced hazards and vulnerable conditions.

Garatwa and Bollin (2002) stated that people living in the region with threats of natural events, are exposed to these natural hazards, but they may be able to prevent them from having grave consequences (e.g. earthquake-resistant building, a dyke or good disaster preparedness policy). People who are unable to protect themselves sufficiently against the adverse effects of a natural event are particularly 'vulnerable' to disaster.

Vulnerable community needs to prepare according to their hazards types before the disaster strike. Disaster preparedness may be described as action designed to minimize loss of life and damage, and to organize and facilitate timely and effective rescue, relief and rehabilitation in cases of disaster. Preparedness is

supported by the necessary legislation in many countries and means a readiness to cope with disaster situations or similar emergencies, which cannot be avoided (ESCAP, 1970: 18). Hence, it should be noted that effective community disaster preparedness require appropriate legislation support from the local authority.

The risk of disasters can also be expected to rise in the future, particularly for developing countries populations and in light of the consequences of climate change. Increased risk of natural disasters may result from the following two interlinked reasons: (1) an increase (frequency, magnitude) in extreme natural events, primarily due to climate change; and (2) increased vulnerability of populations to these natural events (Garatwa, & Bollin, 2000: 8).

2.5.2 The role of local community in disaster management

Disaster risk management technical cooperation defines disaster risk management as a series of actions (program, projects and/or measures) and instruments expressly aimed at reducing disaster risk in endangered regions, and mitigating the extent of disasters. Disaster risk management includes risk assessment, disaster prevention, mitigation, and disaster preparedness. It is used in the international debate to underscore the current trend of taking a proactive approach to hazards posed by extreme natural phenomena. The intention is a comprehensive reduction in disaster risk accounting for all the factors that contribute to risk (disaster risk management), as opposed to a focus on each individual danger (Ibid: 19).

Participation of local people in disaster preparedness and management is crucial to reduce the devastated impact of disasters. Participatory approaches to disaster preparedness and management often pre-suppose a basis in local communities (Battista and Baas, 2004: 10). Theses approaches also recognize that the inclusion and participation of local people can be the entry point of a comprehensive natural disaster prevention and preparedness.

On the one hand, local capacity building requires formal policy commitment and sufficient resources to support the local operation of disaster preparedness. On the other hand, international assistance and cooperation also play an important role in upgrading local disaster management system, exchange of local experience with international experience in dealing with disaster and empowerment of local communities. In other words, disaster preparedness measures are effective when they involve participation at all levels, from the local community through the national government to the regional and international levels.

The United Nations International Strategy for Disaster Reduction (UNISDR) recommends that local community groups should have the chance to influence decisions and manage resources to help reduce their vulnerability and better enable them to cope with risk. To be effective, knowledge must be presented in a way that relates to local conditions and customs. It also supposes, “All disaster risk reduction is essentially local in nature that requires community action. A special effort is required to recall locally valued traditional coping mechanisms and strategies” (UN/ISDR, 2005).

However, the concepts mentioned above should be implemented alongside modern technology, such as satellite monitoring systems and information and communication technology to spread the warning signs faster. This is because a fully aware, well-informed and properly trained population is the best guarantee of safety and of successful response to any disaster.

Unfortunately, most communities are not prepared for the hazards they face and often lack the reflexes to take effective action when disaster strikes. This was one of the main reasons for the severity of the impact of Cyclone Nargis in the lower basin of the Ayeyarwady Delta. Proper planning can dramatically reduce loss of life and property (Thomalla, F., et al, 2008).

2.6 Lessons Learned from Other Countries

2.6.1 Tsunami in Thailand

When the Indian Ocean tsunami hit on 26 November 2004, Thailand responded with strong leadership, robust institutions, experienced staff and adequate emergency financing from the national level budget; the country was able to mobilize a quick and efficient response to the disaster. Specifically, it adopted a three-phase response to the disaster: 1) search and rescue (SAR); 2) preventing infectious diseases and secondary losses amongst survivors; 3) reconstruction and longer term rehabilitation (Segschneider & Worakul, 2007: 7).

Apart from the direct support to the affected communities, the government of Thailand through its concerned departments in collaboration with national and international partners and academic institutions developed a plan with a mechanism to assess the impact, repair of the damage and promotion of a longer-term sustainability of natural resources affected by the tsunami.

The post-tsunami recovery and reconstruction process has been an enormous challenge for local communities, while at the same time constituting an opportunity in rebuilding, developing and improving social, economic, political and administrative structures.

The process of rebuilding communal networks, which is currently guided and supported by Tsunami related civil society networks like 'Save Andaman Network (SAN)' or the outside umbrella organization 'Sustainable Development Foundation (SDF)', has to be implemented by the communities themselves. The emerging new leaders or elders need support restore and increase former intra- and inter-communal cooperation, coordination and networking (Ibid, 2007: 28). In these groups and networks, local communities have organized among representatives of each group or team to elect the new leaders who are responsible for organizing the meeting and clarify what are their needs and how to submit the respected departments or NGOs.

In a process of consensus building, each representative has raised key problems and discussed possible solutions together, as well as further outlining operational disciplines and rules for the community. After the first three months, the initiative of the Tsunami Victims Network in Thailand was established. While initially about 30 communities participated in the network, it expanded to include over 130 communities; the network used common problems to find a link between different communities and to work as a network (Chongkraichak, M., et al, 2008).

Thailand's experience on responses, recovery and reconstruction process had considered local community participation and cooperation as the first priority. Community networks have developed and expanded in three months time and it contributed to the improvement of the interrelations between the communities and development agencies in fulfilling the community's needs.

2.6.2 The Philippines' experience of disaster responses

The Philippines is another country in the Asian region that is exposed to natural hazards. It is known for its Mount Pinatubo eruptions, typhoons, floods, and landslides. After having experienced a large number and various types of disasters, the Philippines instituted the Citizenry-Based and Development-Oriented Disaster Response (CBDO-DR) aiming "to contribute to pro-people development for the general improvement of the well being and quality of life for the majority of Filipinos.

"The vulnerable or marginalized sectors are at the heart of the development agenda as its main force as well as its primary beneficiary". (Heijmans and Victoria, 2001: 29). The principal features of the CBDO-DR approach are:

- 1) to examine disasters as a question of people's vulnerability.
- 2) to recognize and strengthen people's existing capacities.
- 3) to consider people's participation essential to disaster management.
- 4) to mobilize the less vulnerable sectors into partnerships with the vulnerable sectors in disaster management and development work.

The citizenry-based approach means that disaster response relies primarily on people, and not on one disaster response agency.

A successful response using CBDO-DR in the Philippines occurred in central Luzon in 1995. Manibaug-Libutad was considered as a high-risk area for lava flow coming from Mt. Pinatubo. In July 1995, a three-day training course was held about disaster response management, including a capacity and vulnerability analysis. The output of the training was the following: community members formulated an evacuation plan, identified key-people and agencies they could tap in case an evacuation is needed, and designed a warning system, particularly on how the warning information would flow to inform the community. Moreover, a Barangay Disaster Response Organization (BDRO) was set up with five committees: the Evacuation Committee, Warning Committee, Health Committee, Information and Education Committee, and Relief and Rehabilitation Committee.

Three days after the training – it was monsoon season – there was news of a typhoon expected to enter the area at 4: 00 pm. As the villagers did not hear any word from the municipal authorities, the BDRO Warning Committee had posted men along the dike to keep watch on the rising lava flow, at the same time; they informed the residents to prepare for an evacuation. At 6:00 pm, rain was falling heavily and an upstream portion of the dike started to erode.

The Warning Committee volunteers blew their whistles and immediately mobilized the foot patrols that went from house to house to inform residents to leave their houses and to gather at a safe evacuation sites (which were indentified during the training). Within two hours, the situation in community deteriorated. At 8:00 pm, two meters of lava covered the houses of the Manibaug-Libuted village. However, all villagers were safe. No one was killed or hurt. The community depended on their strength and capabilities. If they had waited for the official warning announcement of the government, they would likely have perished in the eruption (Delica, 1998, pp 5-14).

2.7 Community-based disaster management: A conceptual framework

The above-mentioned literature review illustrates the importance of integrated community-based disaster management plan to build disaster resilience communities. We can observe the advantages for the local people because of integration of the theoretical concepts and practices on the ground in the cases of Thailand's Tsunami response and community-based flood disaster management in the Philippines.

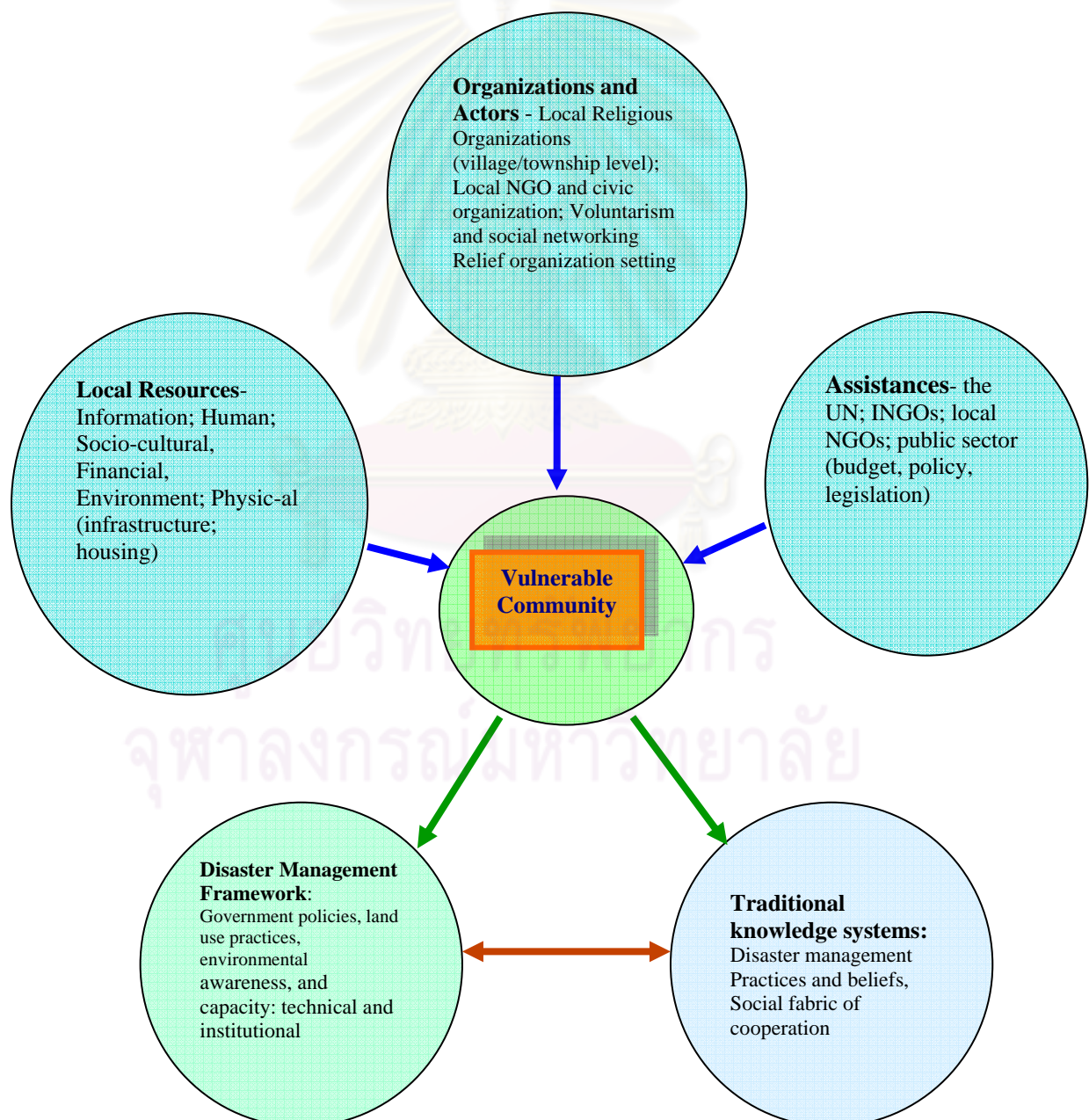
In a Community-Based Disaster Management (CBDM), vulnerable local communities should actively engaged in the identification, analysis, treatment, monitoring and evaluation of risks of before, during and after the natural disasters. ADPC defines that a community can be taken as a group that may share one or more things in common such as living in the same environment, similar disaster risk exposure, or having been affected by a disaster. Common problems, concerns and hopes regarding disaster risks may also be shared although people may have different vulnerabilities and capacities: rich and poor; men and women (Abarquez & Murshed, 2004, pp 10-11).

At the national level, as Governments proceed to adopt more comprehensive disaster risk reduction strategies, particular efforts are required to strengthen the mutually supporting roles envisaged at national, municipal and local levels of activity. Wider opportunities for engagement and more support to non-governmental organizations, community-based organizations, and the promotion of volunteerism remain to be important components to realize enhanced and sustained capabilities within local communities (UN/WCDR, 2004: 9).

Measures to reduce future disaster risks should be incorporated into all relief, reconstruction and rehabilitation programs. In this respect, poor communities have to be central to decision-making. Local authorities, aid agencies and NGOs should work alongside poor communities in identifying and reducing risks. Technological early warning systems must be linked to the local-level in order to be effective - training and education of vulnerable communities is required in order to achieve this (TEARFUND, 2007).

Communities living in the highly hazard prone area that are aware, educated, prepared and well organized have a much better chance to cope and respond to natural disasters in the context of a pre-established community-based disaster management framework. In addition, along with the community involvement, community-by-community and household-by-household disaster management plans have to be grounded in reality.

Figure 2.4 Conceptual Framework of CBDM



CHAPTER III

COMMUNITY-BASED DISASTER RESPONSES

3.1 Overview of the Study Site, Bogale, Ayeyarwady Division

3.1.1 An Overview of Bogale: The study sites

Geographical Characteristics

The Ayeyarwady Division is one of the 15 divisions/states in Myanmar, and comprises 5 districts and 26 townships. Population is over 6.5 million while the division covers 23,500 square kilometers with population of 466 persons per square mile. The delta area has a large network of creeks, streams, and rivers that are dividing it up into numerous islands. The impact of climatic and geological natural hazards have affected in the last few decades and led to moderate disasters in the Ayeyarwady delta. Being a highly natural hazard prone region, Ayeyarwady is frequently flooded by tidal effects and rain during the rainy seasons.

The study communities are located in Bogale, which lay in the cyclone path and severely affected by the storm, a town of more than 50,000 people, is 90 kms (55 miles) and a five- to six-hour journey by car from southwest of the former capital of Yangon. It is located in the southern part of Ayeyarwady Division.

The research communities Magu Ywa Ma (MYM), Pay Chaung Lay (PCL) and Thar Yar Gone (TYG) villages are located between the Ayeyarwady and Bogale Rivers. These villages are established along the small creeks between the two rivers and about an hour's boat ride from Bogale. Boat is the only way for transportation for these low laying villages. Thar Yar Gone and Magu Ywa Ma communities are close each other while Pay Chaung Lay is half an hour away from them. The communities are chosen for study because this area has been experienced coping with cyclone

Nargis in during emergency, relief and recovery situations collaboration with the aid organizations.

Figure 3.1 Map of research area

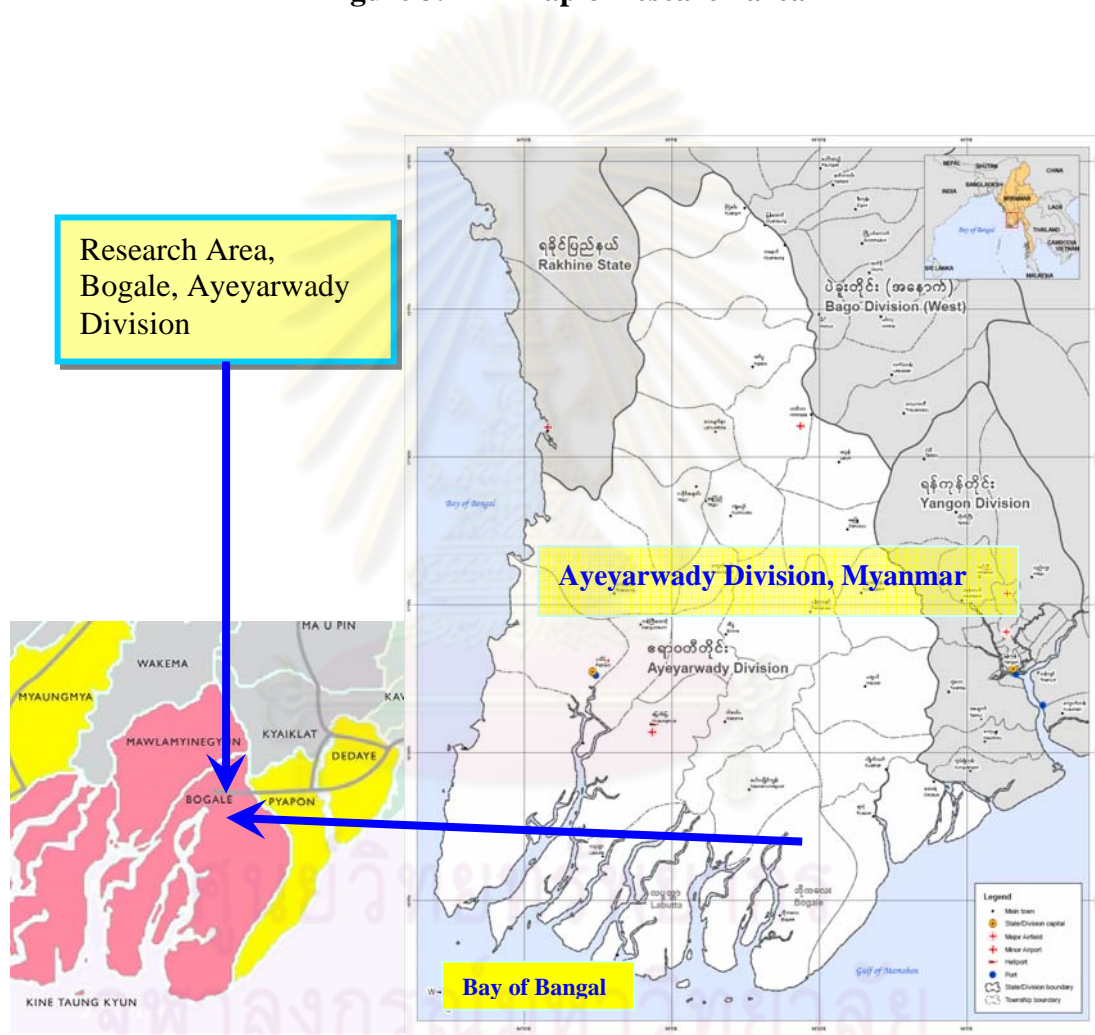
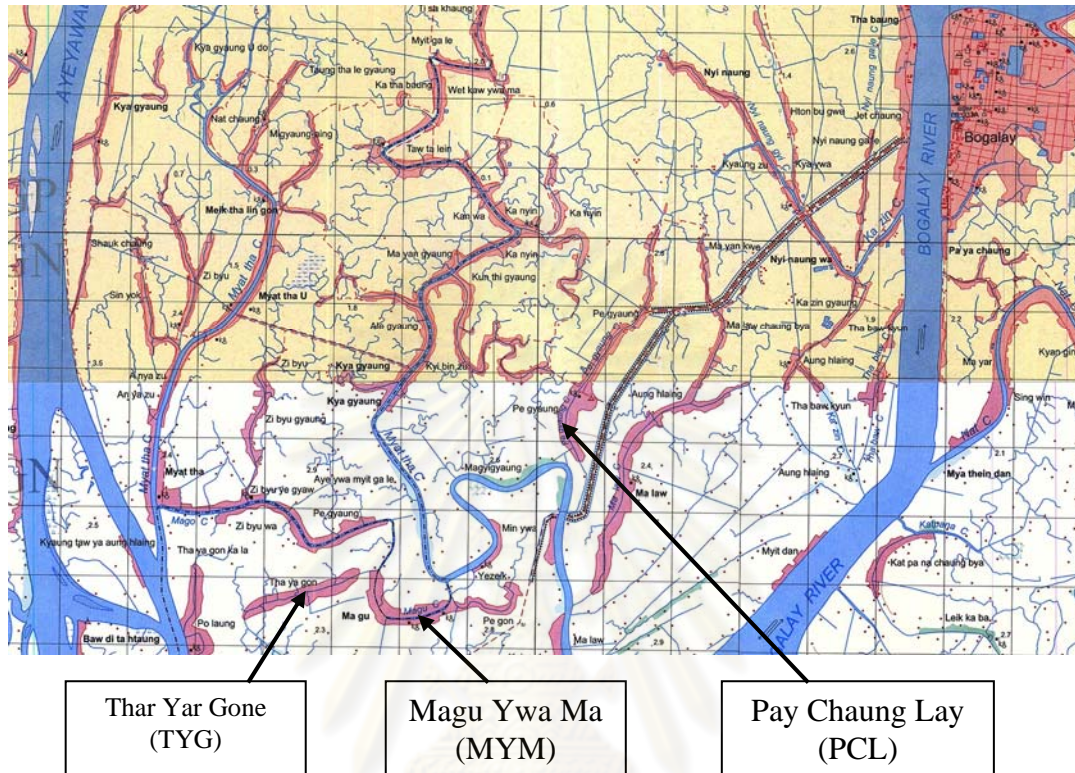


Figure 3.2 Location of research villages



Source: Novel Compassionate Volunteers' Group (NCV), 2008.

3.1.2 Natural Hazards in Ayeyarwady Delta

The delta is exposed to low frequency, high-impact events of natural hazards such as tsunamis and seasonal cyclones. Since Cyclone Mala hit in 2006, Nargis was the second tropical cyclones and most deadly one in history of the delta and of the country as well. Having number of tributaries and rivers that flows into bay of Bangal, not only the storm but also other disaster risk such as tsunami and flooding pose as threats. The region receives more than 400cm rainfall annually.

In monsoon season, high rainfall cause floods in the Ayeyarwady river basin. Some coastal areas of the Delta, experienced with Indian Ocean tsunami in December

2004. The hardest hit area was the Laputta Township in the Ayeyarwady delta, where 34 people dead and hundreds of families lost their homes and disrupted their livelihoods of 60 lives lost in total for Myanmar coastal areas (UNORC, 2005). On May 2nd and 3rd, the category three cyclone Nargis uprooted trees, snapped concrete poles carrying power lines, and blew the tops off the golden pagodas and destroyed houses of wood and straw of the Bogale and satellite villages. In Bogale itself, no building was untouched. The government estimated the cyclone killed 37932 people in Bogale and the surrounding area (TCG: 2008).

3.2 Community Profiles

3.2.1 Socio-economic characteristics

Agriculture is predominant in Ayeyarwady Division, although fisheries have become an increasingly important industry for household consumption and income generation, along the coast and in the extensive network of rivers and creeks of the delta. More than a half of the total population of the Delta is engaged in agriculture (TCG, 2008: 147). Cultivated land, which is composed mainly of paddy fields, is the dominant land use in the delta. Significantly, there are many several forest products in the area such as fuel-wood and charcoal.

As fertile with tidal forest grow, rural areas are commonly used ‘*Nipa*’¹ for roofing. Nipa thatching also takes in livelihood income generation for rural people especially for women. Since the many creeks and streams are being intersect each other the delta region much rely on waterways for transport.

Villagers in the three communities depend mostly on paddy growing and could be divided roughly into two classes: farmers with farms and without farms. Villagers those who do not have the land to plow are the ‘*bout*’ workers or wages workers who work for the farm own villagers. the village communities are rely on each others: mean that the farm owner need to rely on wages workers for plowing and

¹ One of the mangroves species used for roofing especially in rural areas.

harvesting the rice field and the wage earner can take money from their employees in advance for their daily household needs.

There are other businesses to depend on for instance ‘*betel*’ nut plantations, ‘*nippa*’² leave-weaving, catching fish and shipping businesses. However, majority of the villagers gain benefit from paddy plantation year round in this area. Since the majority relies on the paddy plantation, people those live in rice fields are highly vulnerability for natural disasters as flood and storm. Most fatality in these villages are people those live in the rice field a bit far away from the village.

Comparing the socio economic situation of these villages, one find that MYM is the most prosperous because of its location with easy access to and from Bogale Township and it has the primary school and health center which was received a water tank by United Nations Development Program’s health project assistance in 1993. Therefore, it should be assumed that MYM have more capacity to deal with disaster preparedness for adaptive and resilient community.

The study attempts to examine and identify existing efforts of the local people and how do they manage the chaotic disaster situation at the community level and how the local people are initiated in disaster relief activities. The sample villages are considered to be on the local level. Therefore, reference to local interviewees and informants indicates those concerned with the area in which the communities are located. A national level component intends to examine the context, including national policies that would have impact on local level response measures.

3.2.2 Demographic and administrative characteristics

The total population of these communities is 1322, from 298 households. The people are Myanmar (Barma) and Buddhists. The summary of the population and the households in different communities is as follows:

² A mangrove species, the leaves of which are woven to use for thatches

Table 3.1 Village population

<u>Village</u>	<u>Population</u>	<u>Male</u>	<u>Female</u>	<u>Children(5>)</u>	<u>Households</u>
MYM	680	321	279	80	153
PCL	395	167	182	46	90
TYG	247	118	117	12	55

Source: Data extracted from *World Vision International (WV) "households survey for relief distribution in Bogale Township" 2008*, unpublished document.

MYM has a health center and a primary school, which was severely damaged during the storm. Each village has village administrative authority, Village Peace and Development Council (VPDC), and Village Disaster Preparedness Committee (VDPC). The hierarchy of administration goes up from village administrative authority at the bottom to sub-township administrative authority to township authority, district, divisional and national authority at the top. Each village administrative authority (called Ya Eain Hmu) is responsible for about 40 to over one hundred households. Of three villages, Magu Ywa Ma (MYM) is the biggest and other two small villages include under the administration of MYM and sharing public facilities such as village healthcare center and school.

3.3 Community's Responses to Disaster

Having described a framework for community-based disaster management based on policy and theory in the previous chapter, the purpose of a field research study is to understand how community-based processes are revealed in the affected areas. To this end, the case study seeks to explore to what extent community participation level and perceptions can be understand in responses to the natural disasters among vulnerable local people.

While the unit of interest for case study is rural communities with agro-based economies, field research find out their respond to disaster and vulnerable conditions.

Hence, an exploration of local conditions and responses should be examined first. The national level response to the Nargis then follows.

As mentioned in beginning, Ayeyarwady Division is one of the most vulnerability meteorological hazards composing low laying delta in Myanmar while it is the principal rice-growing region. Social and physical vulnerability to the frequent and numerous natural hazards are high amongst the all classes of populations especially for the community living a long the small streams and creeks. By looking at how people respond and to what extent these responses provide evidence of whether and how a process of CBDM is taking place in Myanmar and indicate what sort of challenges may be confronting this process.

3.3.1 Casualties and Vulnerabilities in the studied villages

Cyclone Nargis has had a devastating impact for millions people in the Ayeyarwady delta. It gave the extensive damage to the environment, shelter and livelihoods and the death or missing of family members. More than these, thousand livestock were lost to the storm, million acres of rice paddy inundated with salt water, and hundreds of fishing vessels and critical infrastructure wiped out. Thus, there are some of the key devastations founded in the studied areas.

Shelters: Most of the houses in the sample villages are makeshift or bamboo construction and thus are susceptible to damage. Though, in MYM and PCL villages, the monasteries are constructed by bricks and wood which had minor damages during the storm. There are five monasteries in MYM and three in PCL. In MYM two shelters were used as the place for the village's primary school, was totally collapsed. No thatched houses in the villages were able to escape from the storm. 15 wooden houses in MYM, 14 houses in PCL and seven houses in TYG were withstood from the storm (Kye Mae, World Vision, Bogale, interview, July 30, 2008).

“Most houses in the village area made from various materials or bamboo. Thus, it is not surprising that 89 per cent of the villagers had lost their

houses which were totally destroyed and only 11 per cent was partially damaged” (Ko Moe Moe, VDPC PCL, interview, July 25, 2008).

Three months later after the storm, it is estimated that 70 percent of the houses are poorly repaired or rebuild. Tarpaulins distributed by the relief organizations are used for not only roofing but also covering instead of the plank. People have already made some temporary shelters, however no households has been rehabilitated.

“All most all the houses in our village had been destroyed. Our housing situation now had already improved but most construction was not permanent. What we currently need is the building materials. The prices of these items were high after the storm hit. I do not know how long my family would be staying my temporary tent. As I am now jobless and I don’t have money to buy anything” (U Nyunt, interview, July 25, 2008).

Death toll: There were 20 people died in three villages due to the storm which is eight, five and seven people in MYM, PCL, and TYG, respectively (Thida, NCV’s staff, interview, July 25 2008). It is observed that the number of death toll in these villages is relatively lower than other nearby villages as the village had significant features: situated in the higher ground from surrounding farming lands, villages’ main roads are deterred surge as dike and these roads were served as evacuation route to a safer place. Two villagers from the TYG village said that:

“Most of the human casualties were because of the storm surge not the wind alone. In my village, the highest water level was only 5 feet during the storm. That was why the death, missing and injured people toll in the villages are lower.” (Ko Thein, interview, July 21, 2008).

At the same time, U Wa Tut has also explained that

“Because our village is experienced with seasonal flooding, the main road of the village is used as dike or higher safety place to avoid flooding. If there was no this road, the whole population in our village would all die” (interview, July 22, 2008).

Thus, it is assumed that the death figure in the villages is lower because of the geographic of the area and the villagers relatively have had the adaptive manners in accordance with their previous experiences to disaster risks.

Healthcare: The impact on health in the studied village was also evident especially among the old age people. Before Nargis, 30 per cent of the villagers did not suffer from any significant illness. Conversely, the number decreased to 2 per cent after the cyclone struck. It is observed that the most frequent increased health complications were jaundice, diarrhea, malaria, respiratory problems and skin infections (U Khine Win, World Vision, July 25, 2008). Most of aged people carry a disability as a result of the cyclone. A 64 year olds casual worker in TYG indicated that:

“I have high blood pressure. Before Nargis, we had no problem with our livelihood. The storm took all of our wealth and two small grandsons. I am still alive, but my life is dead. My wife now becomes disabled from a stroke. Currently, we can survive because we get some food from the organization and our community” (interview, July 2008)

Livelihoods: Agriculture was a primary source of income in the studied communities. However, most of the households were sharply affected after the disaster. Most of the villagers have claimed that they were not unable to harvest their crop. There was a significant loss of properties, cattle and seeds. They would not able to plant for the upcoming year for paddy growing season.

“When the storm struck, it was the harvest time for summer rice but all of it has been destroyed by Nargis. I lost all cattle used for farming and paddy seeds. Nothing left. It was gone with the wind and storm surge. You can see green plants cover the rice fields at the back of the village. Those are not rice but just the sward! I am now waiting for the financial or material assistance from wherever but still not received anything from anyone yet”. U Khin Yi from the TYG continued “In other villages, some farm owners have been getting 2 bottles diesel per acre for power tillers from the government. I heard that at present, VDPC is now trying to

report our village's situation and numbers of farms and owners to the authorities from Bogale Township. I also heard that the authorities from Bogale are giving tillers to the villages including Magu Ywa Ma, but it will be limited quota with two or three tillers for one village. It would not be enough surely but we can share or hire the machines for growing rice. However, one useful thing is better than nothing". (interview, July 2008).

However, usefulness of the machines and paddy seeds distributed by the authorities must be questioned, because of the experience of the farmer U Thaung from MYM village. He said:

"The tiller distributed to my village can not use by the situation that we received from the authorities from Bogale town. We need to repair wheel, excel and some parts of the engine to be able to use into the farm. So, the farmer has to spend extra cost for this repairing. In fact, for me, I more prefer buffalo for plowing as farms in this area have seasonal flooding and it make happen difficulty to put into the farms (logistic problem also) and use the machines".

Other livelihood option for the studied communities except from farming is fishing along the creeks and the stream. However, the places for fishing are very limited and could not catch enough fish to make business (Zaw Naing, interview, July 21, 2008). Apart from the above options, home gardens, poultry raising and small shop business were also loss for most of informants. Female heads households were also highly vulnerability as they continue to maintain the burden of caring for the family as well as the extra burden caused by the loss of traditional income or routine jobs in their villages. As Kyi Kyi who heads her household and is traditional snack seller from TYG village explained:

"I have three family members, my seven years old son, my 20 year olds sister and me. Before the storm, I sell 'bain mout' (traditional snack made by rice) in the morning and at daytime. My temporary jobs were collecting betel nut, and sell them at Bogale town. Now I have only one income source by selling the snack, but due to the storm, many people are jobless

and could not effort to buy my snack. So, I can sell the snack only 3 or 4 days a week now. At the same time, the rice mall in Bogaly where my sister employed was totally collapsed during the storm. She is now jobless” (interview, July 22, 2008).

Infrastructure: There were few infrastructure damages in the research villages since it had a few public facilities and buildings. There is no permanent inland road to the studied villages, only temporary road could access in dry season. Water transport is used for daily activities. For electric, villagers just rely on private generators or batteries for small rice malls, lighting and family entertainment such as watching TV at nighttime. Yet, electric power line from Bogale town did not connect to the studied communities. Only waterway could be used to distribute relief aids to the villages from Bogale town in which base camps and front offices of the relief organizations are settled. There are three means of transportation to send relief materials to Bogale – waterway, inland road and by air through the UN’s choppers. Among these logistic ways, inland transportation is used to carry large amount of relief aids. As a result, the only road to reach to Bogale town was severely damaged due to poorly constructed road passed by a large numbers of the relief conveyances. It affected not only the hindrance of aid deliveries to affected villages but also day to day travelling of the people in Bogale town. There was no immediate reparation of the road was not seen during my field study.

Food security: Rice, fish and fish-based products are the staple food for most of people especially the rural in Myanmar. As a result of the damage to paddy farms, home gardens and fishing ground and equipment, the food resources were disrupted. Prior to Nargis, villagers bought food from markets; however; as a result of purchasing power and availability of food supplies, most of villagers could not acquired food from the markets. Most of them were reliant on the food supplies from local and INGOs.

“There was food shortage supply and money. I was shameful when I was standing inline to get the food from the donors but I also do not know what I should do as I have lost all my properties. I never though this event

would happen in my life. I felt so sad. I really hated the storm because it destroyed my life. However, I have to depend on the food aid until the next harvest time” (Tin Soe, interview, July 28, 2008).

Therefore, the economy of the area and the economy of the individual households have been devastated as it is observed that the absolute devastation of the Nargis in the villages is the disappeared ways of getting access to food and income that people used to have. It is assumed that the causalities are going to continue to have a big impact on livelihoods on people if the food insecure remains happen within the communities.

3.3.2 Reactions by villagers after the storm

Immediately after the cyclone, lead by the monks and elders organized voluntarily by themselves to clean the ponds in their villages which was filled with debris due to the storm. The task of removing and clearing of debris and fallen trees, which were blocked the main roads of the village and waterways of the villages undertook by the voluntary villagers in the wake of the cyclone. The task of clearing the water truck was also very important as the boats, carrying relief goods and emergency aids, reached to their villages (Aung Kyaw, NCV- Bogale, interview, July 28, 2008).

The role of religious leaders in the disaster relief efforts should be highlight at the village level disaster responses. Since the sample villages in the study are Buddhists, monasteries are the center of social works of the village life in theses communities. In physically, these monasteries are relatively disaster resistance structural buildings. The buildings are constructed by brick, wood, zinc roofing as height enough from seasonal flooding, as well as storm resistance.

U Lu Bwa, a farmer from MYM village recalled their seeking of the safer place during the Nargis,

“The monastery is the only safe place for our family during the storm, because my house was constructed with bamboo and thatch. The wind broke down my little hut since the beginning of the storm. Then my family went to the monastery as other neighbors do. We lived at there nearly a week until the water level dropped. If this monastery was not enough to resist the storm, I could not imagine how would be the fate of us” (interview, July 22 2008).



Figure 3.3: building of the monastery as a safer place during the storm and commune center for distribution of relief aids

Moreover, monasteries had been used as commune centers for distribution of relief aids and shelters for victims who were left out from the government or international relief efforts. Most importantly, the monks played a pivotal role to maintain fair and equal treatments to all villagers in disorder situation shortly after the Nargis.

An abbot of the monastery from MYM explained

“Even though the NGOs and other well-wishers donate various kinds of relief items in the village, it could not cover the necessary for all households of the village in most of cases, especially in non-food items

like blankets, cloths, and medicine and housing materials. So, I have to manage and negotiate between the donors and villagers for distribution of aids, as well as to reduce the controversial among the villagers. Moreover, my monastery sheltered four villagers who lost their families and properties. They felt trauma and depression due to the Nargis. Spiritual healing combined with pleasant surrounding helped remedy for their tragic feeling. All of them are now in monkhood and live at monastery” (A Shin Kaw Than La, interview, July 25 2008).



Figure 3.4: Villagers are waiting for the distribution of relief items at the monastery (22-7-2008)

However, there are still inadequate assistance for vulnerable groups in the village particularly for women and children. For instance, one female respondent from MYM who is one of tens of houseless people after the storm destroyed their houses. Before the storm struck, she and her family lived in a simple thatched bamboo house near the paddy field of her employ. She has a four-year-old son and lives together with her sister. Her husband had worked at Bogale Township as a laborer in private construction site. He used to return to the village once a week.

After the storm, she was afraid to live in the farm and moved to village. However, she does not have her own land to settle in the village. She told,

“I do not want to stay at outside of the village since we were frightened the horrible storm will come again. Now, we lived temporarily on the neighbor’s small plot of land where we build a tent with tarpaulin and substances of betel nut trees. Moreover, my son will have to start schooling at primary school next year” (Ma Yi Yi, MYM, interview, July 22 2008).

There are other households like her, moved in to the village after the storm. However, no institutions, either village administration or community leaders, have settled their settlements in the village.

3.3.3 Organizational arrangement for emergency response

For structural arrangement, village disaster preparedness committee (VDPC) was organized with five members (5 members committee) after the storm hit - one village administrative head, one village militia member, and two patrons from the villagers. The hierarchy of disaster preparedness committee is the same as the administrative authority structure. The committee must responsible for the facilitation for distribution of relief aids by the private donors and aid organizations as well as security of relief materials in the village.

Each community member, especially young men, has to take responsible not only logistic duties to move the relief materials from jetty to village’s warehouse but also rotate sentry duties to secure the warehouse of INGO at the village. The local authorities regulated structural response at the community level to control and oversee relief operations on ground by organizing the VDPC (U Myint Shwe, PCL, interview, July 23, 2008).

However, since the VDPC was formed during the emergency relief period, it does not have trained manpower for search and rescue, medical first aid and safer shelter for people. Nevertheless, the local community and religious leaders self-helped each other with community spirit and initiated most of the relief activities.

3.3.4 Volunteerism and rising up of community based organizations (CBOs)

In the research villages, level of volunteer activities increased in the aftermath of the emergency period and remains high in early recovery process. As soon as the storm devastated the delta, an influx of people, ranging from well-wishers, businessmen, to untrained individuals, assisted to the effected villages and survivors in any possible means. People from different professionals, regions and towns participated as volunteers, in a wide variety of tasks on the sites of effected villages by Nargis, such as debris clearing, collecting food, money and supplies, providing shelter, and among other activities.

“We received the earliest emergency relief aids from the well-wishers from Yangon. They came to the village with rice, cloths, dry noodles and first aids kits. Although they distributed a few materials, this assistance was not valuable for us at that time. Their moral encouragement also sustained our triumph to encounter the trouble situation” (U Shwe Hla, PCL, interview, July 25, 2008).

Volunteers have established and operated systems by themselves to transport commodities donated by the public. They brought certain abilities that do not exist in sufficient quantities in the established response organizations of local authorities, which do not have working plan to provide immediate assistance to damaged areas.

Informants from the three villages responded that they received non-food items (NFIs) such as cooking utensils, cloths and fast aid kits donated by religious organizations, volunteers’ groups and INGOs (Win Thida, Bogale & Tin Soe, TYG,

interview, July 22, 2008). Some organizations donated relief items to the villages randomly by themselves. Since they did not have enough time to assess the situation as well as insufficient amount to cover all, villagers received different items of aids.

There are many activities by the associations of various religious faiths, prominent persons and Sayadaws (Abbots) of the religious associations organized programs to donate relief supplies. Many Buddhist monks such as Sitagu Sayadaw, Dhamma Duta Ashin Chekinda, Paris Buddhist Monastery Abbot, and to name a few, conducted sermon delivering ceremonies and received donations for the victims. Similarly, many Buddhist monks from all over the country also went to the affected difficult to access areas and disbursed substantial quantities of cash and relief materials to the villagers using the local monastery as base.

Moreover, Christians of Baptist and Catholic Churches made donations and participated in the rescue and rehabilitation tasks actively, while Muslim and Hindi religious associations were making generous charities.

Along with the volunteer activities, there are number of community-based organizations (CBOs) were setting up in the affected areas. Theoretically, a CBO is defined as “an organization that provides social services at the local level. It is a non-profit organization whose activities are based primarily on volunteer efforts. This means that CBOs depend heavily on voluntary contributions for labor, material and financial support” (Chechetto-Salles and Geyer, 2006). This definition reflects the establishment of a community-based organization in Bogale, Nobel Compassionate Volunteers’ Group (NCV). U Maung, one of the founders of NCV, explained how was his feeling of kindness to the affected people,

“After I saw the damages caused by Nargis at the TV news, I organized my business partners and colleagues to assist the affected people. As the Delta was the most devastated region, I decided to go to Bogale where my group started relief operations on 7 May, four days after the Cyclone Nargis struck. I brought rice and other emergency relief items. I felt sorrowful deeply in my heart when I realized that they were struggling

in deep trouble aftermath of the storm. After that, I made a decision to help them as much as I can. I returned back to Yangon where I organized my business partners to establish a humanitarian assistance group” (U Maung, interview, Bogale, July 28, 2008).

It is observed that levels of volunteer activity increased in the aftermath of the storm and remain high in early recovery periods. By accelerating their relief operations, many volunteer groups established local communities-based humanitarian organizations (CBOs).

“Since my grandparents’ parents, we ate the rice from the delta by the labor of the farmers from there. The Nargis disrupted the delta with huge devastation that caused over a hundred thousands of people dead and destroyed everything along the storm path. Now, it is our turn to look after our benefactors, the farmers and people from the Ayeyarwady delta. If over 50 millions people in Myanmar help to assist the relief and recovery activities, the lives of the storm victims will quickly turn into normalcy,” he insisted (U Maung, interview, Bogale, July 28, 2008).

With regard to the organization of the organization, he said:

“We assumed that all members in the organization are the same rank. We do not have chairman, general secretary, and we do not divide the younger and the older. All believe that all members have the equal capacity and humanitarian spirit to help the victims. We do not have any pay staff in the organization. All are completely voluntary staffs come from Bogale, Yangon, and other towns” (U Maung, interview, July 28, 2008).

The Nobel Compassionate Volunteers’ Group has been settled at Bogale to facilitate and cooperate in distribution of relief items from local well-wishers, INGOs and the UN affiliated agencies. The NCV distributes not only food and non-food items, but also drills the wells for the villages those have been faced drinking water

difficulties, and marking the temporary landing places for aid distribution helicopters. The NCV's area map of southern Ayeyarwaddy Division was also widely used by the UN agencies and other local and international NGOs (Ye Kyaw, interview, July 30, 2008). One noticeable policy of this organization is that they do not accept any cash donations to avoid the misunderstanding and complexity of transactions. They only accept the materials such as construction items, medicine, household utensils and so on. The organization facilitates between the donor's desirable relief items and community needs.

Other prominent CBOs working for the emergency relief operations in Bogale are 'Mee Eain Shin' (the lamplighter), 'Law Ka Alin' (a ray of the earth), and Association of people in Bogale Twonship (personal observation, July 20-30, 2008).

3.3.5 Local knowledge and practices as coping strategies to respond disaster

Responses of the villagers during disaster basically described according to their local knowledge and practices as they have accumulated experiences previous time. Villagers applied haystack to escape from storm surge. One respondent told,

“My house was constructed by thatch and wood but the floor was sunk and house also almost collapsed due to storm. So, we (he and his parents) moved to haystack until the neighbor's boat come and evacuate us” (Ma Myint, PCL, interview, July 27, 2008).

Keeping reserved boat at higher store place beside the house also one of the means to evacuate villagers from risk to safe areas. They have experiences with flooding in monsoon for decades ago. Moreover, they solved the problem for drinking water by utilizing rainwater beneficially using tarpaulins like ponds before their villages' ponds are cleaned and fill with rain.

“We needed to survive before donors arrived to our village. So, we processed together raw paddy to become rice and shared the other people in the village” one community leader told (U Lu Bwa, MYM, July 28, 2008).

Farming families dry their wet paddy on nets spread out on the village road. After that, they had pounded the paddy by themselves in traditional way as the rice mills were severely damaged by the storm. Moreover, fallen trees were applied to repair and reconstruct their damaged houses, particularly, timber extracted by body of ‘betel nut’ trees, were useful for floor.

Thus, the villages tried to deal with the critical situation by their acquaintances. However, the communities have never been experiences with huge devastative cyclone along with the storm surge. The power of storm was so immense that conventional knowledge systems and practices for preparedness and responses were hard to lessen the massive losses of lives and materials. Hence, it is assumed community’s adaptive responses and preparedness to disasters requires empowerment and capacity building not only from formal policy commitments but also from experienced local and international relief agencies.

3.4 The Government’s Response (National Context of Disaster Management in Myanmar)

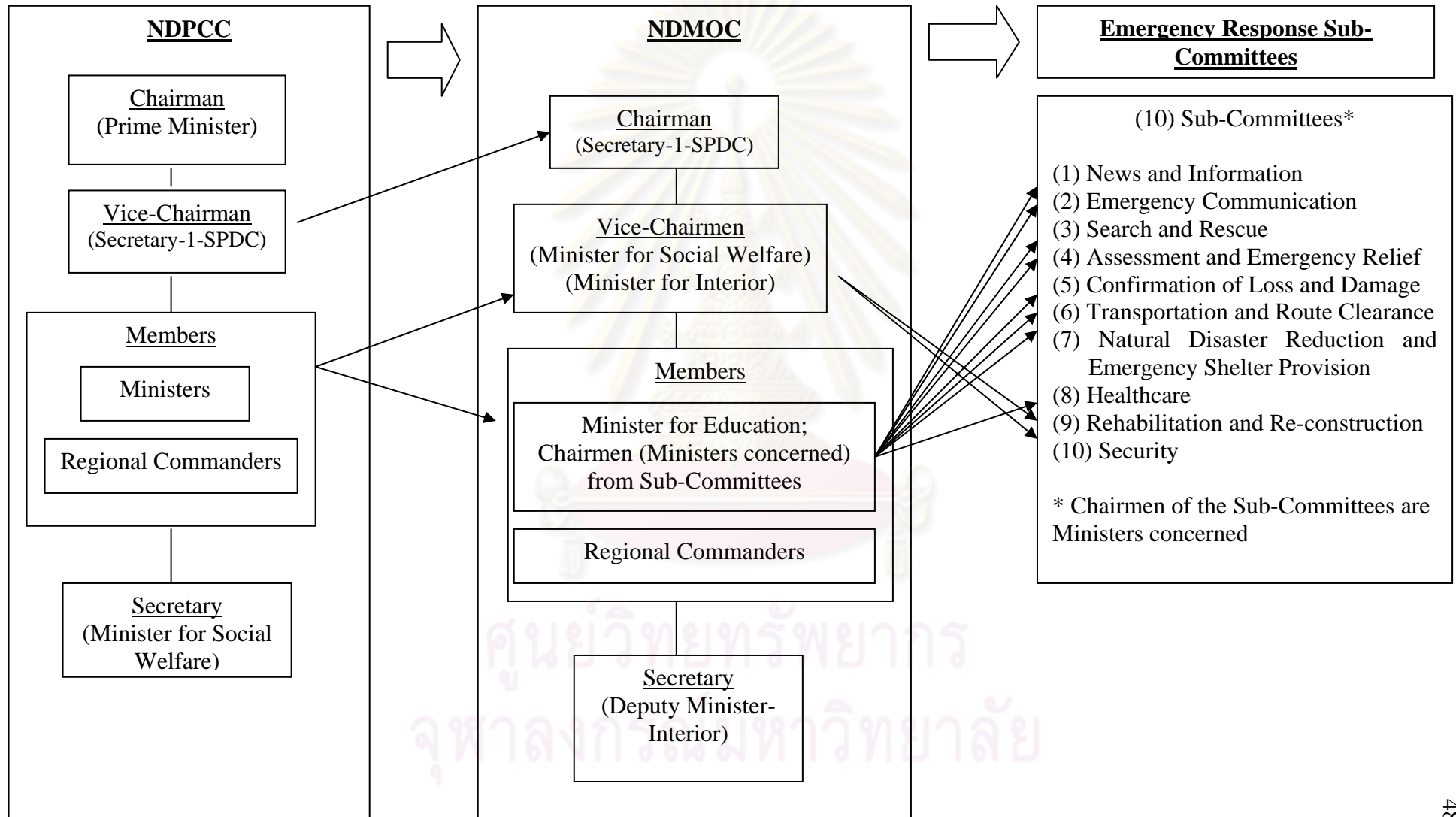
Since the 2004 Asian Tsunami, the Government of Myanmar (GoM) has revised and reestablished, a National Natural Disaster Preparedness Central Committee (NDPCC) chaired by the Prime Minister and several Ministers concerned as members. Under the NDPCC, National Disaster Management Operation Committee (NDMOC) was formed. Accordingly, 10 Emergency Disaster Response Sub-committees were formed to supervise relief operations as well as close cooperate with relief organizations from local and international agencies (figure 3.6).

Importantly, these changes are need to pass a law on development and planning that mentions disaster response, a new unit to deal with risk assessment and management within the national body and emphasize on comprehensive community preparedness. The existing disaster management framework updated in January 2005 is supposed to complex one. It consists of 20 laws (Appendix C), at least 16 ministries, one national central committee, one implementing committee and 10 emergency respond sub-committees. There is a lack of legislation to mandate all aspect of disaster management structures including accountability of institutions for both governmental and non-governmental organizations concerned and role of communities in the disaster management. Centralized management framework leads to delay and waiting for commands from top for every action. Hence, responses from public sectors took some time to decide and delay to arrange everything. In this situation, coordination with private sector could more effectively respond to the emergency and attend to the needs of those affected.



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Figure 3.5 The organization chart of the National level disaster management framework



3.4.1 Assessing the institutional structure of responses

For close and effective supervision in undertaking relief and rehabilitation tasks in the townships within the storm-hit region, individual ministers were assigned to each of them (TCG, 2008). The minister for Forestry, Major General Thein Aung was assigned for Bogalay township emergency respond and relief activities (Personal observation, July 20-30, 2008).

“It (the assignment of Ministers in each townships) is aimed to avoid the overlapping of aid agencies in the same areas and intended to get fair and equal assistances for affected people those live in remote villages which are difficult to reach aids” explained by an official from Ministry of Social Welfare (San Oo, Bogale, interview, July 25 2008).

He continued:

“Sometimes the local and INGOs staffs are trying to make benefit or self interest upon the critical situation shortly after the cyclone hit. That is why the authorities need to supervise their activities as well as to facilitate their operations in the townships and villages. It does not mean that the authority discourage the aid agencies to go and distribute the materials. They can do their job systematically”.

However, aid agencies and local CBOs must agree with the instruction of the respected ministers that area they can launch their relief activities.

The announcement number (1) of the NDPCC, on May 16 also included the warning of misappropriate and misuse of the donations of internal and international well-wishers. The last one of four points included announcement stated

“Anyone may inform if he witness or knows that the cash assistance and relief supplies donated to the storm victims are kept for self-interest, traded, used for particular persons and organizations, or misappropriated for other purposes. We, hereby announce that we have made all necessary arrangements to conduct investigation into the

cases to expose the offenders and take punitive action against them in accordance with the law”³

The GoM permission had been granted on 2 June, a common transport network was established, including an air bridge for supplies from Bangkok to Yangon, warehouse services in Yangon and five hubs in the affected region (Labutta, Mawlamyinyun, Pathein, Pyapon, Bogale) and transport by helicopter, truck and river barge to outlying villages.

The NDPCC has adopted four phases working plan, after the emergency relief operations were accomplished. These phases are as follows:

- Phase 1: Transition (the period between emergency relief/rescue and rehabilitation),
- Phase 2: Short Term Rebuilding (quick rebuilding of both urban and rural areas until farming and fishery activities can be resumed and livelihoods restored),
- Phase 3: Longer Term Reconstruction (further improvement and upgrading of reconstruction and resettlement tasks carried out under Phase 2),
- Phase 4: Preparedness and Prevention (TCG, 2008).

In mid-May, there were totally 419 relief camps in 29 townships in Yangon and Ayeyarwady Divisions to cater to the urgent needs of the survivors. A total of 80,529 storm victims were sheltered in these camps, where they were provided with food, clothing, medical care and other daily needs (TCG, 2008). However, since the administration of the relief camps were assigned by the local authorities, the victims lived in these camps had felt uncomfortable in many cases. For example, people were not allowed to move from one camp to another to live together with their relatives or neighbors.

Although up to 20 governmental agencies involve in the disaster management scheme, appointment of responsible Ministers on selected effected townships reduced

³ *The New Light of Myanmar*, Volume XVI, (No.29), May 17, 2008.

the complexity operations among the governmental agencies and lessened the communication gap between local and international aid organizations and governmental agencies. Thus, aid organizations can negotiate directly with the state level for any disaster relief operations, if they have any inconveniences with the local governmental agencies.

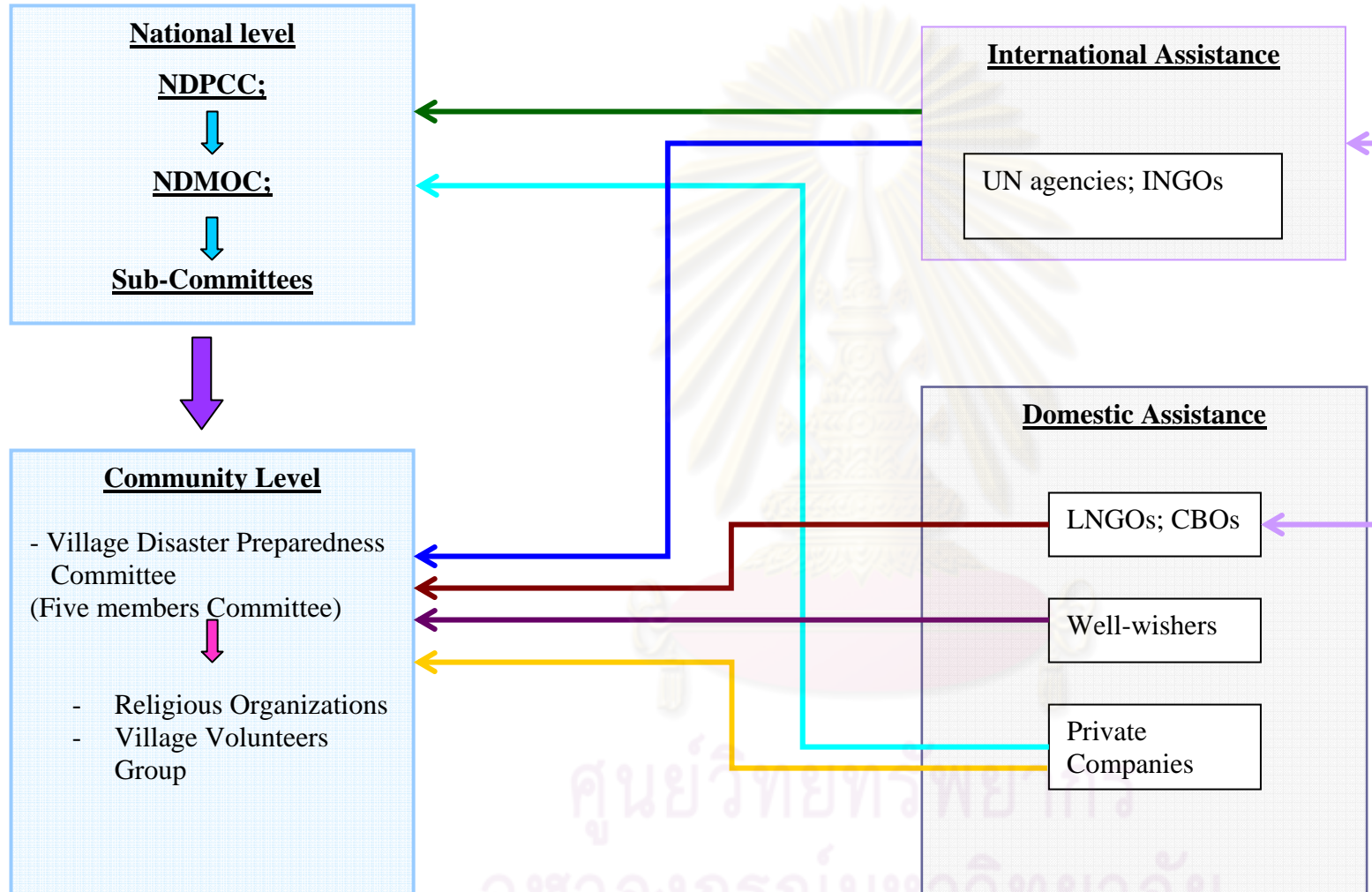
If the administration committee does not approve or agree, people would not include in the relief aids distribution list (Aye Nwe, MRCS/IFDR Bogale, interview, July 27 2008). People did not have any chance to participate in managing government recognized temporary relief shelters. Because of strict control on temporary relief camps, there were no community networks to exchange their experiences as well as assist the necessary social encouragement to reduce their trauma due to the storm. Hence, community participation in disaster management could not be grown up in these camps.

The research villages received few assistance from the local administration (the government) consisting fuel quota, plowing machines (limited quantity for each village), and paddy seeds for farm owners. However, other vulnerable groups in the village such as laborers, aged person, women and children had been relied on the relief organizations for their daily survival.

In general, interviewees considered that although very little has been done, it is the responsibility of the government to take action to assist the communities reducing economic and social impact of the cyclone. Government plays a major role in determining the whole mechanism of disaster management in before, during and after the storm. To date, government disaster management plans typically focus on issues relating to disaster response in its stern sense.

Following is the flows chart of international and domestic reliefs supported to the affected villages (figure 3.7). It is based on researcher's field observation.

Figure 3.6 Multi-stakeholders assistance to affected villages



3.5 International Organizations' Responses

The emergency response to the cyclone by the United Nations and international NGOs was organized in terms of 12 clusters, covering critical needs including health, nutrition, shelter, water, sanitation and hygiene, agriculture and logistics. International humanitarian response to Nargis had been intensified after a week of the storm initiated through the United Nations, which was organized into 11 thematic clusters for relief operations (TCG, 2008).

The Association of Southeast Asian Nations (ASEAN) along with the United Nations play a critical role in storm relief initiatives. The ASEAN-UN international pledging conference was held in Yangon on 25 May 2008, 20 days after Cyclone Nargis hit to the nation. "Tripartite Core Group" (TCG), a working mechanism for coordination, facilitation and monitoring the flow of international assistance, was the outcome of the cooperation among the government of Myanmar, ASEAN and United Nations. This team worked together and continues to analyze assessment findings, undertake field assessments and through consultants with senior government officials, as well as to provide recommendations on the way forward in addressing the support for the government of Myanmar response to the Nargis.

Thus, while the government of the Union of Myanmar decided to allow the international organizations to enter the country, it is estimated that more than 20 INGOs have made major contributing in the 40 affected townships and among these agencies, about 10 INGOs are working in Bogale township with many difference kinds of assistance through a mechanism so called "lead agencies"⁴ aims to ensure that there are no gaps or duplication in the response (San Oo, interview, July 24, 2008).

Notwithstanding, INGOs has brought significant gains for thousands of populations who were severely affected. They are trying to help children to recover from their bad experiences and return to school, help families to meet their basic

⁴ "Lead Agencies" is a humanitarian response mechanism agreed by the Humanity Country Team (IASC) to facilitate the coordination of partner for the joint prioritization of resources and common planning. It provides a framework for the expected enhanced relief operation and identifies clear interlocutors for the Government of Myanmar.

needs, and help communities to re-build their livelihoods, especially in the areas where the government and local communities do not have capacity to do so.

“World Vision has been increasing its humanitarian response on the ground by sending additional aid workers and supplies into the affected areas. Our agency is proving people with things like: rice, pulse, cooking oil, blankets, clothing and cooking utensils, water, sanitation and hygiene program, child friendly spaces and other child protection program, and first aid kits” (Mya Maung, WV, interview, July 23, 2008).

Though, due to the issues of accessing to the affected area, very poor conditions of the road for logistic and the limitation of the staffs, some NGOs could not provide directly assistance to the affected population. Hence, some agencies were distributed through its implementing partners as stated by Ko Paut at Bogale that:

“Our staffs are shared to all the affected areas. So, we do not have enough staffers for the provision assistance or relief activities. Our supplies mostly are distributed through our partner, World Vision organization as it has experienced staffs foreign, national and even volunteer staffs. They have been actively responding since the opening days of the relief camp at Bogale” (Ko Paut, WFP, interview, Bogale, July 20, 2008).

It is observed that the overall number of affected people got benefits and appear high. Some beneficiaries can get back on their feet to resume their livelihood activities by returning to their place of original, repairing their house with distributed tarpaulins and backpacks, notebooks and pencils for their children for school season as responded by one village:

“My house was devastated during the hit of the storm. My rice field also floods with water. I had been displaced and stayed at the village’s monastery for a month. Now, I can rebuild my house with thatch and tarpaulins distributed by World Vision. Moreover, my family is now still rely on the food distribution by World Vision. I got some school materials from the UNICEF including a backpack, a pencil, notebooks

these are I could not effort to buy in current situation” (Ko Aung, interview, PCL, July 22, 2008).

3.6 Assessing the Effectiveness of Assistance in Communities

The storm pulled off the foundation of primary school of MYM and tossed it aside, leaving a pile of bricks and destroyed chairs in its place. In the new academic season started in July, three months ago after Nargis struck, two buildings of monastery became the place for primary school of about 200 children. They come from near by villages including PCL and TYG. United Nations Children Fund (UNICEF) provided a temporary school at MYM. However, children could not use this temporary building as a teaching venue for them – it is a wet land as situated in lower part of the village; a bit small and not enough space for all students (see Figure 3.7 and 3.8).



Figure 3.7: Temporary primary school at monastery (July 24, 2008)



Figure 3.8: UNICEF's Temporary school (July 24, 2008)

Another case is the distribution of relief items. In my practical experience, some relief agencies sent to the villages are not fix the villagers needs especially in non-food items. For instance, when the relief NGO distributes cloths for children, all these cloths are for ladies' only and bigger size of their identification of children as under 5 year old. Some items are overlapped (such as tarpaulins), while some sectors like livelihood recovery assistance for local communities are lack of support by relief agencies. These salient events had happened in the communities, which could not meet their needs in most.

3.7 Summary Chapter Discussion

Without community participation and volunteers' efforts, relief aids could not delivered to victims of the Cyclone. Currently, disaster relief agencies in the studied areas face a number of key challenges that limit their capacity to respond effectively to disasters. Highly centralized rules and regulations had been chief among the challenges. Decentralization organizational disaster management structure and decision-making at village level is vital for realizing the community-based disaster management in Myanmar. Devolution of power to local/village level communities must be guaranteed by legislation. Ongoing recovery measures would be more effective and benefit for those affected by the Nargis if the government develops uniform standard in allocating resources such as technical expertise, budget, and cooperation with other regional and international developmental organizations.



CHAPTER IV

PERCEPTION ON COMMUNITY-BASED DISASTER MANAGEMENT: STRENGTH AND CHALLENGES

This chapter first presents the community views on disasters and disaster management as obtained through key informant interviews, supplemented by the researcher's own observation where needed. It portrays community point of views on storm warning, safety and reflections on current disaster management framework. Then, I analyzed community networks, strength and challenges, as factors for further community-based recovery and rehabilitation efforts. Finally, community-disaster preparedness is discussed as a factor for restructuring the disaster management framework.

4.1. Community Perspectives on Disaster and Disaster Management

Perception of local community on disasters is important in understanding the way people behave or react during and after disasters. By exploring people's experience in and perceptions toward disasters, it is possible to draw a clear picture of local people's responses to natural disasters and their harsh conditions. From the communities' experiences of Cyclone Nargis, it could be assessed that how local people manage and participate in disaster situations (discussed in previous chapter), and which obstacles are blocking ongoing relief and rehabilitations in the cyclone Nargis affected communities particularly in three sample villages of Magu Ywa Ma, Thar Yar Gone and Pay Chaung Lay villages from Bogale Township. These local settings should be recognized by the policymakers and external actors such as relief agencies, development NGOs, CBOs and the government – regarding the appropriate type of intervention to vulnerable community from the Ayeyarwady Delta.

Assessing the perception of the local people should begin with the profiles and views of five key informants. Details of the discussion with the key informants on the responses toward natural disasters are as follows.

4.1.1 The stories of the villagers¹

U Thaung, Magu Ywa Ma village

A 65 year-old male informant, who has been residing in the village since he was 15 years old, is a paddy rice farmer. He used to grow paddy rice on 20 acres of farmland. His house destroyed during the storm which was the accommodation for eight persons consist of his two married sons and their families. Now, they lived in temporary shelter made by the remained wood, bamboo and thatch and waited for housing materials assistance, because the price of constructing or housing materials drastically soared up after the Cyclone Nargis.

He led the villagers to clear main road into the village filled with fallen trees one day after the storm hit the village. He did not expect the wind and storm surged that strong, as he had never experienced like that in his life. Although getting warning from the weather forecast radio, he thought staying inside the house was safe enough. He did not have any particular preparedness for the storm the same as other villagers. His rice field was entirely inundated for a couple of days and the small crabs coming with the flood water level ate all of the remained rice seedling, which resulted in total damage of his rice field. He then got the paddy seeds assistance from local authority but not any further technical or material (any kinds of pesticide) to solve the problem. His paddy farm was one of the main income sources for casual workers lived in the village.

He acknowledged the endeavors of the INGOs to assist the people in the village even they could not meet all the needs of the disaster survivors. His attitude

¹ The real names of villagers are kept confidential and aliases are used.

towards the intervention of the outside assistance and preparedness for future disaster is very positive. He insisted that if the aid organizations maintain the momentum of relief activities, their village will gain back normalcy in next harvest season.

U Shwe, Pay Chaung Lay village

He is the member of VDPC, a 35 year-old farmer who migrated to PCL village from Phyar Pone town after he got married with the woman from PCL ten years ago. He vocally represents the community with strong leadership skills. He coordinated data surveys for three NGOs in his village. He owns 3 acres of 'betel' nut trees and 7 acres of paddy rice farm. He lost his cattle during the storm, but he received the plowing machine and fuel assistance from the local authority. His only son is studying grade 4 at MYM Village Primary School.

He said that at the moment the villagers were confident about the participation and cooperation in relief activities of the NGOs for sake of the whole village resilience. If the assistance was terminated before they could recover enough to stand on their own, the community might suffer the worst economic and social impact of the Nargis. Poor men and women were particularly at risk. He strongly believed that the PCL community had experience in how to manage the disaster situation. It is useful for preparation in future disaster risk of floods and storms. He suggested that VDPC should be upgraded to take more responsible for recovery measures in the village. Upgrade to transform a community organization of the village as a focal unit for all-round grass-root level relief and recovery activities.

Ma Kyi Kyi, Thar Yar Gone village

A 29-year-old female informant divorced with her husband and lived with her sister. Her daughter is four years old. This informant spends her whole life in the village. She sells betel nut, traditional and packed snacks in her a small shop.

However, since the shop cannot create enough income to feed 3 persons, her 22 years old sister has to work at paddy farms in nearby villages. More than half of the labor force in TYG village relies on paddy growing. Until the field research period, her family had to rely on food handouts and other assistance of the NGOs for their daily survival. Her small house was totally damaged during the storm. She moved to a higher place in the village after the storm. However, this land has owner and she can only live a temporary period. Her family is living in a small thatch tent built by the body of betel tree, tarpaulin and thatch. She confirmed the community is very poor and almost everyone lives on day-to-day basis.

At present, general farm-laborers in the studied communities cannot have regular income. Normally, when they need cash, they could take in advance small amount of money from the farm owners as wages for their labor on the field. Due to the Nargis, such practice of livelihoods was broken since farm owners could not start their cultivation in the paddy-growing season. In other villages, women were hit hardest by the storm. They had fewer assets or employment opportunities to resort to for their livelihood alternatives when traditional crops were destroyed. Sudden damages of the livelihood sources led to more vulnerable to the female-headed family like her.

U Nyo, Magu Ywa Ma village

This informant is a lay attendant in the temple and casual worker in the MYM village. He is 50 years old and his family moved to Bogale Town since two years ago. After the Nargis emergency period, he became a village volunteer coordinating rescue and relief with the aid organizations and private donors at the village. He lived in the monastery after his house collapsed due to the storm.

He helped distribute drinking water to the disaster survivors in the village. An INGO donated the water purifier, which was installed in a pond at the back side of the monastery. Although an NGO staff was stationed to handle the water purify machine,

local volunteers were needed to facilitate water distribution to the villagers at the monastery. He asserted that during storm and flood disasters, monasteries were used as safety shelters in practice. He pointed out that local authorities were very rare to come and see the situation of the village. Mostly villagers had to rely on each other and make decision collectively under the leadership of the 'Sayardaw', chief abbot of the monastery of the village.

Ko Aung Kyaw, Bogale Town

This informant is a contracted INGO worker, 25-year-old resident in Bogale. He worked as a volunteer staff for this INGO shortly after the Nargis struck to his town. He has strong personal relations with the village leaders, as he is a local staff working for an international organization. Working with the international relief organization, he had experience in the emergency response and early recovery period.

He appreciates the efforts of the international humanitarian organizations in helping the affected communities. He confirmed that local NGOs and other humanitarian organizations which were active in Bogale and surrounding areas, did not specifically address disaster preparedness until the study period, but mainly focused on emergency relief and rehabilitation in affected communities. It was because the communities in his Town have a high percentage of the impoverished and very poor infrastructure developed for daily life and agricultural production. Almost all of villages lack electricity, public telecommunication and municipal authorities. In addition, communities had no preventive action such as evacuation plan, warning system and safe leas for people and so on. He believes that actions mentioned above should be prioritized in long-term mitigation plans.

4.2 Community's Perceptions on Disaster Management

Community's perception is one of the key factors to assess the conditions for promotion of CBDM. Although the communities of the study area have been exposed to a wide range of natural hazards and have some experiences in flooding and light storms, they did not expect and prepare for any extreme devastating perils.

4.2.1 Views on storm warning system and safety

Although most of the villagers were not aware of the risks posed by cyclones, storm-warning system was not effective in providing people with comprehensive warning alerts. Village administration did not deliver official warning alerts about the cyclone Nargis at studied villages, while they did not have any protocols or training on how to prepare and respond to such kind of crisis. Those who got information on the storm were from their routine daily basis. As following respondent said:

“I heard about the storm at the morning market in Bogale Town where I used to sell betel nut. Some people said that the huge storm from the sea would be hitting into Myanmar very soon and would pass through our area. But I thought that it could be the storm as usual” (U Thaung, MYM, interview, July 2008).

Some villagers got weather forecast and warning announcement on the state radio and television that are the only one channel to get the information source for the village as there is no chance to access daily newspapers or other means of communication such as public phone service. However, even they got some information from the weather forecast; they did not expect to see the storm like Nargis, which is the main cause of thousands of life losses.

However, despite these warnings, none of the interviewees could imagine the intensity of the cyclone. According to three informants (U Thanung, MYM; Ma Kyi Kyi, TYG; and U Shew, PCL), they never thought the cyclone would be as severe as

it turned out to be this time but rather thought that it would be like storms they had experienced in the past.

One of key informants (U Thaung, MYM) told that:

“If we had had these life jackets, many of lives could have been saved safe during the Nargis. Yes, we overlooked the risks of the storm. We thought that it would be normal wind blowing as we used to have experienced. We got really serious lesson from the Nargis and now suffered a lot. And, for now, although we want to construct refuge shelter for our village, we cannot afford that for we lost everything” (interview, July 24, 2008).

4.2.2 Views on existing policy and management framework

Typically, government’s disaster management framework employs four principal phases as mitigation, preparedness, emergency response and recovery (Burkhart, 1991: 13). In the disaster management, such as cyclone Nargis, all levels of government encompasses institutional interactions from national to village levels and involve cooperative efforts of all of those levels. But respondents were not satisfied with the Town/district authority action in preparation and response to the cyclone Nargis. They failed to provide adequate and specific information about the cyclone. It was observed from the answers to the interviews that the warnings did not provide sufficiently detailed information for appropriate preventive actions.

A local NGO voluntary staff, one of key informants, Aung Kyaw, who have experienced during emergent periods and expertise on disaster relief, stressed the importance of the correlation of the formal sectoral arrangements with the local community requirements. He stated that:

“Much effort of the authorities, so far, has focused on post-disaster activities, rather than on preventive measures such as rescue shelters or evacuation of people to move a safer place. The villagers did not have enough capacity to do that. The resistance of the poor to any catastrophe in the village became weaker after the storm. They were

struggling to survive and to return to their normal livelihoods activities. Now, we (local NGOs) are trying to help those affected people in order to recover from the emergency needs to more stable life. I think it may require a few years as the damage and loss were so severe.” (Aung Kyaw, interview, July 25, 2008).

In general, the informants described that the disaster management at the locale was not well-organized to deal with any natural incidents. They asserted that the pre- and post- preventive measures did not exist in the community. In terms of the pre-disaster preventive measures, the interviewees confirmed that they did not see the local government have any plan to deal with the occurrence of disasters. A community leader, requiring anonymity, told that there was no plan to restore foods, medicine, shelters or the like for emergency cases.

In addition, he said that the village also did not have any experiences in organizing evacuation for emergent cases of disaster. Furthermore, he also asserted that there was no public relations to let the villagers know how to prepare themselves to protect life and property from the worst case of natural disaster. One key informant, U Nyo from MYM village told that

“Our community has a very high percentage of both poor people and poor condition of infrastructure. Community itself did not have any prevention work plan. Local authorities were very rare to come and see the situation of the village up to now (after three months ago of storm hit) and also they did not have any activities to restore the condition in the village. I feel so disappointed what the officials at the township doing” (interview, July 25, 2008).

The local government did not have any plan to take care of a large affected populace. The evidence was that the local government coerced the disaster survivors to return to the destructed houses to live, regardless of threats of food shortage, communicable diseases.

A leader of the emergency response team from an INGO, Win Thida, (interview, July 23, 2008) based in Bogale Town, pointed out that the challenge of disaster management is to formulate more comprehensive disaster preparedness and mitigation plan by adding lessons learnt from the Nargis. The plan should be highlighted with the people-centered approach towards a disaster resilience community. Ongoing recovery period also should be considered to what the villagers need to recover their livelihood options. At the moment, many farmers here need paddy seeds, fertilizers, and plowing machines for paddy plantation. Moreover, seasonal workers and their families expect in laboring at the farms to earn daily wages, which is their only source of survival.

4.2.3 Views on the role of relief organizations

While the operating environment remained constrained for the international organizations, there were a number of civil society groups, volunteer group, local NGOs, church groups and private sector who operated and provided significant amounts of assistance to affected populations. So far, after the communication between the government and international agencies has been improving compared with last three months. It is noticed that there were many agencies involving in aid delivery activities and shelter provision. The result from the data collection from the field has showed that almost all the informants acknowledge the on going relief works in their villages especially the recovery projects from local and international NGOs.

A key informant expressed his opinion toward the relief activities done by the NGOs and INGOs :

“Since the Nargis struck many local NGOs and other Humanitarian Organizations come into my village. They worked very actively on the emergency relief and rehabilitation for the people. We got food, tarpaulins, cooking materials, and so on for our daily survival. Now, we are waiting for housing materials assistance to construct the house and we also expect that we are able to gain back normalcy in next harvest season,

if the aid organizations maintain the momentum of relief activities” (U Thaung, interview, July 2008).

At the moment the villagers were confident about the participation and cooperation in relief activities of the NGOs and INGOs for the sake of the whole village resilience. They expected the assistance would distribute until they could recover enough to stand on their own so that the community might not suffer the worst economic and social impact of the Nargis.

“Most of the villagers are considered the assistance from NGOs and INGOs as well as other aid agencies are valuable. They believe that all these organizations should be prioritized in long term so that the affected population is able to recover of their livelihoods. Thus, the beneficiaries can get back on their feet for the long term”. (U Shwe Hla, PCL, interview, July 2008)

Go along with the positive attitude towards the intervention of the outsider assistance, some villagers also showed pessimistic manner to the government reaction in the Nargis emergency response as Ma Kyi Kyi from TYG has given his opinion,

“Nargis hit my hut and it was totally destroyed. I have nothing; no tools, no household items. So, I went to Bogale town to refuge and stay in the government-run temporary shelters. But, I they did not have willingness to keep us. After a few days I arrived there(Bogale), they urged me to return to my village” (interview, July 23, 2008).

Even though, one villager among the five key informants has appreciated the community response during the first period after Nargis hit. He strongly believe that his community had experience in how to manage the disaster situation and could provide a first assistance to the villagers’ needs better than the response from the government.

“After Nargis, villagers have been combined together into groups and volunteer in rescue and relief activities with the aid agencies private donors at village. INGO donated the water purified which was installed in

a pond at the back side of the monastery. We helped them to distribute drinking water and food to the affected people in the village and the village nearby. Villagers rely on each other and make a common decision under the leadership of the ‘Sayardaw’ (head of abbots at the monastery). Local and township authorities were very rare to come and see the situation in the village. Communities have to collaborate and help themselves in order to survive” (U Shwe, interview, July 23, 2008).

4.3 The Strengths of and Challenges for the Community

The strength: Traditionally, villagers in the studied area are unified for social work and have experiences in collective decision-making to deal with problems, similar to traditional and religious rites in normalcy. During the emergent situations, the villagers consolidate together to take instant actions against the devastation of disasters. They were ready to share the existing resources to help each other overcome the hardship during and after the occurrence of disasters. Since the affected communities usually become the first real time responder in the storm, they had got rid of the inherent differences and joined all people in the village regardless of being rich or poor, farm owner or laborers. One of the village leaders from PCL said,

“I organized seven volunteers from the village and had assessed the situation of injuries and the damages around the village. The only main road of the village was blocked with falling trees. Therefore, elders and children could not leave their damaged houses for safer places such as monastery or village’s emergency relief camp. Then we organized more villagers to clear the fallen trees along the main road and along the stream as well” (Ko Moe Moe, PCL, interview, July 26 2008).

With regard to resource sharing, one informant claimed as the following:

“The day after the storm hit, we had only one useable lighter for the whole village. The village was sharing this lighter to cook.” (U Ba, MYM, July 27 2008)

In fact, not only the lighter case, but also the rice, the staple food for victims, was shared and distributed for the whole village. This community spirit of sharing and collective activities were crucial strengths to resist the chaotic situation shortly after the storm hit to the delta, especially in rural society. All these villages have similar actions as they uniquely share social and religious characteristics.

Since they use the monasteries as temporary relief camps and public place, daily meetings were held there and led by monks, village administrative head and elders in order to identify what are most urgently in need in the villages, and how to manage and distribute relief items (U Thaung, MYM; Ko Thein, TYG, interviews, July 26-27, 2008).

Moreover, they helped each other rebuild and repaired houses. PONJA report assessed two principal reasons for the strength of social capital in the delta in times of need as follow:

“First, development resources from higher levels are scarce. This accentuates the importance of working together at the community level and carefully prioritizing resources for public goods. Second, in the absence of a state or employer safety net, community members support each other in times of need, something particularly evident in their response to Nargis”. (TCG, 2008: 2)

Although there was a lack of adequate preparedness and awareness of disaster at community level before the storm hit, community spirit and unity prevailed as a tool to respond to the disaster at their best. However, with community spirit of unity and sharing only could not handle the disaster situation and disaster reduction for their own well-being. Responses at community level were only in time of emergency, so it required upgrading to disaster mitigation and adaptation efforts. Grass roots social and religious teams should have to be core element in these efforts.

The Challenges: It was observed that while the studied villages have distinctive characteristics as mentioned, they had been facing other challenging factors. Enhancing and empowering community networks were a challenge for the community-based disaster response and recovery initiatives. These networks were initiated and managed by communities themselves. Many relief operations of CBOs were dependent on social networks like Buddhist monasteries and Christian churches networks, personal connections and families' networks to deliver assistance to the affected areas.

There are two types of social network in studied villages: religious networks (Buddhist association) and personal connections. Reliefs delivered to the village were passed through these religious and household links. MYM has strong connections with monastic networks, personal connections, and INGOs based in Bogale. In MYM village, VDPC and the volunteers of the village operated collectively for the consistency and smoothness of the relief distributions from the humanitarian organizations and private donors. VDPC facilitated village's temporary warehouse to store the relief aids and to live and work short stay of INGO staffs in the village.

The challenge for the community is to create a proper community's institutional basis for relief and recovery activities (Win Thida, Bogale; U Nyo, MYM interviews, July 27, 2008). It includes collaboration with relief organizations to uphold their knowledge and attitude towards disaster response and adaptation measures. Experiences sharing with other community organizations should be paid due attention to enhance community networking in order to sustain their strength to respond to any disaster situation.

There are other challenges for the studied villages. The disaster resilience of the communities after Nargis is still beyond the ability of village alone to reduce the impact of disasters. Since their livelihood activities were totally destroyed during the Nargis, the villagers have not recovered enough in the struggle to meet daily family needs. Therefore, intervention from other stakeholders in the disaster management mechanism also plays a crucial role to empower and assist the

communities especially in these agro-based rural communities. According to 20 key informants' interviews of three studied villages, they claimed the challenges now faced in the communities are livelihood recovery, infrastructure upgrading, capacity building and empowerment (training and awareness of natural hazards).

4.4 Community-based disaster preparedness

Since population and communities in Ayeyarwady Division are having increasingly vulnerable to disasters and this has been aggravated by rapid environmental degradation, resource depletion and global warming/climate change as well as relative poverty, and lack of social safety nets, amongst others. Thus when disasters strike a geographical low-laying location, they tend to disproportionately alter the social fabric leading to widespread damage and losses of lives and resources.

Theoretically, community preparedness is defined as the state of readiness of the community to face probable hazards so that minimum of losses occur from it and smooth recovery takes place (Biswanath, 2004). Biswanath stated that existence of a cyclone shelter (structural mitigation) in a community if not located properly or awareness campaigns (i.e. non-structural mitigation measure) similarly if not well planned do not contribute to the overall preparedness of the community. In other words, effectiveness of these mitigational measures determines largely the level of community preparedness (Buckland and Rahman, 1999).

Successful implementation of CBDP requires the understanding of the communities involved (Allen, 2006). In cases of the studied villages, as the villagers are poor, their living conditions in very vulnerable, if so, how do they construct the 'storm or flood-proof' homes without enough family income. It is necessitated to examine how to implement community-based strategies and who will support necessary budget and equipments. It is unavoidable to recognize that the government alone cannot achieve significant, sustainable disaster risk reduction and that the greater effort must be put on local-level community-based organizations supported

financially and technically by experienced international relief organizations. There is one thing that required to solve is the cost for disaster preparedness and mitigation costs.

It is widely accepted that the legal responsibility to protect vulnerable people lies on the government. However, although the Ayeyarwady Delta is a disaster-prone region, there was a national disaster management plan which did not include any specific implications for the region, existed but not yet implemented. On the other hand, to support and strengthen the community in disaster preparedness, it requires including national coping mechanisms and institutes disaster management plans.

Despite institutional rearrangements in disaster management framework in 2005 at national level, there was the lack of awareness in comprehensive elements such as risk assessment, disaster hotspots, and preparedness at community level. It is seen as a tree without shady branches and does not anchor with soil. It does not have capacity to secure surroundings. That is why when the cyclone Nargis hit, the institutional framework (the tree) wiped out with the powerful cyclone and caused massive devastation including ten of thousand of lives was destroyed.

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CHAPTER V

CONCLUSION

In the preceding chapters, response activities of the local communities and government and international aid agencies including the UN and ASEAN and perception of communities on the elements of community-based disaster management have been reported. Chapter V consists of the summary of findings, discussion and conclusion.

This study aimed to identify the efforts of local communities in managing disaster situation, including the obstacles facing by the communities and humanitarian organization in the relief and rehabilitation activities, particularly in three research villages of Bogale Township. This thesis contends that community-based disaster management (CBDM) should involve people in identification, analysis, treatment, and monitoring of disaster risks before, during and after disasters. The community should take part in decision-making of relief, recovery and rehabilitation programs. Non-governmental organizations and government agencies should support more community engagement to realize enhanced and sustained capabilities within the communities. According to the conceptual framework, vulnerable community requires decentralization of the government's disaster management framework, outside intervention as assistance from the UN, local and international NGOs, empowerment of local resources (infrastructure and housing) and local knowledge systems (social fabric of cooperation).

Community's Vulnerabilities and Responses: The study revealed the responses of the vulnerable communities during and after the Cyclone Nargis hit to the studied villages, Magu Ywa Ma, Pay Chaung Lay, and Thar Yar Gone villages, Bogale Township, southern part of Ayeyarwady Delta. The study found that villages did not have community preparedness plans, or any simple evacuation plan, despite the fact that they live in moderately hazardous conditions – low laying network of streams and creeks. It is likely to be their unawareness of the disaster, as well as lack of

empowerment and assistance to highly vulnerable communities. During the Cyclone Nargis, individual families decided by themselves how and when to evacuate and response. Evacuation usually took place only when danger was threatened lives. However, the people's lack of capacity in preparing for and responding to disasters was also due to the fact that the local government largely ignored them in most stages of national disaster management framework while itself neglected for implementation.

Human casualties in the research villages are relatively lower than other villages nearby Bogale town. It was because of the geographical location of the village (higher than surroundings), utilization of village's road as dike and evacuation route, and collective community leadership during the chaotic situation. In most cases, religious buildings such as shelters from the monasteries were utilized as temporary relief camp. As monks are influential on the villagers on their daily life, the organization of the monk led volunteer groups as a core of community in response to the disaster. Organizational arrangement at community level with regard to the disaster just after Nargis crossed to their village. Prior activities before the disaster have not found yet. Only after the disaster, village level disaster management framework, VDPC, was active to manage the relief activities in the community. According the informants VDPC does not have power to claim the requirements of the villagers to township level authorities, but just sending message the situation in the village.

Social and physical vulnerability to natural hazards in high amongst the populations in studied area. If the intervention from the actors such as the governmental and non-governmental sector to foster community-based disaster management, then it must support existing local networks, social norms of unity and reciprocity and traditional knowledge systems of the communities. Moreover, communities' ideas and initiatives should be integrated to provide a more comprehensive and community oriented national and local level disaster management plans.

Government management framework: The study also revealed that government alone could not respond the relief efforts to cope enormous devastated and chaotic situation. The studied villages received a few assistance from the local administration consisting diesel quota, trailers (very limited quantity for each village) and paddy seeds. However, other vulnerable groups in the village such as casual workers, aged person, women and children had been relied on the relief organizations for their daily survival. Moreover, centralized management framework of the current disaster management leads to delay and waiting for comments from higher authorities. It caused difficulty in the practices of community-based disaster management. The institutional arrangement of natural disaster management would be more beneficial for communities living in highly hazard condition by giving space for community-based framework.

Community perspectives: The villagers have appreciated the intervention of outsiders when they need the most. While the communities have positive attitude toward the international and local NGOs, they were pessimistic about the responses of the local authorities. Moreover, they believed that the disaster management at the locale was not well organized to deal with natural incidents as well as the pre and post- preventive measures did not exist in the community such as storm warning and safety measures in the community still need to upgrade and empower in long-term process.

Community-based Disaster Management: Theoretically speaking, CBDM emphasizes the involvement of community and local tradition to ensure well prepare, aware, and responses in any calamitous events. In the practice of the disaster management in the studied villages, community had not been played as an important ingredient of both policy and responses of the government. Although the community has unified responses to deal with the disaster situation sharing the existing resources, enhancing and empowering community organizations and networks in the affected villages are major concerns for the CBDM. In addition, there are still much to do upon storm warning system, community livelihood recovery, infrastructure upgrading

(community hall and evacuation road in disaster situation), capacity building and empowerment to be readiness and awareness of disastrous situations.

It is convinced that the local and international humanitarian organizations could fill the gap by taking the advantages of community's unified and sharing spirit. In other words, active partnership between the community and humanitarian actors could realize community involvement in every step of disaster management, mitigation and adaptation plans, as community expected the assistance from outsiders such as volunteers group, local and international NGOs rather than state.

Conditions for the promotion of CBDM: The purpose of this study is to explore the necessary conditions for the encouraging factors of community-based disaster management focusing on three communities of Magu Ywa Ma, Pay Chaung Lay and Thar Yar Gone villages, Bogale Township, Ayeyarwady Division. It is widely accepted among the international arena that community-based disaster management (CBDM) is getting important to disaster preparedness and disaster risk reduction mechanism. The important notion for CBDM is the effort to shift the typical relief assumption of top down disaster management to community oriented one with recognition that the development of self-reliance and self-help in communities to promote partnerships in disaster risk reduction. However, there are the necessarily intervention from the outsiders to vulnerable communities, in order to achieve the outcome the practice of CBDM in Myanmar context.

CBDM practices would be accelerating if there were generously recognize the situation of obvious linkages among the actors – community; externals civil society organizations; and the government policy commitment. Social fabric of cooperation among the communities, financial and technical support from the outsiders, and the willingness of the government must integrate into one point as being the CBDM in reality. In addition, there are specific factors that much more need to emphasize on practicing CDBM in the studied sites. Of these factors, information accessibility is a basic element needed to upgrade in order to take actions for preparedness measures at commune. Human resources also take into account for sake of awareness of hazards

and capacity building for better responses in the poor agro-based communities in the Ayeyarwady Delta.

Disaster survivors are under condition of socially and economically vulnerable to any subsequent risks in the delta. Poor disaster management is responsible for creating vulnerable social conditions for disaster survivors and comprehensive rehabilitation process. As with work on CBDM, the focus should therefore be on empowering communities to take action on vulnerability to hazards, based on their own decision-making processes in long term. At the same time, the local authority should encourage the networking and coordination among the CBOs, grass-roots organizations and storm victims and promote community leadership in relief and recovery efforts. Notwithstanding, the ability to mobilize and utilize local resources and the capacity of local communities still requires continuous national and international organizations assistance.

Political commitment of the disaster management framework plays an important role in implying implementation of CBDM in Myanmar. In order to reduce human and material losses in any disaster situation need to be recognized not only in policies, but also in effective implementation efforts putting community in pivotal role. Arising genuine community-based disaster management may take long process, but political processes and commitments are necessary. At present, community-based disaster management in this study has limitations due to it is operated under strictly control and command management of the government. It is therefore leading to less intervention from the local and international humanitarian organizations at right time and places.

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APPENDICES

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

APPENDIX A
TOP TEN NATURAL DISASTERS IN MYANMAR¹

Death Toll

Disaster	Date	Killed
Wind storm	19 May 1926	2,700
Wind storm	10 May 1968	1,070
Wind storm	21 April 1936	1,000
Wind storm	04 May 1902	600
Earth quake	05 May 1930	550
Wind storm	May 1975	200
Wind storm	23 October 1967	178
Wind storm	23 October 1965	100
Wind storm	16 May 1967	100
Flood	08 September 1970	90

Affected people

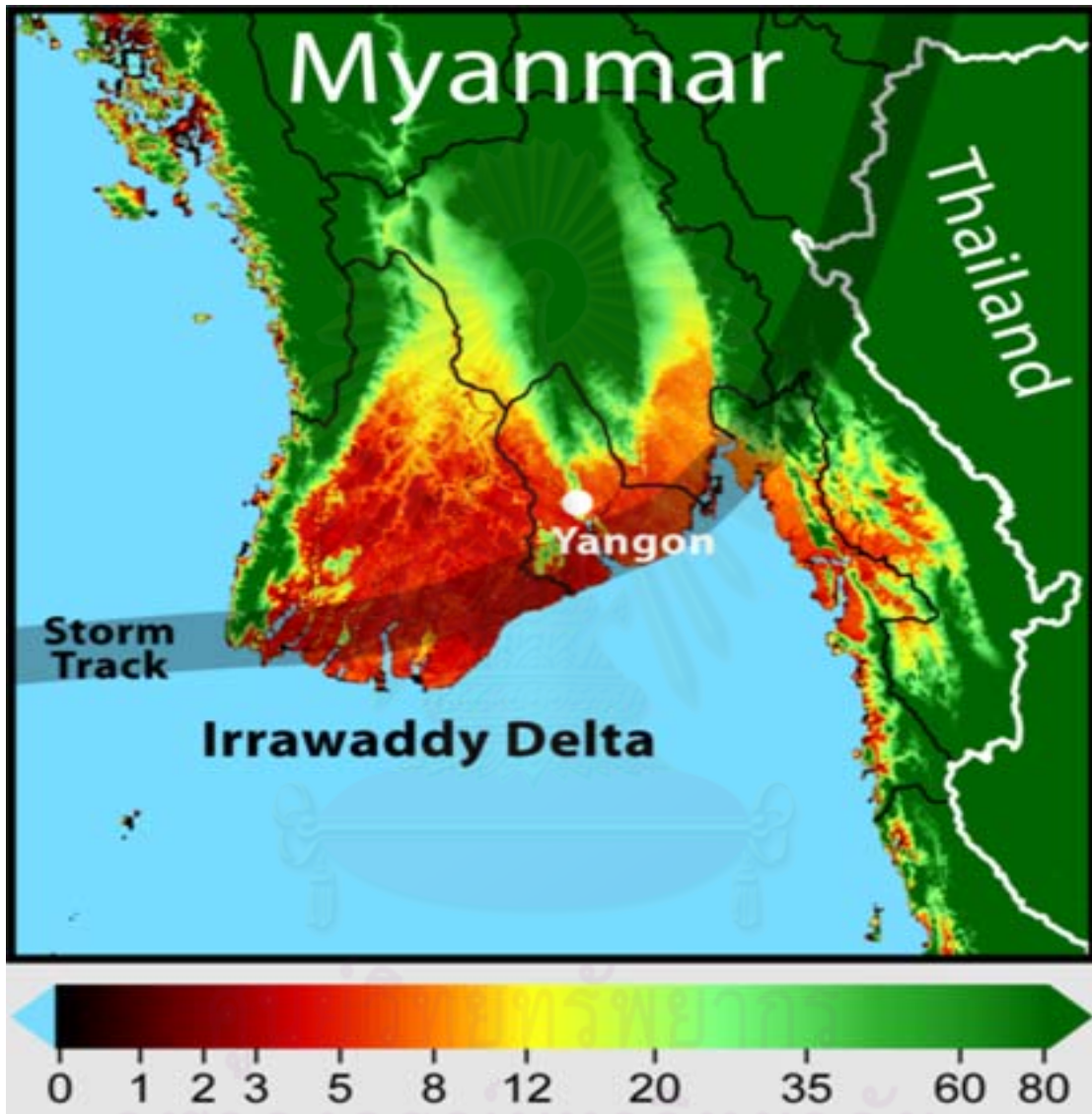
Disaster	Date	Affected
Flood	15 July 1974	1,400,000
Wind storm	23 October 1965	500,000
Flood	13 July 1991	377,546
Flood	June 1976	200,000
Wind storm	21 April 1936	150,000
Flood	21 August 1997	137,418
Wind storm	17 May 1978	132,000
Wind storm	16 May 1967	130,200
Earth quake	12 June 1995	100,136
Wind storm	10 May 1968	90,000

Source: “EM-DAT: The OFDA/CRED International Database,
 Universite catholique de Louvain, Brussels, Belgium”

<http://www.cred.be/emdat/intro.htm>

¹ This list was done before the Cyclone Nargis.

APPENDIX B
DISASTER AREA TOPOGRAPHY



Height above Sea Level (m)

Source: Reliefweb (Myanmar Maps) (<http://www.reliefweb.int>)

APPENDIX C

DISASTER RELATED ACTS IN Myanmar

National Acts	Year
Fire Services Act	1/1997
Implementation of Insurance Act	6/1996
Epidemic Disaster Prevention Act	1/1995
Prevention and Control of Communicable Disasters Law	1995
Wild Life Natural Forest Protection and Conservation Act	?
Board of Development Affairs Act	5/1993
Yangon City Development Act	11/1990
Development Affairs Act	5/1984
Public Health of Myanmar Act	1/1972
Rehabilitation Board Act	4/1950
Building Regulation of Construction and Repair Act	2/1946
Underground Water Act	4/1930
Embankment Act	4/1909
Highway Act	5/1907
Towns Act	3/1907
Cannel Act	2/1905
Village Act	13/1880
Fatal Accident Act	13/1885
Government Building Act	5/1880
Utilizations of Roads and Bridges Act	?

Source: Win Pe (2006)

APPENDIX D

QUESTIONNAIRES FOR FIELD RESEARCH

- How do they help each other during and after a disaster?
- What kinds of basic services provide from government or other NGOs to the community before, during and after the disaster?
- What were the communities' assets and level of access to resources prior to the storm?
- To what extent did these resources contribute to effective response and coping mechanisms especially among poor communities?
- What is the community's plan to reduce disaster risks and impact and what have been done?
- Do they have the volunteer unit in the community?
- Are there existing community-based organizations, people's organizations in the community?
- What are the most destructive natural disasters experienced by the community over the last ten years? (Most destructive in terms of losses in life, property, livelihoods, and critical facilities in the community)
- What are the major livelihood activities and income in the community?
- What is the total population of the community? How many are men/women/children/boys/girls?
- Who find it difficult to recover from disasters?
- Who cannot protect themselves from disaster threats?
- What kinds of provisions international donors mostly employ on providing emergency aid and rehabilitation finance to cyclone-affected areas?

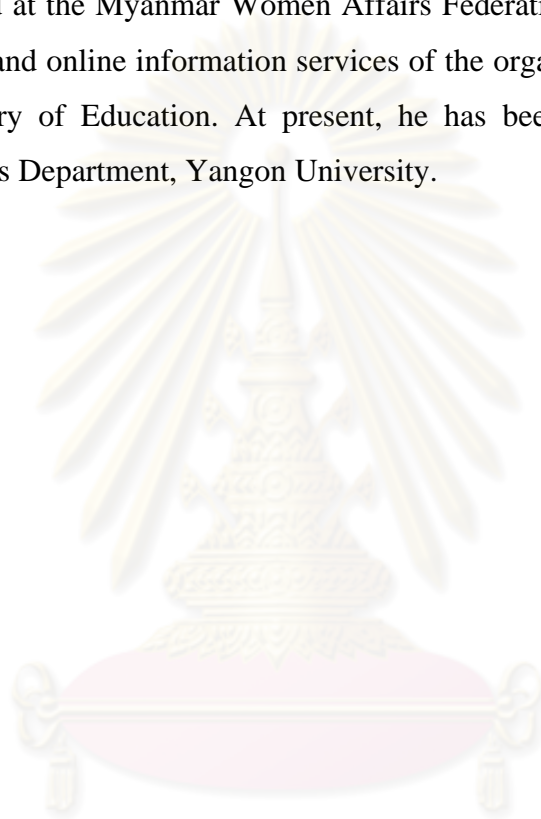
APPENDIX E
LIST OF INTERVIEWED INFORMANTS AND THEIR PERSONAL
BACKGROUND

No	Name	Age	Sex	Education	Marital Status	Child.	Organization/ Occupation	Place of Origin
1	San Oo	37	M	BA	Married	1	Government Officer	Bogale
2	Aung Kyaw	25	M	BA	Single		Voluntary staff -NCV	Bogale
3	Win Thida	20	F	BSc	Single		Voluntary staff -NCV	Bogale
4	U Maung	37	M	BSc	Single		Founder/Leader-NCV	Yangon
5	Ye Kyaw	30	M	BA	Single		Voluntary staff -NCV	Yangon
6	Win Zaw	35	M	BA	Married	2	World Vision	Bogale
7	Mya Maung	26	M	BA	Single		World Vision	Bogale
8	Kyee Mae	28	M	BA	Single		World Vision	Eainmae
9	Khine Win	38	M	BSc	Married	3	World Vision	Bogale
10	Ko Paut	34	M	BSc	Married	2	WFP	Bogale
11	Aye Nwe	18	F	Undergraduate	Single		MRCS/IFRC	Bogale
12	U Thaug	65	M	Monastic Edu.	Married	3	Rice Farmer	MYM*
13	Ma Yi Yi	28	F	Monastic Edu.	Single		Farm woker	MYM
14	U Kawthan Lah	52	M	Monastic Edu.	Single		The monk of monastery	MYM
15	U Nyo	50	M	Monastic Edu.	Married	4	Lay attendant at monastery	MYM
16	U Lu Bwa	45	M	Grade 5	Married	2	Rice Farmer/VDPC	MYM
17	U Ba	55	M	Monastic Edu.	Married	5	Casual worker/VDPC	MYM
18	U Shew	35	M	Grade 4	Married	1	Rice farmer/VDPC	PCL**
19	Ko Moemoe	39	M	Grade 8	Married	3	Boat Ferry/VDPC	PCL
20	Khain Mar	35	F	Grade 10	Single		Grocery	PCL
21	U Shwe Hla	46	M	Monastic Edu.	Single		Casual worker	PCL
22	Ma Hla	25	F	Grade 3	Single		Casual worker	PCL
23	Ma Htwe	31	F	Grade 7	Married	3	Casual worker	PCL
24	Ko Aung	28	M	Grade 9	Married	2	Casual worker	PCL
25	U Khin Yi	43	M	Monastic Edu.	Married	6	Rice/Betel nut	TYG***
26	U Nyunt	39	M	Monastic Edu.	Married	4	Casual worker	TYG
27	Zaw Naing	27	M	Grade 8	Single		Casual worker	TYG
28	Ko Thein	21	M	Undergraduate	Single		Student	TYG
29	Tin Soe	25	M	Grade 6	Single		Casual worker	TYG
30	U Wa Taut	64	M	Monastic Edu.	Married	5	Casual worker	TYG
31	Ma Kyi Kyi	29	F	Grade 5	Divorced	1	Small shop	TYG

MYM* = Magu Ywa Ma
PCL** = Pay Chaung Lay
TYG***= Thar Yar Gone

BIOGRAPHY

Kyaw Thu Mya Han was born and raised in Yangon, Myanmar. He obtained a Bachelor Arts in International Relations with honors from Dagon University in 2001 and Master degree in 2004 from Yangon University, Yangon. In 2002, he worked as deputy officer in Ministry of Prime Minister's Office. During his working at Prime Minister's office, he volunteered at the Myanmar Women Affairs Federation in which he helped to improve print media and online information services of the organization. In 2005, he had transferred to Ministry of Education. At present, he has been working as a tutor in International Relations Department, Yangon University.



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