THESIS

THE IMPLEMENTATION OF DISASTER MANAGEMENT POLICY IN PADANG CITY

By:

ZULFADRIM (ID No. 51210654)

September 2012

Report Presented to Higher Degree Committee

of Ritsumeikan Asia Pacific University

in Partial Fulfillment of the Requirements for the Degree of

Master of Science in International Cooperation Policy

ABSTRACT

Disaster Management becomes very urgent caused by it has strategic values in connection with natural disaster that much happen recently. One part of disaster management that becomes very important is preparedness because it is this part will determine the consequences when a disaster happened. Preparedness can be translated as an activity that done before disaster happens that aim to minimize losses. This may be the main aim of disaster management as well.

This report was entitled “Implementation of disaster management in Padang city”. The aim of the research is to detect and to describe the disaster management by Padang Local Government dealing with natural disaster and its problems. Data used in this analysis were primary and secondary one. The primary data was processed by the observation result and interviewing the apparatus of Padang City, non government organization (NGO) that related to disaster management activity and society of Padang City. The secondary data were got from Padang Local Government and from national and international NGO.

Most of the disasters in Indonesia are natural while in some cases, the occurrence of these disasters is aggravated by the people’s inability to eliminate potential hazards or prevent these hazards from emerging. But as complex as the causes might be, concern toward disaster should be focused more on the impact and how to manage it.

A top-down approach in viewing disaster management tends to overlook local resources that may have the potential to build a disaster prevention or recovery program. But in some cases, this kind of approach also increases the vulnerability of local people to disaster risks. Such gaps in disaster management efforts serve as lessons in creating a new and better approach. After evaluating several possibilities, experts in the field concluded that a new risk management program must have more opportunities to involve local people. In creating bigger roles for the people, the new approach shall be community-based and will focus on ways to encourage and invite more active participation from the members of the community to propose ideas in the planning, implementation, and evaluation of the program. Stakeholders at various levels, including the government, will work in a single, coordinated effort.

To make the system effective, the development of local response capability has to be addressed with same level of commitment and investment provided to the development of the technological components. Human capacities at all levels need to be developed to increase the institutional response capability at the local level. To build a common understanding of the system and to encourage all actors to accept and play their respective roles, the provision of sufficient funding, adequate capacity development and instructive guidelines is essential. Developing these guidelines is a multi-stakeholder task. Only a joint learning process can lead to a tailor-made warning chain and public outreach strategies that really address the needs of the community at risk. Results and experiences from this learning process need to be systematized and documented.

Acknowledgements

Alhamdulillah wa syukrillah, thanks for God, *Allah SWT,* by His guidance and mercy the researcher can accomplish this study entitled "IMPLEMENTATION OF DISASTER MANAGEMENT POLICY IN PADANG CITY".

This study is prepared in partial fulfillment of the requirement for the degree of master of International Cooperation Policy (Development Economics) Linkage Masters Program Faculty of Administrative Science, Brawijaya University, Indonesia & Graduate School of Asia Pacific Studies, Ritsumeikan Asia Pacific University Japan.

The researcher is fully aware that there are still many deficiencies in this study, this is due to limited knowledge and ability of the researcher. For this, the researcher wishes to appreciate critics, suggestion and comments in order to get more qualified research for next study.

The researcher wants to express a very genuine gratitude and appreciation to:

1. Professor Miyoshi Koichi for his constructive suggestions, aid, guidance and comments at various stages of the process of writing this research so that the researcher can finish this study well.
2. Prof. Dr. M. Irfan Islamy, MPA and Dr. Sarwono, MSi. who supervised the researcher during the study at Brawijaya University, Malang, Indonesia.
3. Padang Local Government, especially Padang Disaster Management Agency it's all involved chiefs and the staffs for providing investment documents, regulations and data which helpfully completed information during the study.
4. My deceased Father, beloved Mother, Aunty, Brothers, Sisters, My Father and Mother in law who have provided constant moral support, spiritual and encouragement for my study at APU.
5. My beloved wife (Fitra Yeni S.Pd) and my loved children (Nayla and Radith) who faithfully provides support both moral and spiritual for my study at APU.
6. All of my colleagues in APU including PhD Students, Master Students and Undergraduate Students.

Thank you.

Zulfadrim

TABLE OF CONTENTS

Chapter I

INTRODUCTION

1.1 Background of the study

Related to the disaster management approach in West Sumatera especially in Padang city, the local government had legalized local government regulation (Perda No 3 Tahun 2008). Based on this regulation the local government has an obligation to implementing pro-active approach and re-active approach as well. However in the practice there are no serious efforts undertaken by the government in order to minimize loss and damage if natural disasters occur. In response to the previous experiences, now both pro-active and re-active approaches should be implemented in West Sumatra, especially in the city of Padang. To implementing the approach, mapping of vulnerable areas and remodeling of City Spatial assess should be done. The risk is assessed based on two aspects: the hazard and vulnerability, while the danger is defined as the probability of occurrence of natural events and vulnerability as un-preparedness for disaster and its consequences (Merz et al., 2006; Oosterberg et al., 2005). Zoning serves as a guide of new development. At the same time, pro-active efforts are also given much emphasis. It becomes one of the main considerations in the new Draft Spatial Plan for Padang city from 2010 to 2015. In the draft plan says that Padang will be planned and redeveloped based on the existing values, norms, and natural disaster mitigation to minimize the risk on the future. The community will be given chance to participate in the planning process directly. Planning Scenario will complete in 2010. Related to this planning program this

study will observe the policy of Padang's government in applying disaster management program in reducing the risk of an earthquake and tsunami.

1.2 Research Question

The major issue in this research is the implementation of disaster management especially in earthquake emergency response activities in Padang, since this research intends to give a better understanding on disaster management, both on theoretical and practical side. West Sumatera - specifically Padang – is chosen as the case study. Hopefully this research can be used as lesson-learned that can be implemented in other disaster prone area.

In Indonesia, disaster management is conducted through the guidance of Disaster Management Act (UU No. 24/2007), Spatial Planning Act (UU No. 24/1992 and UU No. 26/2007) These acts play important role on the arrangement of provincial, municipal, and regency spatial plan.

The ratification of Disaster Management Act No. 24, 2007 on April 26, 2007 and Disaster Management Implementation Act No. 21, 2008 on February 28, 2008, does not mean the issue of disaster management in the country complete. But it is the beginning of government policy that should has deeper assessment, where the government needs to prepare for professional disaster management. In a sense, the disaster management can overcome the problems that occur related to pre-disaster, emergency response, post-disaster, through monitoring and evaluation after the disaster happened.

It can say during this time, disaster management policy still become mayor concern, despite the legalization of Disaster Management Act or similar

legal integrated policy to handle disaster and refugees (sort of disaster management act). But in fact it has not been implemented consistently. We still see many examples which are related to the lack of profesionlism in disaster management.

Regarding disaster management as a community interest, we expect the reduction of life and property lost. The most important thing of disaster management is a concrete step in controlling disaster, so we hope the victims can be saved quickly and precisely. And post-disaster recovery efforts can be done as soon as possible. Control begins by developing critical community and government awareness over natural disaster issue, creating a total improvement process, affirmation of the inception of local policy which relies on local wisdom in the form of village rules and regulations over disaster management.

After Aceh tsunami on 2006, there is a shift in Indonesia's disaster management policy. Before Aceh tsunami, disaster management only gets a little attention and it is focus more on the re-active approach. The pro-active approach is only gets a little attention and even often neglected by the government. The old Act on Spatial Planning (UU No. 24/1992) mentions almost everything about disaster management as a part of planning process. After the Aceh tsunami, Act on Disaster Management, new Act on Spatial Planning (UU No. 26/2007), are legalized with more emphasis on disaster management. As a consequence, the content of disaster management in the provincial, municipal, and regency spatial plan is also changed. In regards to the statements above, this research is developed with the guidance of six questions:

1. *How does the Approach and framework of Disaster Management Policy in Padang city*
2. *How does the implementation of Disaster Management Policy in Padang city*
3. *How the interaction between the main actors in Implementing disaster management policy in Padang city*
4. *What are the keys Program in Implementing Disaster Management Policy in Padang city*
5. *What are the constraining factor in implementing disaster management policy in Padang city*

1.3 Purpose of Study

This research study deals primarily with Disaster Management policy in Padang city. The research aims at finding, identifying, analyzing and interpreting three major purposes, namely:

1. The implementation of disaster management policy in Padang city.
2. The interaction between the main actors in Implementing disaster management policy
3. The constraining and supporting factor in implementing disaster management policy in Padang city

1.4 Benefit of Study

This study will give a contribution for two purposes:

1. Practical Benefit

   The research findings are meant to give some contribution to government to issue a better program, in this case, dealing with the implementation disaster management policy in future. With this paper, the government is expected to be able to conduct carefully regarding disaster management policy.

2. Academic Benefit

   This research findings can be given information to the people who interested in study in public administration concerning in disaster management and public policy. After finishing this research, the author can give the information about the implementation of disaster management policy and the factors which influence the implementation of the policy. This research also can be used as a source for the other researches, students, or people whose needs to improve their knowledge about implementing disaster management policy.

Chapter II

LITERATURE REVIEW

2.1 Public Policy

The subject matter of public policy have been defined or attempted by various scholars using different analytical frameworks. Thomas Dye (1972), as cited by Howlett and Ramesh (1995), offers a definition of public policy, describing it as anything a government chooses to do or not to do. This definition is perhaps too simple and fails to provide the means for conceptualizing public policy.

Unlike Dye who defines it as a choice, William Jenkins (1978) views public policy-making as a process. According to him, public policy is defined as a set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and the means of achieving them within a specified situation where those decisions should, in principle, be within the power of those actors to achieve.

Contributing to the explanatory efforts on the subject - matter of public policy, James Anderson (1984) offers a more generic definition. He described public policy as a purposive course of action followed by an actor or a set of actors in dealing with a problem or matter of concern. Anderson's definition notes that policy decisions are often taken by sets of actors, rather than a sole set or actor, within a government. It also highlights the link between government action and the perception, real or otherwise, of the existence of a problem or concern requiring action.

2.2 Policy Process

In the public policy process, Howlett and Ramesh (1995) argued that both actors and institutions play a critical role, even thought one may be more important than the other in specific instances. Individuals, groups, classes, and states participating in the policy process no doubt have their own interests, but the manner in which they interpret and pursue their interests, and the outcomes of their efforts, are shaped by institutional factors.

Harold Lasswell ((1956) as cited by Howlett and Ramesh (1995), has proposed the idea to simplify the complexity of public policy-making by breaking the policy-making process down into a number of discrete stages. He divided the policy process into seven stages: 1) intelligence, 2) promotion, 3) prescription, 4) invocation, 5) application, 6) termination, and 7) appraisal. According him, the seven stages described not only how public policies were actually made, but also how they should be made.

Furthermore, James Anderson (1975) has developed the policy process that can be divided into a series of stages: agenda setting, policy formulation and legitimation, implementation, and evaluation. Agenda setting refers to process by which problems come to the attention of governments, policy formulation and legitimation refers to the process by which policy options are formulated within government and then government adopt a particular course of action or non action, policy implementation refers to the process by which government put policies into effect, and policy evaluation refers to the processes by which the results of policies are monitored by both state and social actors.

In his book, Studying Public Policy, Howlet and Ramesh (1995)

mentioned 5 (five) actors participating in the policy process: elected officials, appointed officials, interest groups, research organizations, and mass media. The elected official may be divided into two categories, member of the executive and the legislature. The executive is one of the key players in the policy sub system. Its central role derives from its constitutional authority to govern the country. On the other hand, the task of the legislature is to hold governments accountable to the public rather than to make or implement policies.

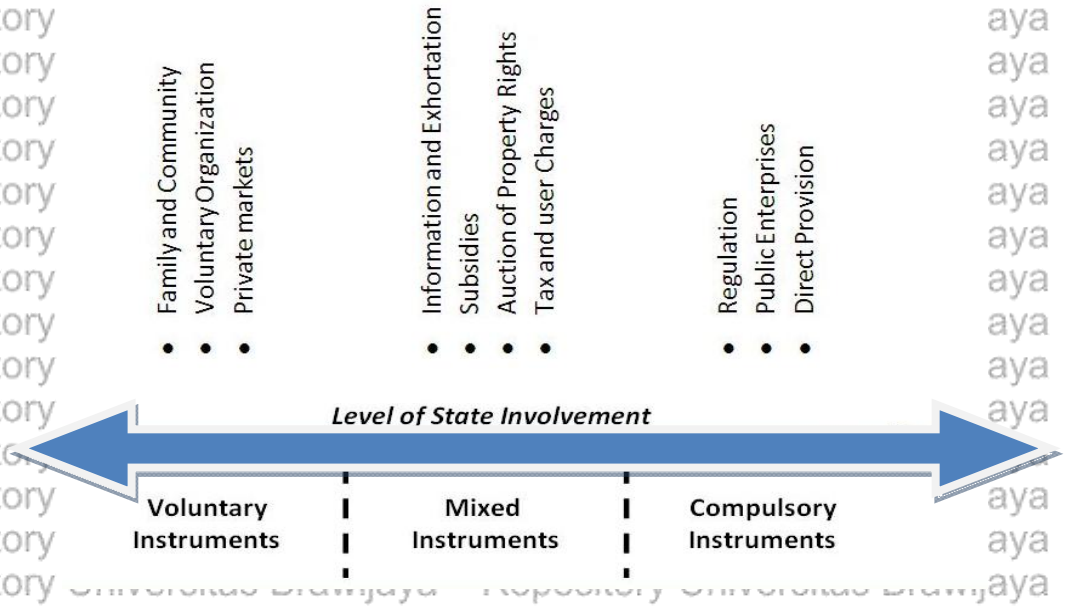
The appointed officials dealing with public policy and administration are often collectively referred to as the bureaucracy. Their function is to assist the executive in the performance of its tasks, as is suggested by the terms civil servants or public servants used to describe them. The realities of modern politics enable interest groups to play a significant role in the policy process. One of the most important resources of interest groups is knowledge: specifically information that may be unavailable or less available to others.

Another significant set of societal actors in the policy process is composed of the researchers working at universities and think tanks. They often have theoretical and philosophical interests in public problems that may not lead to research results that can be translated into usable knowledge for policy purposes. And the last, the role of the mass media in the policy process lies in the fact that in reporting problems they combine the roles of passive reporter with active analyst as well as an advocate of a solution.

In dealing with a policy problem, the variety of instruments (also called policy tools or governing instruments) used by policy makers was identified and classifies them into meaningful categories. According Howlett and Ramesh

(1995) has proposed a list of ten major types of policy instruments. In ascending order of the level of state intervention, they are Family and Community, Voluntary Organization, Private Markets, Information and Exhortation, Subsidy, Auction of Property Right, Tax and User Charges, Regulation, Public Enterprise, and Direct Provision. The characteristic feature of voluntary instruments is that they entail no or little involvement by government, the desire task is instead performed on a voluntary basis. Compulsory instruments compel or direct the action of target individuals and firms, who are left with little or no discretion in devising a response. On the other hand, mixed instruments combine the features of both voluntary and compulsory instruments. They permit the government varying levels of involvement in shaping the decisions of non state actors, while leaving the final decision to private actors.

Figure 2.1. A Spectrum of Policy Instruments



Source: Howlett and Ramesh, 1995

2.3 Policy Implementation

The policy implementation is a part of several stages of the policy cycle. The policy implementation is applied after a public problem has made its way to the policy agenda, various options have been proposed to resolve it, and a government has made some choice among those options. Milbrey W. McLaughlin (1985) said that the policy implementation can defined as the process whereby programs or policies are carried out, it denotes the translation of plans into practice.

According to Pressman and Wildavsky (1973) as cited by (Brynard (2005), implementation means to carry out, accomplish, fulfill, produce, complete." According to their seminal book on the subject: "Policies imply theories... Policies become programs when, by authoritative action, the initial conditions are created... Implementation, then, is the ability to forge subsequent links in the causal chain so as to obtain the desired result." A more specific definition is provided by Van Meter and Van Horn (1974: 447-8): "Policy implementation encompasses those actions by public or private individuals (or groups) that are directed at the achievement of objectives set forth in prior policy decisions. Furthermore, Edwards (1980) defines policy implementation as a stage of policy making between the establishment of a policy (such as the passage of a legislative act, the issuing of an executive order, or the promulgation of a regulatory rule) and the consequences of the policy for the people whom it affects. It also involves a wide variety of actions such as issuing and enforcing directives, disbursing funds, making loans, assigning and hiring personnel, etc.

One of the most influential definitions of implementations is that formulated by Mazmanian and Sabatier (1983), as cited by Hill and Hupe (2002). They said that Implementation is the carrying out of a basic policy decision, usually incorporated in a statute but which can also take the form of important executive orders or court decisions. Ideally, that decision identifies the problems to be addressed, stipulates the objectives to be pursued, and in a variety of ways, structures the implementation process. The process normally runs through a number of stages beginning with passage of the basic statute, followed by the policy outputs (decisions) of the implementing agencies, the compliance of target groups with those decisions, the actual impacts –both intended and unintended- of those outputs, the perceived impacts of agency decisions, and finally, important revisions (or attempted revisions) in the basic statute.

The three generations of implementation research has been proposed by TA. Birkland (2006). These generations can be subdivided into three distinct theoretical approaches to the study of implementation top-down theories, bottom-up theories, and hybrid theories. Top-down models put their main emphasis on the ability of decision makers' to produce unequivocal policy objectives and on controlling the implementation stage. Bottom-up critiques view local bureaucrats as the main actors in policy delivery and conceive of implementation as negotiation processes within networks of implementers. Hybrid theories try to overcome the divide between the other two approaches by incorporating elements of top-down, bottom-up and other theoretical models.

As the core authors of the top-down approach, Sabatier and Mazmanian (1979) argued that there are six criteria for effective implementation: 1) policy objectives are clear and consistent, 2) the program is based on a valid causal

theory, 3) the implementation process is structured adequately, 4) implementing officials are committed to the program's goals, 5) interest groups and (executive and legislative) sovereigns are supportive, and 6) there are no detrimental changes in the socioeconomic framework conditions.

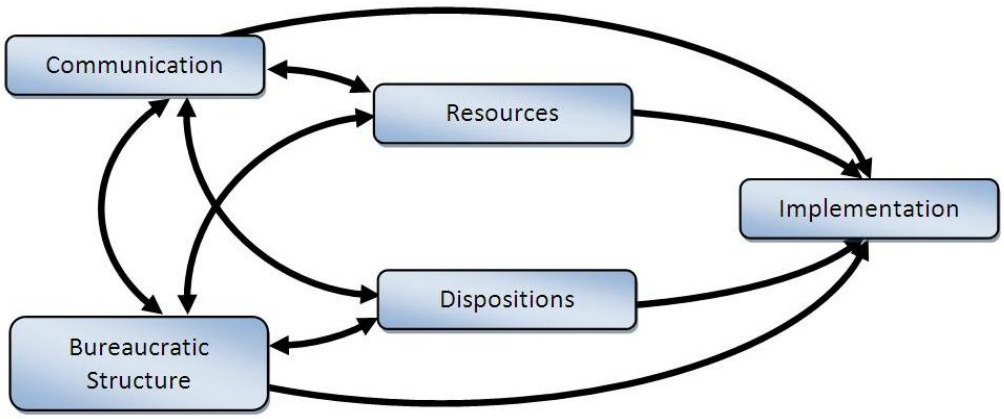
The concept of perfect implementation was derived from the work of Christopher Hood (1976). In Hill and Hupe (2002), he suggests that one way of analyzing implementation problems is to begin by thinking about what 'perfect administration' would be like, comparable to the way in which economists employ the model of perfect competition. Perfect administration could be defined as a condition in which 'external' elements of resource availability and political acceptability combine with 'administration' to produce perfect policy implementation.

In practice, perfect implementation process was hard to achieve and unfavorable conditions could cause implementation failure. The policy implementation makes successful implementation possible, or makes the policy goal achievement fail, which is stated by Andrew Dunsire as the implementation gap (Luthuli, 2007). Dealing with this implementation gap is normally key to implementation success.

The failure of policy can be distinguished in two cases, non implementation and unsuccessful implementation (Hogwood and Gunn, 1984). In the former case, a policy is not put into effect as intended, perhaps because those involved in its execution have been uncooperative and or in efficient, or because their best effort could not overcome obstacles to effective implementation over which they had little or no control. Unsuccessful

implementation on the other hand, occurs when a policy is carried out in full, and external circumstances are not unfavorable but, none the less, the policy fails to produce the intended results (or outcomes). The reasons for failure appear to follow naturally from such studies. In plain terms, a policy is usually seen as being put at risk because of one or more of the following three causes: bad execution, bad policy, or bad luck. Thus the policy may be ineffectively implemented, which will be viewed by the initiators of the policy as bad execution. Or both policy initiators and those charged with its implementation may agree that external circumstances were so adverse that it was no one's fault 'just bad luck' that the policy failed. The reason which is less commonly –or at least openly- offered in explanation of policy failure is that the policy itself was bad, in the sense of being based upon inadequate information, defective reasoning, or hopelessly unrealistic assumptions.

Figure 2.2 The Critical Factors in Implementing Public Policy



Source: GC. Edwards III, 1980

According to Edwards III (1980), there are the critical factors that are very

crucial in implementing public policy: communication, resources, dispositions or attitudes, and bureaucratic structure. The four factors operate simultaneously and they interact with each other to aid or hinder policy implementation. Communication is an essential ingredient for effective implementation of public policy. Through communication, orders to implement policies are expected to be transmitted to the appropriate personnel in a clear manner while such orders must be accurate and consistent. Inadequate information can lead to a misunderstanding on the part of the implementers who may be confused as to what exactly are required of them. Where implementation orders are clear, consistent and accurately transmitted, the absence of adequate resources will result in implementation problems. Without sufficient resources it means that laws will not be enforced, services will not be provided and reasonable regulations will not be developed.

In addition to communication and resources, disposition or attitude is another key factor that affects policy implementation. Most implementers can exercise considerable discretion in the implementation of policies because of either their independence from their nominal superiors who formulate the policies or as a result of the complexity of the policy itself. Communication, resources, and positive disposition are put in place does not guarantee implementation success. If there is no efficient bureaucratic structure, the problem of implementation can still arise especially when dealing with complex policies.

2.4 Disaster management

The word disaster can be explained in various ways because of the complexity of the events (El-Masri and Tipple, 1997: 13). Different professions

can define disaster differently. According to Mc Entire 2000 (in McEntire 2001: 7), disaster can be seen as the negative effects of interaction between triggering agents – natural environment, human activity, or the combination of both – and vulnerability. It is also can be explain as the full predicament situations happen to the individual or communal (Kumar 2000 in Moe and Pathranarakul 2006). UNCHS (United Nations Centre for Human Settlements) (UNHCS, 1994 in El-Masri and Tipple, 1997), proposes a holistic definition of natural disaster. It is said that a natural disaster is an interaction between natural hazards with the vulnerable condition which can cause harm and loss to man and the environment. While Sundar I (Sundar and T Sheziyan 1991) propose disaster as a crisis situation causing wide spreading damage which far exceeds our ability to recover. Based on the definition above we can conclude that disaster there cannot be a perfect ideal system that prevents damage, because then it would not be a disaster.

These impacts can cause suffering and chaos that will create socio-economic, cultural and political disruption. In this perspective, disaster is not only a technical matter but also environmental, social, and developmental concern (El-Masri and Tipple, 1997).

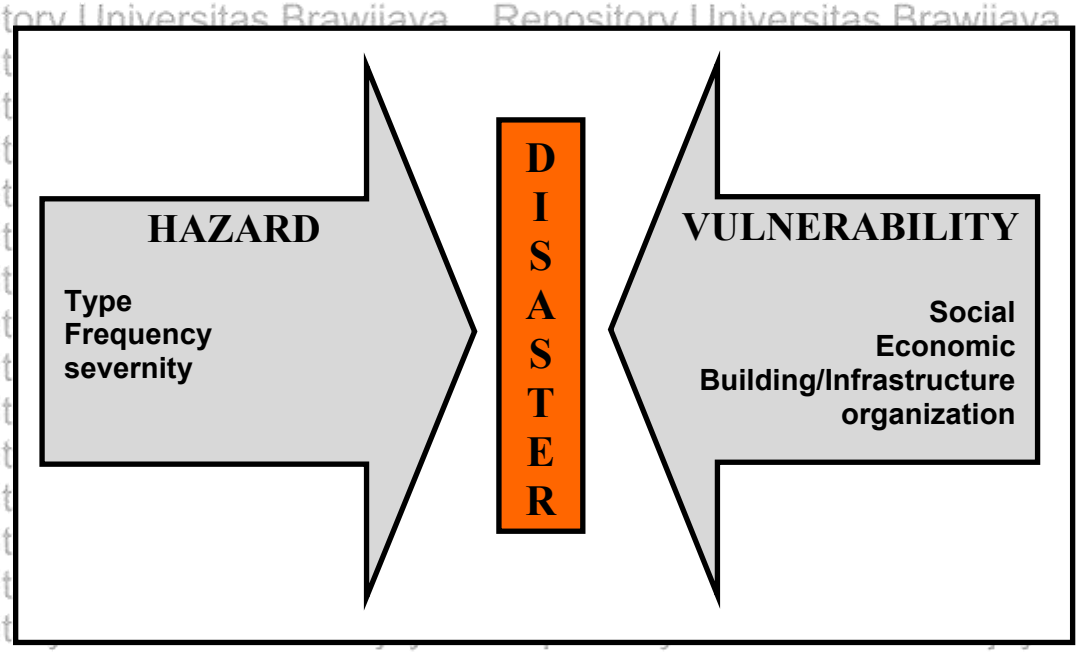
The most comprehensive definition of disaster is combination of Hazard that may come from human act or natural phenomena with the vulnerability condition (UNDP, 1992: 5). According to Weichselgartner (2001:23) the vulnerability concepts itself is still fuzzy. It is happened because even though in the frame work of disaster management vulnerability can be seen from different point of view. First technically vulnerability is define as the potential exposure, or damage potential, of the hazard. Secondly vulnerability is seeing as the social

coping ability, or resistance, to the given hazard. It means that vulnerability is meassured from the society loss susceptibility point of view. So vulnerability is not onlt technical issue but also social issue. In this research, vulnerability is considered both technical and social matter because both issuecannot be separated. Hyogo framework (ISDR: 2005) states that vulnerability can be defined as condition determined by physical, social, econimic, and environmental factor or process that can increase the community's sensitivity toward disaster impact. Together with hazard, the probability of disaster occurrence, vulnerability can be used to meassure the risk of disaster. It is also called the pressure and release (crunch) model. The concept itself not only considering how to minimize hazard but the most important thing is how to decrease the vulnerability.

Hyogo framework proposes that resilience can be increased trough implementation of five priority action:

1. Ensuring disaster reduction as a national and local priority with strong institutional basic for implementation
2. Identifying and monitoring disaster risk and increases the early warning system
3. Using knowledge, innovation, and education to develop a safety and relisience culture in all levels
4. Reducing the risk basic factors
5. Strengthening disaster awareness for effective response in all levels.

Figure 2.3 The pressure and Release (crunch) model



Source: UNDP (1992)

Management in all bussiness areas and organizational acctivities are the acts of getting people together to accomplish desire goal annd objectives efectively and efficiently. Managment comprises planning, organizing, staffing, leading, or directing and controlling an oragnization (a group of one or more people or entities) or effort for the purpose of accomplishing a goal. Management can also be defined as human action to facilitate the production of useful outcome from a system. In this research the classical management concepts is use combine with contingency approach. Classical management concept explains the managerial function such as planning, organizing controlling and directing, while contingency approach based on the concept that there is no management concept that suit or can be used in every activity. In other word, management that work in one activity will not always fit with the other activity. That is why management have to be flexible.

Disaster management itself is a dynamic process, ongoing and integrated to improve the quality of the steps related to the observation and analysis as well as disaster prevention, mitigation, preparedness, early warning, emergency response, rehabilitation and reconstruction after disaster. (UNDP, 1994). This definition is adopted as the basis of this research. Pro-active approach is conducted as preparing process, in advance to meet the future disaster, or before the disaster happened (pre disaster), it consist of disaster prevention, mitigation and preparedness. This approach aims to minimize the risk of the prone disaster area when the disaster occurs in that area. On the other hands re-active approach is conducted as disaster respond (post disaster). It consists of early warning, emergency response, rehabilitation and reconstruction after disaster. This approach is aim to make sure that the area where the disaster occur can reach its previous condition before the disaster happened.

2.5 Strategies in Disaster Management

Sundar and Sezhiyan (2007:5) explained the term of management disaster as follows:

1. Disaster Prevention

   Disaster prevention is the action taken to eliminate or to avoid the harmful of a natural phenomena and their effect.

2. Mitigation

   Mitigation is the action taken to reduce or to minimize human suffering or property loss resulting from extreme natural phenomena.

3. Preparedness

Preparedness encompasses those actions taken to limit the impact of natural phenomena by structuring response and establishing a mechanism for effecting a quick reaction and orderly reaction.

4. Warning Phase

Preceding most disasters is period of time during which it become obvious that something hazardous is going to happen

5. Emergency Phase

This phase of disaster response involves actions that are necessary to save life and reduce suffering. This includes search and rescue, first aid, emergency medical assistance, and restoration of emergency communication and transportation networks.

6. Rehabilitation (transition phase)

The transition phase is a time period when people being to return work, to repair infrastructure, damaged building, and critical facilities and to take other actions necessary to help the community to return to normal condition.

7. Reconstruction

The reconstruction phase of a disaster involves the physical reordering of the community and of the physical environment. This action may start earlier but may last for many years.

Disaster management may vary according to place / location, which can be affected by the disaster management standards done, other activities related to disaster including research and implementation (Carter, 1991:21). Some different disaster management cycles may be implemented altogether where they

completing one of another. However every cycle has to indicate that management and disaster is continuing activity or unending circle.

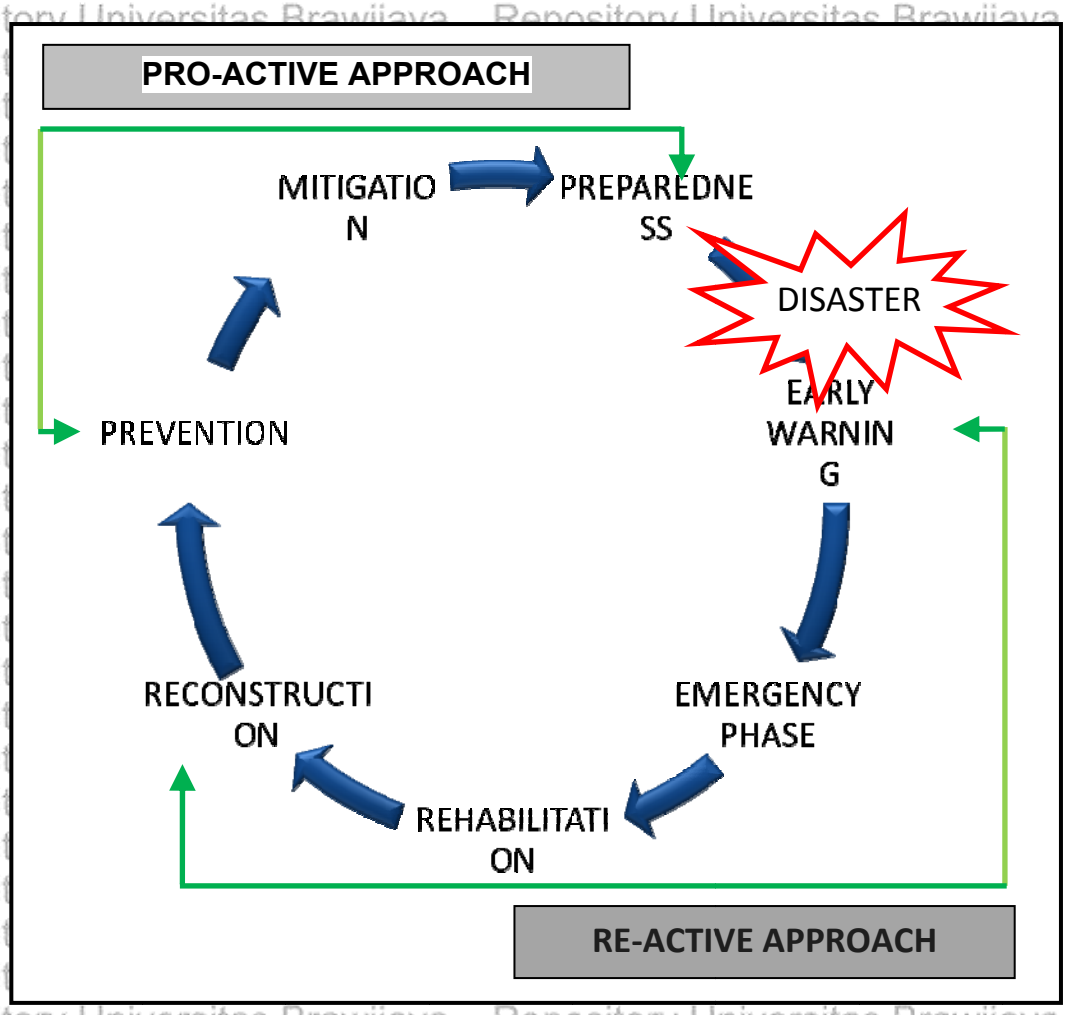
There is a shift from on disaster management approach from re-active only to the combination of pro-active and re-active approach in the last decade. In the past time pro-active approach often ignored, since there is a misunderstanding in assume the natural disaster was a "God Act" to punish the human being. Therefore it was associated with a huge and catastrophic impact that must be accepted by human. As a result the societies have to pay the expensive in re-active approach, because the recovery and the reconstruction phase can take years to be in a prior condition.

Oosterberg et all (2005) present three basic strategies in disaster management, they are: keep disaster from urban area (hazard reduction), prepare urban area for disaster (vulnerability reduction), keep urban area from disaster (exposure reduction). These strategies seem very simple but they are the basic strategies in disaster management. Many country adopt and implement one or the combination of these strategies in their disaster management plan.

2.6 Concluding Remarks

As described before there is a shift in management disaster in this decade, from re-active approach which is, early warning, emergency response, rehabilitation, and reconstruction, to the combination between re-active and pro active approach which is, prevention, mitigation and preparedness. The old paradigm only focus to Hazard reduction now it come to risk management by conducting vulnerability reduction and proactive measure. The trend is also change from single agency to partnership and multidisciplinary approach in disaster management, from rational planning to collaboration planning.

Figure 2.4. The Disaster Management Cycle



Source: UNDP (1992)

For disaster management strategies there are three basic strategies presented by the expert, keep disaster from urban area (hazard reduction), prepare urban area for disaster (vulnerability reduction), keep urban area from disaster (exposure reduction). While in earthquake disaster hazard reduction is rather hard to do since it depend on natural phenomenon. While the others strategies is more applicable to implemented. Means, there is a tendency to reduce the vulnerability and reduce the exposure to the disaster.

Chapter III

SOCIAL SETTING

3.1 West Sumatera at a glance

Province of West Sumatera located the west side of Sumatera Island. With Padang as the capital city, this province consists of two main ethnic groups. Minangkabau people live in the mainland, while the Mentawaian at the Shore Islands. Almost 100 percent Minangnese noted as moderate Muslims. They practice Islam rule in their daily life, but still opened to foreign influence, despite they still hold their traditional culture which one of the most unique culture in the world, Matriarchal or Mother line family.

The West Sumatera province is bordered by North Sumatera province on the north, Riau Province on the east Jambi and Bengkulu province in the south, and Indian Ocean on the west. The total area of the province is 42,227.30 square kilometers. It is consist of 10 regencies and 6 municipals. The biggest regency is Padang Pariaman while the biggest city is Padang.

3.2 Location of the research

Since the research is about the implementation of disaster management in Padang city, then Padang is the location of the research. Padang is the capital and largest city of West Sumatra, Indonesia. It is located on the western coast of Sumatra at 0°57′0″S 100°21′11″E. It has an area of 694.96 square kilometres (268.3 sq mi) and a population of over 833,000 people at the 2010 Census. Padang is divided in 11 subdistricts (*kecamatan*): Bungus Teluk Kabung, Koto

Tangah, Kuranji, Lubuk Begalung, Lubuk Kilangan, Nanggalo, Padang Barat, Padang Selatan, Padang Timur, Padang Utara, Pauh.

Padang city that located on western coast of Sumatera is the centre of education, economic and tourism activity. In 2005 Padang population reached 980.450 that consist of 49 percent female and 51 percent of the population are male. 43 percent of the total population live along the coastal area..

In 1797 Padang was inundated by a tsunami with an estimated flow depth of 5–10 meters, following an earthquake, estimated to be 8.5–8.7 SR, which occurred off the coast. The shaking caused considerable damage and the deaths of two people, while the tsunami resulted in several houses being washed away and several deaths at the village of Air Manis. The boats moored in the Arau River ended up on dry land, including a 200 ton sailing ship which was deposited about 1 kilometer upstream.

In 1833 another tsunami inundated Padang with an estimated flow depth of 3–4 meters as a result of an earthquake, estimated to be 8.6–8.9 SR, which occurred off Bengkulu. The shaking caused considerable damage in Padang, and due to the tsunami the boats moored in the Arau river broke their anchors and were scattered. On September 30, 2009, a 7.6-magnitude earthquake hit about 50 kilometers off the coast of Padang. There were more than 1,100 fatalities, 313 of which occurred within Padang.

3.3 Principle of disaster management policy in Padang city

Disaster management is not a separate sector or discipline but an approach to solving problems relating to disasters impacting any sector - agricultural, industrial, environmental, social etc. Ultimately, disaster management is the responsibility of all sectors, all organizations and all agencies

that may be potentially affected by a disaster. Utilising existing resources ensures efficiency in resource utilization and lower costs.

With this background in mind, Government of Padang has outlined a set of key principles that will guide the development and implementation of the Disaster Management in Padang city. These principles are designed to provide guidance during all phases of disaster management and are consistent with internationally accepted best practices. This guidance based on the Local Government Regulation (Perda no 3 tahun 2008).

The following functions are important means by which governments can integrate disaster risk awareness into official responsibilities:

- Disseminate basic public information about the most likely hazards to affect a country or community, along with measures on how to reduce risk.
- Develop integrated institutional capacities to assess and respond to risk in the context of social, economic and environmental considerations of the society.
- Support opportunities that enable scientific and academic institutions to contribute to risk management policies in a manner that is accessible to the whole community.
- Initiate partnerships with local networks, community organizations and advocacy groups knowledgeable about how to organize locally to reduce hazards and increase resilience.
- Encourage the combined participation of government agencies, technical specialists and local residents in the conduct of risk assessments.

- Ensure public understanding of standards and codes designed for the protection of private and public assets and critical infrastructure.
- Promote and encourage public participation in the design and implementation of risk and vulnerability strategies at local and national levels.

3.4 Leading Actors of Disaster Management In Padang

Disaster Management Act (UU no 24 tahun 2007) Mandating every local government (provincial and District/city) to establish an official agency on disaster management. Padang responds to this mandate by establishing a Local Disaster Management Agency (BPBD). On March 10th 2008 Padang passed Local Government Regulation (Perda No. 03 Tahun 2008) about Disaster Management. In article 25 stipulate that to implementing Disaster Management in Padang should coordinated by Local Disaster Management. Dealing with this matter Padang local government issued another regulation (Perda No 18 tahun 2008) about establishing Local Disaster Management agency.

Padang Disaster Management Agency officially established on February 26th 2009. Their main duty and function dispose on Mayoral Decree (Perwako No 58 tahun 2008) as follow:

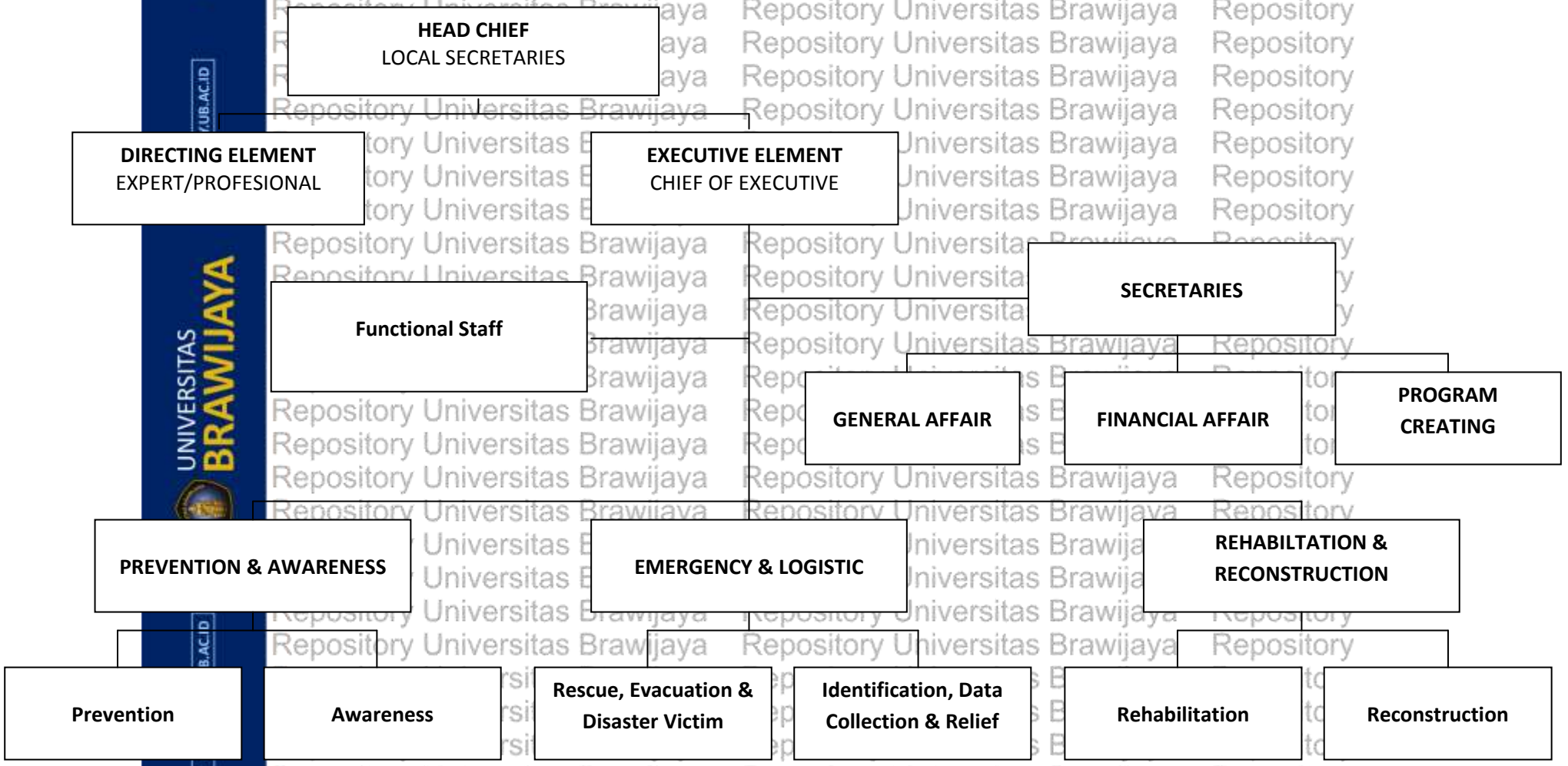
1. Establish guidelines and direction in accordance with local policy and National Disaster Mitigation Agency over disaster countermeasures which include disaster prevention, emergency, rehabilitation, and reconstruction as fairly and equitably.
2. Establish standardization and the need for organizing disaster countermeasures based on legislation.

3. Establish standardization and the need for organizing disaster countermeasures based on legislation.
4. Set and establish the fixed procedure of disaster management.
5. Implementing disaster management system in the region.
6. reporting disaster management in the region to the regent/mayor once a month in normal condition and everytime in emergency condition.
7. Controlling the collection and distribution of relief money and goods.
8. Responsible for budget used, received from the Regional Budget (APBD)
9. Carry out other duties in accordance with legislation.

The personnel of Padang Disaster Management Agency itself are the civil servant; they came from other institutions that have capabilities, knowledge, skill, experience, and integrity to disaster management.

Generally this Institution divided into, Directing Element and Executive Element. Directing element has duty to assist Head Chief in carrying their daily activity in Disaster Management Agency. While executive element duty is to carry out disaster management integrally which consist of Pre disaster, Emergency response and Post disaster. While their function are coordination, leadership and execution.

ORGANIZATIONAL STRUCTURE
PADANG DISASTER MANAGEMENT AGENCY



Chapter IV

RESEARCH METHOD

4.1 Type of Research

Public administration is one of the newest disciplines to come on the scene, evolving out antecedents in political science and management. It was recognized as a legitimate field of study in the late 1880s, but the first University education program in public administration did not appear until 1926. a nagging problem with the approaches and methods used in public administration research sprang from the argument over the nature of the discipline. Researcher asked, what is the most appropriate methodology for research quantitative or qualitative method? No single research method has overwhelmingly dominated at the best, a majority of these studies favored a qualitative approach. Quantitative approaches were followed in a little less than 41 percent; qualitative approaches were followed in 59 percent. (Mc Nabb, 2002)

A qualitative approach is the way to conduct on this research, referring to the government policies and the dynamics of the program while it is implemented. It is an observation of existing empirical data collected from many sources in order to gain deeper understanding about the process on how the problem of deforestation / habitat destruction on human and elephant conflict.

The term qualitative research describes a set of non statistical inquiry techniques and processes used to gather data about social phenomena. Qualitative data refers to some collection of words, symbols, pictures or other numeric record material or artifacts that are collected by a researcher and that

have relevance to the social group under study. The uses for these data go beyond simple description of events and phenomena; rather, they are used for creating understanding, for subjective interpretation and for critical analysis as well.

Many different types of research approaches are employed for conducting qualitative research in public administration. The four research approaches most often followed in public administration are case studies, grounded theory, ethnography, and action science. But, these are not the only approaches seen in the administrative and social sciences.

4.2 Focus of Research

Focus of the research is very important for its limits of the studies and data resources. Without the research focus, the researcher will be trapped by plenty obtained data. Through the instruction and tuition focus, the researcher can know what is required to be collected and which irrelevant data need to be entered into the thesis. On this research the researcher will be focus on:

1. Implementing of the Disaster management policy
   - Strategy in implementing disaster management policy
   - The main actor involving in this implementation
   - The main duties of each actor involving in this implementation.
   - Implementation in the field
2. Interaction among the actors in implementing disaster management policy

3. Constraining and supporting factor in implementing disaster management policy

4.3 Source of Data

In qualitative research, there are two sources data

1. Primary Data

   Data obtained directly from the informants in field, which includes data on activities undertaken in the pre disaster and post disaster by the BNPBD (Badan Nasional Penanggulangan Bencana Daerah) official, government officials in Padang and the West Padang sub district, the local community and Non Governmental Organization (NGO) as well. In Determination of informants conducted with key respondents.

2. Secondary Data

   Data obtained from document, report, related to the subject of the research. This data could be report from BNPBD, Kominfo (Communications and Information) office, Local Regulation and other document that related to the implementation of disaster management in Padang city. Those documents can be found in the BNPBD offices, library, and other related offices.

4.4 Data Collection Process

There are three steps done by researcher to collect the data

1. **Getting in**

   The first step in collecting data is to try make the data collecting process could be agreed and accepted by the institution that will be researched. Thus researcher will make procedural and personal approach by proposing permit to the Padang city government

2. **Getting along**

   Researcher tries to make a good relationship with the informants. In order to make the informant feel comfort and have corporate will.

3. **Logging the data**

   Obtain the data by using three methods

- *In depth interview*

  Respondents chosen for the interview were determined based on their engagement in the mitigation program and community became target of the program. The analysis was focused on the implementation of the policy. The most appropriate informant is the one who has experiencing in disaster event. It could be BPBD personnel, Padang city government official, the community and also the Non Governmental Organization (NGO). The method used most often in public administration research is the in-depth personal interview. Individual interviews occur as conversation between a researcher and a subject or respondent.

- *Documentation*

Documents can be divided into books, theses, newspapers, files, personal documents and official documents. Moreover, the Disaster report is one of important literature such as monthly, quarterly and annually report. In addition, the several law and regulation that supported of the implementation disaster management. Those documents can be found in the BNPBD offices, library, and other related offices.

- *Observation*

Researcher will at the site of research on padang and studied carefully and thoroughly circumstances actually in the field.

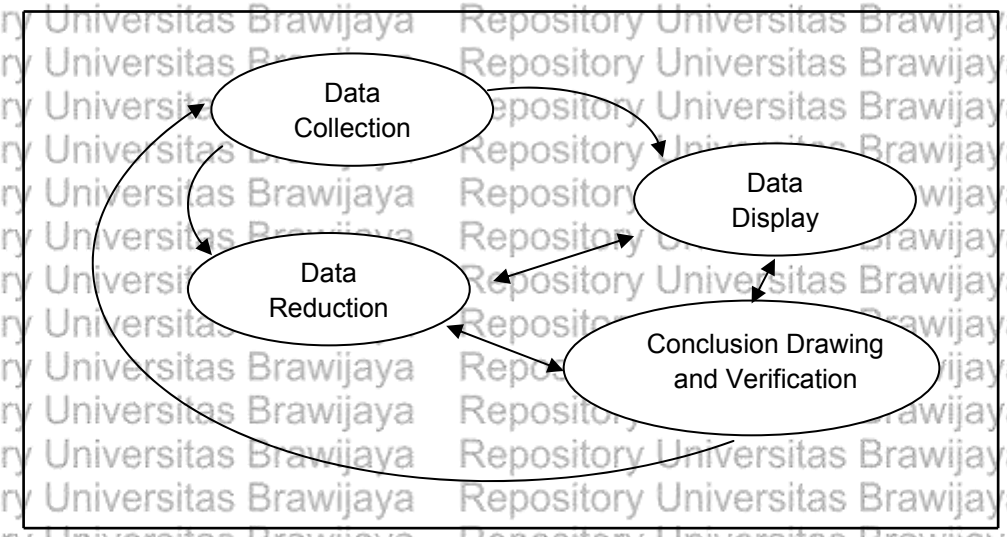
4.5 Method of Data Analysis

In qualitative method, there are two parts of the design of data analysis. The first is data management. Data management has two steps, first, managing data begins with organizing the collection process and second, designing the system for storage of the gathered data (McNabb, 2002). The second part of the design of data analysis is definite analysis of data. Miles and Huberman (1994) describe the qualitative data analysis in three activities lines: data reduction, reporting/display and conclusion (drawing and verifying). These activities called interactive model.

Data reduction is the first stage in data analysis. Data reduction may be defined as the activity started from selecting and focusing and will be finished in transforming the data that appear in written-up field data and transcription (Miles and Huberman, 1994). The second line is data display. This activity is the process to organize the data that will be used in making conclusion. According

Miles and Huberman (1994), a display is an organized, compressed assembly of information that permits conclude drawing and action. The last activity is conclusion (drawing and verifying). Conclusion is the closing process from the data analysis. This activity depicts the data, 'what happened', phenomena and the researcher conclusion.

Figure: 4.1 Method of data analysis



Source: Miles and Huberman (1994:12)

The data which are taken from the field are still in the narration format and need to be reduced and summarized to match the relevant point of the problem. This process of taking the point from the data source is very important. After finishing the data reduction and reporting, the researcher interprets the data logically. The descriptive data will make the thesis become easier to write than the narrative data.

4.6 Validity Data

To scrutinize the data validity, the research is based on four criteria stated by Licoln and Guba (Faisal, 1990:31-34; Hamidi, 2004:8-83; and Moleong, 2006:324), i.e. credibility, transferability, dependability and confirmability.

a. ***Credibility***

Credibility refers to the acceptance of the reader and the approval from respondent to the outcome of the research. Principally, implementing credibility substitutes the concept of internal validity from non qualitative. This criterion has a function to make the proper inquiry so that the level of credibility will be achieved through evidence on the pair veracities of the object. The taken action to examine the credibility of the research is as follows:

- The utilized data are derived from quantitative data and qualitative data which are taken from secondary data and primary data. Secondary data are collected by seeking the document and relevant archives. And the other secondary data are supporting documents from government offices which have relevant relation with the research object.
- Primary data are collected by interviewing informants. Informants are chosen with purposive approach. It means that the chosen informants are defined carefully via estimation or judgment of researcher so that they represent all population and relevant with the research object. Interview will be done with some informants such as head of village, local public figures, government officers and members of CBO.

b. ***Transferability***

Transferability refers to the effort to generalize the research outcome to the wider population by considering the empiric problems which rely on the same perception of contributor and acceptor. Thus, the researcher has responsible to provide the descriptive data properly. Relating to primary data, the collected data and information is defined by informants who are chosen carefully via estimation or judgment of researcher so that they represent all population and relevant with the research object.

c. ***Dependability***

Dependability refers to the accurate data supported by the evidences which are taken from the locus of the research. To get this thing, the research is completed by tracking the research activities which is documented via notes and collected archives from the research site.

d. ***Confirmability***

Comfirmability refers to the objectivity of the research based on ethics as a tradition of qualitative research. It can be achieved by auditing and examining all components, process and outcome of the research.

CHAPTER V

Framework and approach of Disaster Management Policy in Padang City

Disaster Management Policy in Padang city considers the understanding of hazards and disasters, their behavior, and the risks pose to the community as fundamental in achieving successful disaster management. Thus, the strategy for implementing the Padang Disaster Management Policy emphasizes an integrated approach to disaster management, as follows:

1. **Pre-disaster Phase**
2. **Disaster / Impact Phase**
3. **Post-disaster Phase**

In order to carry out the prescribed activities within this policy, the local government has defined operational framework for a set of agencies which play key roles in disaster management, as follows:

1. **Local disaster management board (BPBD)**
2. **Government Department**
3. **Non Governmental Organization (NGO) and Voluntary Agency**
4. **Public Sector**
5. **Private sectors**
6. **Community**

The implementation of frameworks base on the premise that disaster management is not a separate sector or discipline, but an approach to solve problems which facilitates disaster management, harnessing the skills and resources across stakeholders. Therefore, the key element of the policy

framework is to leverage the resources and capability of existing entities and build new capabilities, wherever necessary. While for most activities, BNPB provides the overall direction and guidance which keeps the focus of various entities on disaster management.

Approach and Framework

5.1 Pre-Disaster Phase – Prevention, Mitigation & Preparedness

The pre-disaster phase includes prevention, mitigation, and preparedness activities. These involve extensive data collection, maintaining directories of resources, developing action plans, capacity building, and training and leveraging community awareness activities, among others. Government departments, district administration, local authorities and other relevant agencies will develop plans for prevention and mitigation and will build capacity and ensure preparedness in the event of a disaster actually taking place. The private sector, NGOs and the community would actively co-operate with the relevant agencies and participate in training and other activities to strengthen disaster management capabilities. Local Government as the leading agency will develop linkages with other stakeholders such as lending agencies, Government departments, local authorities, NGOs, private sector and community groups, national and international agencies in order to share knowledge and strengthen capacity on a holistic basis, which will play a critical role in all subsequent phases.

A disaster is an event that suddenly disrupts the daily life of the people in the affected area that can result substantial number of injuries, loss of life, and social upheaval, leaving many homeless, helpless and hungry. Such situation usually aggravates the disruption of vital production, water, communications services and power supplies. An effective response can minimize degree of

suffering and social disruption. The effectiveness of the Padang's response to these consequences is depending on the degree of our preparedness of such events ahead. Therefore government has to invest anticipatory measures in enhancing emergency coping capacity.

Within the Padang Disaster Management system, the Disaster Management Center (DMC) – under the functional leadership of Padang Disaster Management Agency (PDMA) – has responsibility for emergency preparedness and response. Many agencies, Departments of Government, Non-Governmental organizations, service and community-based organizations and individuals would play key roles within the system. Preparedness is conducted under conditions of normalcy and the DMC is responsible and responsive to the guidance and direction provided by the PDMA. Cross sectoral and jurisdictional collaboration and cooperation together with centralized coordination characterize the preparedness phase. When a national emergency concern is anticipated or has occurred, the DMC mobilizes and adopts operational mode. Top-down Government direction together with centralized coordination and local execution characterize the response phase.

Hazard mitigation policy objectives draw on the Padang Local Government Regulation (Perda no 3 tahun 2008) focus on the achievement of sustainability. A sustainable development focus implies a commitment to a broader and more long-term development process. The emphasis has to be put on developing communities and building capabilities in order to reduce vulnerability. As for preparedness, this implies various essential aspects including creating expanded information base, providing up-to-date scientific information

and gathering local knowledge and expertise as well as involving all levels of the society.

Hazard mitigation defines as structural and non-structural measures taken to limit the adverse impact of natural hazards, environmental degradation and technological hazards. Implementation of hazard mitigation is inherently multi-sectoral. As mitigating the impacts of hazards means making choices with respect to development, it requires considerable inter-agency co-ordination, the involvement of the private sector and the cooperation and support of civil society. In the implementation of mitigation activities, agencies and residents will need to act collectively (in concert harus disertakan dengan with, mis, *in concert with* + *noun*) in identifying and utilizing integrated mechanisms to reduce potential damage to the built environment, make appropriate land use choices, protect the natural environment, implement building standards, adopt and enforce building codes, and to retrofit, repair and reconstruct existing development. Nevertheless, the Government recognizes that some of the other instruments such as the public work board, Environmental board, Fisheries Department and the City Planning Office could be rendered more effective by strengthening and enhancing the regulatory and enforcement regime.

Mitigation is a key element of natural hazard risk reduction, but it measures are hazard specific. Measures to mitigate potential Tsunami damage will be different to those needed for earthquakes or floods. Defining and selecting appropriate mitigation measures involves the collaboration of a multitude of individuals and agencies, where each of them only has part of the necessary knowledge set. All of this knowledge has to be put together and focused on

mitigation within a natural hazard risk reduction context, under the lead of the appropriate department or agency with responsibility for the particular hazard.

As a newly growing city, the ability to reduce and withstand the consequences of emergencies and disasters by natural and man-made hazard is in a great part determined by the collective resiliency of the communities. Not only Government institution and agencies involve in this case, all citizens must take part of the process individually and collectively through their community efforts. Community resilience is very important for their potential temporary isolation emergencies in Padang city. Private sector as part of social foundation in Disaster Risk Reduction must resistant to natural hazards. Living in a progressively complex and interdependent society not only give more benefits but also vulnerabilities. Failure in infrastructure system or economic sector can cascade to other sectors due to dependencies.

5.2 Impact Phase –Emergency Relief Measures and Relief

This phase includes all measures taken immediately after a disaster. Response's speed and efficiency in this phase crucially determine the loss of life and property. The ability of the Local Government in responding a disaster will develop during pre-disaster phase and at that time the many institutions involved will work together. The deployment of trained personnel, proper flow of information and speed of decision making are equally important. Search and Rescue (SAR) team, in conjunction with other relevant Government departments would carry out activities in this phase. PDMA will facilitate, co-ordinate and monitor the activities, wherever required. When PDMA believes that adequate relief is not being provided, it will entitle directly to Quick Response Team (QRT) or Sub District in taking requisite measures. The district administration headed by

the Mayor, in conjunction with local authorities, is responsible to carry out relief activities when the impact of a disaster is restricted within the geographical boundaries of a district. The SAR team shall coordinate and support relief activities of district administrations when a disaster has affected more than one district. For a clear chain of command in emergencies, the Local Government will provide SAR and DMC special powers to coordinate the activities of all Government authorities within their jurisdiction.

Phase III: Post-Disaster Phase – Reconstruction & Rehabilitation

The thrust of Government policy in this phase are to ensure a speedy return to normality and long-term mitigation consequences of the disaster. Government policy objective are focus on economic and social consequences of the disaster and directing efforts to improve the same, which carry out through the machinery of the state as well as with the aid of other stakeholders with whom long-term relationships have been developed in the pre-disaster phase.

CHAPTER VI

FIELD IMPLEMENTATION

Padang city had creates strategy and implementation framework of disaster management, but the implementation is still far from expectations. Indonesia's new decentralization policies provide a new setting and create complexity in disaster management. Despite recent efforts to strengthen regulation, structure, and organization of the National Coordinating Board for Disaster Management, significant gaps still exist at different levels of government considering policy, planning processes, mechanisms and procedures as well as legislation, institutions, organizations and budgeting which must be strengthened to ensure the effectiveness of disaster management at the regional level. The implementation of decentralization policy has significant influence to the response of different levels of government to disaster management

6.1 Relationship between Provincial and Local Government

Under decentralization policy, Provincial Government which has important roles and functions is responsible in coordinating across local government jurisdictions. Provincial Government is also responsible to provide guidance, assistance, direction, supervision, control, evaluation and reporting the implementation of local governance. The Provincial Governments believes that Law 22-1999 on regional government needs to be revised, since it does not clearly define the relationship between the Province and Local Government. It makes Governors difficult to coordinate with Local Government. The Provinces believe that the role of Governor as Central Government representative needs to

be emphasized and should be given necessary powers and authorities to carry out its functions effectively. This issue has affected the relationship between Provincial and Local Governments, including in the regional development planning process and mechanism. In some regions only a few Local Governments attend routine regional consultations for planning and development coordinated by the Provincial Governments. To some extent, this poses difficulty in disaster management, which requires effective coordination of Local Governments in responding to or planning for a disaster.

Decentralization policy results difficulty and complex task for disaster management. The fragmented setting of autonomous Local Government with highly decentralized decision making processes requires a new paradigm and different approach in disaster management. At national level, the institution assigned for disaster management must fully understand dynamic development of Local Government and able to formulate suitable approaches for disaster management in a decentralized environment. This phenomenon can be seen from research which had been done by the MPBI (Indonesia Disaster management society) "*The status of West Sumatra's earthquake (30 September 2009) is not clear and there is no specificity as provided for in Article 51 of Act No. 24 of 2007 about disaster management. Sofyan further explained this unclear status has implications that Emergency response command and responsibility are in two hands, of the Central Government and Local Government*" (MPBI: 27 Sept 2010).

According to Edward III (1980), disposition or attitude is another key factor that affects policy implementation. Most implementers can exercise considerable discretion in the implementation of policies because of either their independence

from their nominal superiors who formulate the policies or as a result of the complexity of the policy itself. It means if there is no clear disposition between Central government and Local Government, the implementation process will find difficulties especially when dealing with complex policies.

6.2 Link between levels of government

Current structures of Local Government administration, organization as well as personnel are still in the process of changing. Discretion given has caused vast difference between Local Government in organization, personnel and job description arrangements. Disaster management assigned to different organizations in Local Government and it caused difficulties in developing effective link, coordination and communication between levels of Governments in disaster management. The new regulations on Regional Organization limited to number of regional agencies and maintain the uniform echelon levels for local government positions irrespective of work load and level of responsibility. It has also not yet taken into consideration of key development issues in local development, including disaster mitigation and management that may require specific organization and governance. This phenomenon can be seen from what the West Sumatera Governor said about distribution of aid that had been said did have clear system. "*Responding to the slow distribution of aid to earthquake victims, Governor Gamawan Fauzi said that the provincial government's responsibility is completed after the aid distributed to the implementing disaster management coordination unit district / city*" (KOMPAS 12 October 2009) another evidence is show in Jakarta Post *"We don't see the weather as an excuse for slow aid distribution. The main reasons are weak coordination and the lack of*

alternatives for operations in the field during extreme weather," KLD coordinator Khalid Saifullah told"(Jakarta post 11/02/2010).

Most implementers can exercise considerable discretion in the implementation of policies because of either their independence from their nominal superiors who formulate the policies or as a result of the complexity of the policy itself.

6.3 Padang Disaster Management Agency roles and functions.

PDMA (Padang Disaster Management agency) is still at the early stage of its development; still in the process of consolidating role, functions and responsibilities. It showed effectiveness in coordinating sectoral agency actions during and post-disasters. However, still plays limited role in pre-disaster planning, programming, and management. PDMA has limited operational budget and currently its focus is on the preparation of information base system and national plan and strategy for disaster management. Based on Interview with Sub Sector Program chief in PDMA as follows:

> "Padang disaster Management Agency is formed based on Padang Mayor Decree (Perwako 18 tahun 2008) and officially exists in March 2009, only six month before the west Sumatra earthquake. We still in the early stage, the personnel are taken from the other institutions that have correlation with disaster" (DT, June 12th 2011)

This condition makes Disaster Mitigation Agency (BPPD) only as aid distribution agency, because it doesn't have a clear and specific duty yet. That is why the PDMA is look like losing orientation just like the Jakarta Post said: *"According to*

law, the BPBD is the lead institution for disaster response. Seven days have already passed and the institution should have been able to take command and not depend on other parties," said Khalid, who is Walhi's West Sumatra chief. (The Jakarta Post 12/02/2010).

5.4 **Staff Capacity for Disaster Management.**

Consultations held so far with Local Government and Non-Government Stakeholders found that the trainings are very limited. Most training available are related to operational procedures and action *during* disasters. Moreover, the trainings are primarily directed for local government officials. There is very limited training which empowers the roles and functions of non government stakeholders in disaster management. *"The lack of political will, combined with the lack of bureaucratic capacity to address emergency preparedness will only prove fatal. And with uncontrolled decentralization, the potential for more disasters should not be ignored. The central government needs to be more proactive in ensuring that local governments have adequate capacity and will to address this issue"* (The Jakarta Post 17/10/2009).

The lack of training process and no formal institution has capability to hold training and course related to disaster management may cause implementers's capacity gaps in field. So well understand about the community, local government plays an important role before, during and after disaster. Unfortunately, in general, local government is one of the most understudied institutions in the disaster literature (Wolensky and Wolensky, 1990). There have been very few comprehensive studies of the internal resource capabilities which explain capability as a key aspect of disaster management for central and local government, and also about the role of local government, particularly in a

developing country, even though many experts emphasize that local government plays a crucial role in disaster events. This is the major problem occurs in Padang Disaster Management Agency, concerning with capacity of the staff in PDMA, some of them are not the expert on disaster management. When being asked about their task and function they cannot explain their duty in this agency, some came from other institutions which have no relation to the disaster management sector. This phenomenon will affect the successfulness of implementation of disaster management policy.

Amit and Schoemaker (1993) refer to capabilities as an organization's capacity to deploy resources, usually in combination and using organizational processes, to affect a desired objective. This definition has two key features. First, capabilities are those attributes of an organization that enable it to exploit its resources in implementing strategies. Second, capability primary purpose is to enhance the productivity of other resources that an organization possesses.

In relation to disaster events, it is fundamental to identify the demands (dynamic and evolving conditions, role uncertainty, and situational constraints) which characterize the disaster response environment and to develop the management capabilities required to deal with disasters.

Training in disaster management is essential to get an effective response before, during, and after natural and man-made disasters. In such crisis situations, emergency knowledge, skills, and abilities are especially important for first responders to disasters at the international, national and state, or local level regardless of type or size of the disaster.

6.5 Coordination among the Main actors

All agencies involved in emergency relief and other disaster management activities have to operate within the framework laid down in this policy and other related laws, codes and government notifications in force and guidelines issued from time to time. All agencies at the State and District levels will inform the concerned officials before the commencement of any new activities and submit necessary reports requested for or published by the agency. It helps minimizing the overlap and duplication of efforts and improves coordination. Database of various agencies' activities will be developed and updated periodically.

The different levels of authority - local, provincial, national and international – must cooperate to complement each others' activities in order to ensure sustainable and equitable urban development (Badshah, 1996). These institutions possess power, experience and resources which should guide all aspects of decision making, leading to the execution of adequate mitigation measures against natural disasters for sustainable human settlements. For effective cooperation, different organizations should redefine and readjust their roles to establish adequate communication networks and warning systems; to disseminate existing and new knowledge; to help in effective technology transfer; and to mobilize adequate resources. Cooperation helps to promote research and innovative solutions; to provide the necessary legislative and institutional backup; and to develop education, training and evaluation techniques in the field of natural disaster (United Nations Conference on Environment and Development, 1993). It also helps the development of international databases on different areas related to disaster reduction, for example appropriate technology, low-cost infrastructure development and housing upgrading.

1. Local Authorities

Local authorities have crucial role in improving the conditions of human settlements in order to mitigate the effects of natural disaster. They have direct contacts with people and responsible for the application of general policies decided by central governments, and for the implementation of infrastructure and development projects. In addition, these authorities compete for national resources and can, to a certain extent, re-shape the general policies decided at the central government level. These institutions possess power which is crucial in turning policies into actions within the framework of sustainable urban settlements. Local policies, planning and regulations can be effective tools in guiding the interaction between the human-use system and the natural-events system, in promoting grass-root approaches and community development, and in providing legislative support in term of regulations and standards, as well as facilitating access to resources. In fact, inadequately roles between local and national levels can have serious implications.

Local authorities should promote education, public awareness and training at the community level, focus on incremental infrastructure upgrading and improve building construction, production of building materials and construction methods, traditional techniques, development of group-oriented activities, and dissemination of information and knowledge. These activities should base on a clear understanding of people's social and cultural conditions in order to capitalize on the existing social coping mechanisms, and to maximize resources usage.

Authorities should enhance legislative systems through their institutional policies for human settlements, which can be achieved by: promoting cooperation and reducing bureaucracy between different departments involved; reviewing

staffing, skills and budgeting; developing training programs for employees; and evolving simpler and more precise rules for administrative procedures, including supervision of policy implementation and project accountability. They also should encourage institutional innovations to integrate natural disaster mitigation measures into the planning process of settlements. All of this could be achieved by reviewing standards, zoning and land-use plans by assessing potential hazards and providing relevant information at city level, preparing local emergency and preparedness plans, and focus on research and documentation in the area of natural disaster.

2. Provincial Level

To maximize the efforts in facing natural disaster there should be a linkage between local and provincial levels by establishing channels for cooperation between the different local authorities who can develop local knowledge and experience, staff training and legislative innovations. In fact, the impacts of natural disasters are not to the damaged areas; they have serious and immediate implications at a provincial level. These implications include the draining of regional resources for relief and emergency measures, people's displacement to other areas and the increased demand for housing in safer surrounding areas, and disruption of regional socioeconomic conditions as a result of the crisis in a certain locality. This is what Smith (1992, pp. 29–30) refers to as a "disaster impact pyramid", spreading from the immediate hazard zone to reach the world, or what Hewitt (1997, 54) calls the "geographical-ness of disaster", recognizing the wider and intangible effects. The enhancement of coordination and integration through provincial multidisciplinary committees is beneficial in two ways. First, cooperation ensures the saving of resources and the

reduction of duplication of efforts, as well as encouraging planning within sustainable regional development parameters. Most local data and information need to be viewed within the frame of the regional level in order to assess the source, scale and characteristics of geological and hydrological hazards. Also, warning, emergency and relief systems could be developed at the regional level through improved communications and dissemination of information. Second, sub-national committees could play the important intermediate role needed to interpret national policies and programs to local authorities and to aggregate and articulate local and sub-national issues at national level.

3. National Level

The state bears the primary responsibility to protect its people and natural environments, from destruction caused by natural disaster. Major plays role to provide the right conditions to enhance the performance of regional and local authorities. One of the most common problems in developing countries is the centralized systems, which make it impossible for the decision makers to be closer to communities because of spatial and socioeconomic distance. Moreover, centralization of power has a spatial dimension in focusing development and resources in the capital, often at the expense of development in other areas. Therefore comprehensive decentralization of decision making to sub-national and local levels would widely enhance local initiatives, maximize the use of resources, respond to the real needs of the people, and build appropriate systems for defining responsibilities and accountability in the administrative system. Planning for the mitigation of natural disasters is an open-ended process. It should be integrated within the general planning process of human settlements in order to ensure continuity between mitigation and sustainable human settlements which

should also be seen as a part of the national decentralization process. Therefore, the state should be expected to: (1). Enhance technical assistance for regional and local institutions; (2) Provide training for technicians, professionals and administrators; (3). Distribute resources fairly and (4). Develop plans which respond to the real problems of housing associated with poverty and rapid urbanization. The state should also create enabling policies, which deal with regulatory mechanisms, administrative readjustments, economic incentives, and the dissemination of knowledge and information campaigns. Furthermore, the state should perform its role in guiding outside interventions, including resources, technology transfer and cooperation at the international level.

4. International Level

The inter-linkages between nations through economic, political and humanitarian concerns, and the shared ecosystems, make natural disasters become a matter of international interest. In fact, the global importance of the mitigation of natural disasters was clearly manifested in the declaration of the 1990s as the International Decade for Natural Disaster Reduction (IDNDR), forging links between the political, scientific and technological communities. Initiatives such as RADIUS (Risk Assessment Tools for Diagnosis of Urban Areas Against Seismic Disasters) for urban seismic assessment and the El-Nino inter-agency preventive approach aimed at reducing the loss of life, property damage and social and economic disruption caused by natural disasters (*Natural Hazards Observer*, 1998). The gravity of the matter and the necessity of international cooperation encouraged the UN to establish a successor body named the International Agency for Disaster Reduction (ISDR) to carry on the decade's work

(*Natural Hazards Observer*, 2000). Its mission is to influence the decision-making process and to increase communities' resilience to disaster and to promote a culture of prevention within a sustainable development framework, especially in the case of developing countries (*Natural Hazards Observer*, 2000). In the same vein, the World Bank launched a consortium to provide a global partnership for reducing the risk of natural and technological disasters (*Natural Hazards Observer*, 2000, p. 3).

On a regional scale, both La Red in Central America and the Asian Disaster Centre in Asia and the Pacific work to promote disaster awareness and the development of local capacity building, and to foster institutionalized disaster management and mitigation policies. International experience in the field of disaster reduction can no longer continue to be ignored. However, international technical and financial assistance can only be supportive to national initiatives, which have major responsibilities in reducing the vulnerability of human settlements. International agencies have roles to assist countries in building mitigation programs by applying existing knowledge, taking careful consideration of socioeconomic and cultural diversity among nations through various channels of cooperation, such as comprehensive technology transfer, exchange of know-how and mobilization of resources. International agencies can also focus their efforts on promoting research into different aspects of natural disaster, on disseminating existing and new information, and on establishing international database and information systems. Other areas of cooperation could be in fostering scientific and engineering endeavors for the mitigation of natural disasters, including data analysis, risk assessment and warning systems. These international agencies can also develop education, training and evaluation

programs for policy makers and professionals in the field of natural disaster mitigation (Scott, 1992, 221).

From the discussion above we can see that coordination among the level of government is a must. However in real situation there are some problems in their realization. Since the autonomous policy being implemented in Indonesia, many head of regency / city fell that they do not have responsibility to the governor. In the other hand the disaster management act still not clear in mentioning who will be responsible when a disaster called as a national disaster, whether local government or central government, whether Local Disaster management Agency or National Disaster Management Agency who will become the leading sector. This condition worsens by the condition that every institution that involving in the disaster management have their own procedural or standard operational procedure (SOP).

Nowadays NGO and PDMA try to socialize one Standard Operational Procedure (SOP) for all institution related to the disaster management, however lack of capability from PDMA staff need assessment from other institution.

CHAPTER VII

KEY PROGRAMS IN IMPLEMENTING DISASTER MANAGEMENT POLICY

There is a growing trend taking place in Asia: the shift from a top-down to a bottom-up approach. This is due to, on one hand, communities taking a much stronger role in disaster management to reduce risk. And on the other hand, the aid and development agencies are finding new approaches to disaster management that attempt to merge the disaster reduction strategies defined by policymakers with the needs and resources of the local community, where eventually the success and failure of disaster management activities will be tested.

7.1 Early Warning System

According to UNISDR, Early Warning is the provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response. In other words, Early Warning can be defined as the set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss. Early Warning Systems include a chain of concerns, namely: understanding and mapping the hazard; monitoring and forecasting impending events; processing and disseminating understandable warnings to political authorities and the population, and undertaking appropriate and timely actions in response to the warnings. The term “chain”, however, can be misleading as it implies a sequence in time of different actions. Given the findings

of this study, it might be appropriate to discuss about a concept that captures the concomitance of the different elements of EW; this could be a subject for review with the stakeholders at the workshop.

Based on Mayoral Decree (PERWAKO No 14 tahun 2010) a complete and effective early warning system comprises four elements, spanning knowledge of the risks faced through to preparedness to act on early warning. Failure in any one part can mean failure of the whole system. The “four elements of effective early warning systems”, the Early Warning Chain, include the development and operation of early warning systems in regard to: (a) knowledge of risks; (b) monitoring and warning services; (c) warning dissemination and communication; and (d) emergency response.

These four elements of an Early Warning System imply that early warning is based on the assessment of risk and vulnerability. Moreover, early warning should be communicated appropriately and ensure response capability of the people at risk, taking into account short and long-term measures.

Figure 8.1: Early Warning system (Tsunami Buoy and Siren)

Sources :GITEWS

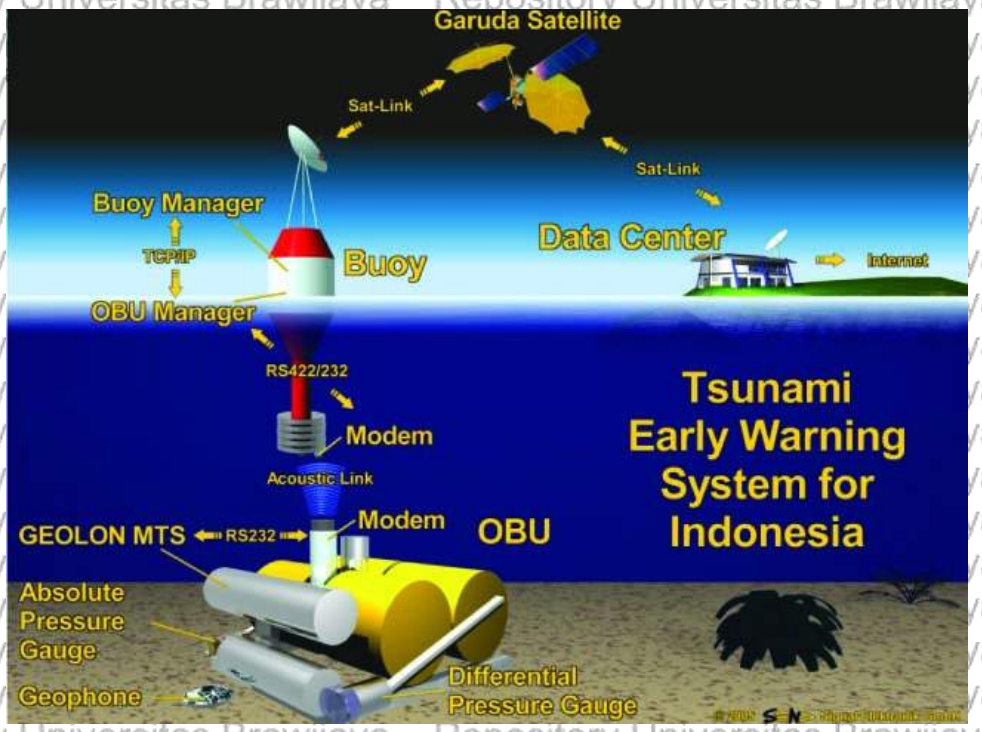
In the context of tsunami early warning in Padang, the vulnerability of the people is created by their unequal access to information, either due to limited access to the private and public warning dissemination media or lack of capability on how to interpret the strong earthquake events beside the various, sometimes unclear information they receive. This is combined with the awareness and knowledge background they have about tsunamis and what they have to do, and their perception towards it.

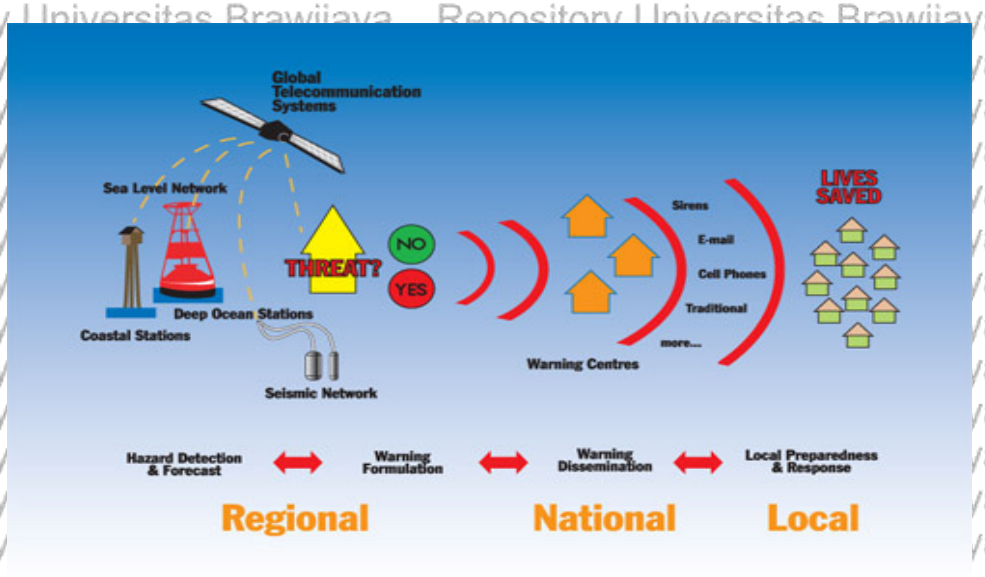
Establishment of an early warning entails development of effective risk communication, where the people become aware and clear about the danger they face and what they need to do. However, preparedness at the community level cannot stand alone and should be supported by long-term measures, like in this case, appropriate evacuation infrastructures, such as evacuation shelters, sufficient evacuation roads, and in the long-term, control of urban activities in potentially affected areas. This means that an early warning should not be seen as relevant for solely emergency response, involving actors in community preparedness, but also the urban planning actors who should bear the task of necessary long-term intervention. It is therefore important to involve stakeholders

related to urban planning and coastal management in the process of establishment of an early warning.

Further, vulnerability assessment is crucial as part of an early warning system and should enable the support of long-term infrastructures and planning for disaster risk reduction. The implementation of early warning cannot be seen as the final goal of an early warning; rather, it as a trigger long-term action for disaster risk reduction in wider sense.

Figure 8.2: Tsunami Early Warning system





Source: GITEWS

Scheme for Early Warning System in Padang City

INFORMATION	Society Reaction
Minor Earthquake: All earthquake with intensity < VII MM	1. Save yourself and other from earthquake 2. Keep away from beach and river 3. Pro active in finding official information
Mayor Earthquake: Last for ~ 1 minute, people can stand well, main building structural damage	1. Save yourself and other from earthquake 2. Evacuate to a safer place with 5 FSL 3. Pro active in finding official information

BMKG Information, Disaster Management center receive information whether this earthquake will have Tsunami potential or not

SOP Decision Making

- Back to daily activity
- Keep away from coastal area and river
- Evacuate to a safer place
- Keep away from coastal area and river until next instruction or keep doing evacuation and stay until next instruction received
- Back to their house and keep alert for recurrent earthquake
- Stay in evacuation site, report to official in charge. Wait for the next information and instruction until it allowed to back home

7.2 Community Based Disaster Management

Most of disaster response can be characterized as command and control structure one that is top down and with logistic centre approach. Because of this, we observe, lack of community participation that results into failures in meeting the appropriate and vital humanitarian needs, unnecessary increase in requirement for external resources, and general dissatisfaction over performance despite the use of exceptional management measures.

Recognizing these limitations, the Community Based Disaster Management (CBDM) approach promotes a bottom-up approach working in harmony with the top - down approach, to address the challenges and difficulties. In case of disasters, community levels lose more because directly hit by disasters, whether major or minor and the first one who become vulnerable to the effects of such hazardous events. On the other hand, if they can reduce the impact of disasters on their community, they have the most benefit. This concept gave rise to the idea of community-based disaster management where communities are put at the forefront.

Through the CBDM, the people's capacity to respond to emergencies is increased by providing them more access and control over resources and basic social services. Using a community-based approach to manage disasters certainly has its advantages. Through CBDM, communities will be strengthened and enable them to undertake any development program including disaster preparedness and mitigation. By this approach local community can evaluate their own situation based on their own experiences initially and they not only become part of creating plans and decisions, but also become a major player in its implementation.

Although the community has greater roles in the decision-making and implementation processes, CBDM does not ignore the importance of scientific and objective risk assessment and planning. The CBDM approach acknowledges that as many stakeholders as needed should be involved in the process, with the end goal to achieve capacities and transfer resources to the community, which level who would assume the biggest responsibility in disaster reduction.

Community-based disaster management can be seen as risk reduction programs designed primarily by and for the people in certain disaster-prone areas. Disaster mitigation by government and institutional interventions only is insufficient because they pay little attention to address community dynamics, perceptions, or priorities. At the same time, local communities are often unaware of these formal disaster management interventions or they find the interventions inappropriate due to the lack of recognition of community's vulnerabilities and capacities, or their lack of external resources or technical support to supplement their own initiatives and capacity. Involvement of communities is important in both pre-disaster mitigation and post-disaster response and recovery process.

Just as every individual, family, organization, business, and public service within a community will be affected by a disaster; each has a role in managing disaster. Practically the multitude actions must be taken to implement an effective disaster management program which requires participation of the entire community. Other reason for implementing community-based approaches is that communities are know about the disasters happening in their environment and in some cases able to anticipate it. More experience and indigenous knowledge is a resource to be recognized and need to be tapped and developed. In many cases, we learn that with proper training and information the communities are able to

safeguard and minimize the disaster risks. It is essential to strengthen local capacities to assess risks and develop mitigation strategies based on the communities' human, financial, information and material resources.

Figure 8.3: Community Based Disaster Management Course

Sources: Kominfo Kota Padang

Over the last two decades there has been a growing realization that disaster management is most effective at the community level where specific local needs, resources, and capacities are met. It is at the local level that the physical, economic, and social risks faced by the poor can be adequately assessed and managed. Some initiatives in this direction have come up in recent years. For the last four years, the Asian Disaster Preparedness Center (ADPC) has been holding regional and national training program on "community-based approaches to disaster management". In the coming years this training activity

will be transferred to national, provincial, and local levels in partnership with national and local organization.

In Padang City, this program was initiated by NGO's, Mercy Corp as a organization that concern with disaster management in Padang launch this Program in 2010. They created a pilot project with other Local NGO which is KOGAMI (Tsunami alert community) in four sub district along the coastal area in Padang city. This program are aim to increase the capability of the society along the coastal area, which are having a higher risk to tsunami disaster. The key expected outcomes are:

- Strengthened capacities and mechanisms for disaster risk reduction at the community levels by assessing community preparedness measures in coastal zones and supporting the strengthening and development of community tools and methods for effective disaster risk reduction.
- Strengthened community resilience – especially in coastal zones – through integrated disaster risk reduction and the establishment of effective chain of communication between the community and local authorities as well as facilitating the integration of disaster risk reduction into post tsunami recovery projects at the community level.

As a Non Governmental Organization that concern with disaster management process in Padang city, we established 4 (four) Disaster Alert Community (KSB) as a pilot Project along the coastal area in Padang. These communities are being prepared and given such training how to react when disaster happen. These communities are located in Parupuk Tabing, Air Tawar, Rimbo Kaluang and Bungus Teluk kabung. We provided this community with knowledge how to encourage other people and transfers their knowledge to other people (interview with Mercy corp activist 06/18/2011),

In the early of 2011 Padang Disaster Management Agency (PDMA) initiate to established Community Based Disaster Management which call by KSB

(Komunitas Siaga Bencana) in 54 sub district in Padang. However the KSB established by PDMA are still not received any training yet due to the limitation of budgeting. PDMA hope that NGO's will provide this newly established group will provided with knowledge on disaster management. "*We do hope that NGO and Governmental agency will cooperate together in transferring knowledge about disaster management. We have limitation due to budgeting and human resources"* (interview with PDMA officer 06/17/2011). This is an evidence that beside lack of human resources, PDMA also have limitation in financial. Good relation among all stock holders in Padang is a key element in successful implementation disaster management policy.

7.3 Build Back better (earthquake resistant house) Campaign

Padang was one of the hardest areas hit by the September 30th 2009 earthquake. This area extremely needs shelters and sustenance needs as the burden on the local community. People here were struggling to deal with trauma, and feared that concrete buildings were unsafe. Many local people contributed to help their area and community members recover. Such as Novi, a presenter at the local radio station in Padang, Arbes FM Radio, as well as a IDEP activist who was directly involved in establishing temporary shelter and providing emergency assistance to affected communities in several areas of Padang.

"*This Buil Back Better (Rumah Aman Gempa) campaign is very important for our people. Before this campaign was launched people would blame the earthquake for all the problems they faced; for the sufferings and the losses that happened. But now they are starting to understand that the buildings themselves are major factors in how much damage and*

sufferings happen, that is if they collapse or not. "It is not the earthquake but the building" were the theme of this campaign (interview with Novi, IDEP activist 06/12/2011)

Figure 5.4: Alternative Material for Earthquake Resistant House

Source: AIFDR (2010)

Over 90% of people killed during earthquakes died because of buildings collapsed. The safe construction of houses, schools, hospitals and other buildings is critical to make communities safer from all natural disasters, especially earthquakes. Following the West Sumatra earthquake, the Australia-Indonesia Facility for Disaster Reduction worked with Padang disaster Management Agency (PDMA), the Yayasan Indonesian Development of Education and Permaculture Foundation (IDEP), the Government of West Sumatra, and Andalas University to develop a video on safer building techniques for homes. The video was promoted through television and radio advertisements, as well as billboards and signs on buses.

Then the Australia-Indonesia Facility for Disaster Reduction funded a team of more than 70 Indonesian and international engineers to have a research

why many buildings were destroyed while others stayed standing. They surveyed more than 4,000 buildings and found many of the houses that were destroyed used basic earthquake-safe building practices.

Figure 5.5: Build Back Better Campaign image

"So our main message to the public has been 'It's really not the earthquakes we should be worried about, but how but how much attention we pay to our building constructions" (interview with Novi, IDEP activist 06/12/2011).

Through media, the *Build Back Better* campaign tells people where they can get information on how to build better; for example, small modifications such as slightly thicker steel and better foundations can make an enormous difference to the safety of a building.

7.4 Evacuation Planning

When the ground shook on that late Wednesday afternoon at about 5:16, people in Padang knew this earthquake was stronger than any other tremor they had experienced before. The shaking lasted for more than a minute, many buildings collapsed immediately and burying hundreds who could not find their way out. Not able to stand, those already outside got down on the ground and waited for the shaking to end. Power was out almost immediately, followed by the failure of cellular networks when people tried to reach their relatives and friends. Within a minute Padang descended into chaos.

After the shake stopped, the streets of Padang filled with people in shock and panic. Many immediately took their motorbikes or cars, or hurried through the streets on foot to look for their families. At the same time there was another thought: the fear that the earthquake had caused a tsunami that would already be heading towards the coast.

Appropriate community reaction to an imminent tsunami threat is a matter of awareness of the hazard, understanding of evacuation procedures, capability to evacuate and efficiency of and knowledge about the local warning system. In West Sumatra, and especially in the populous city of Padang, where estimated wave arrival times of local tsunami waves are short, immediate reaction to ground shaking is a key to save lives.

Figure 8.5: Community reaction after Earthquake

Source: Kominfo Kota Padang

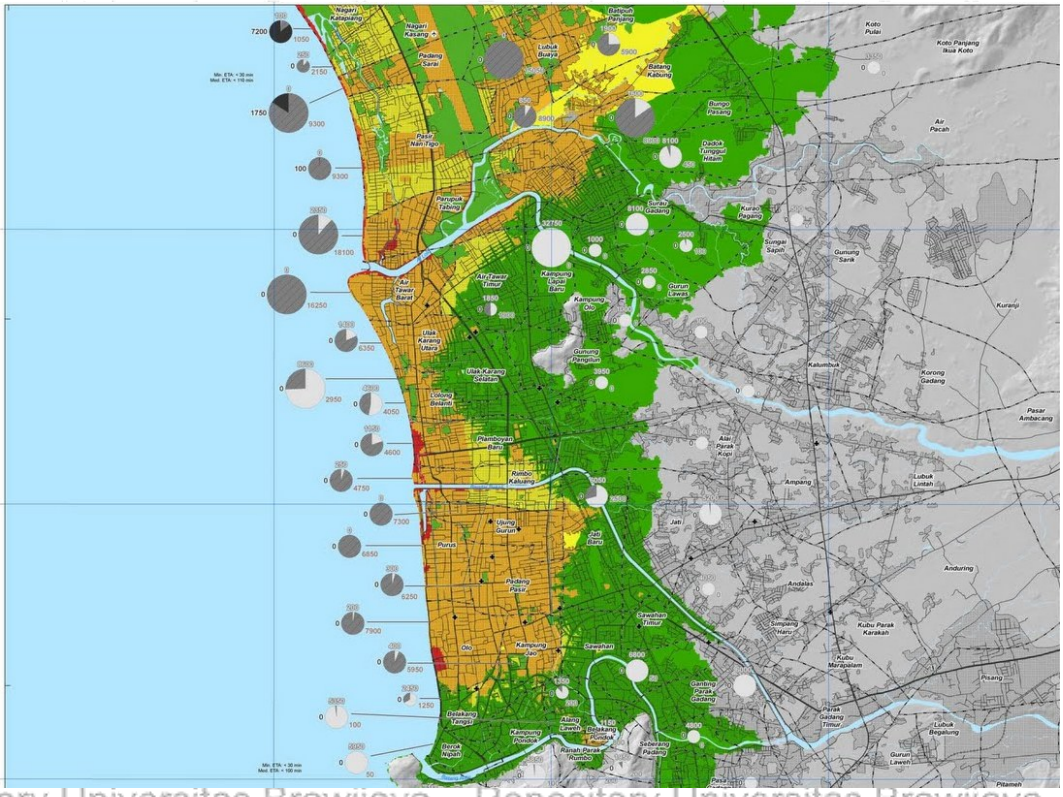
People were scared and in panic. They mainly escaped on motorbikes and in cars. There was massive traffic congestion. Many accidents occurred. The designated evacuation routes were not sufficient to channel the masses. For some people, the congested roads were a reason not to evacuate. In none of the interviews, the possibility of vertical evacuation, i.e. to high buildings, was mentioned. Apparently, people do not consider vertical evacuation an option. Evacuation proceeded only as a horizontal movement away from the coast and direction inland to the safer places or evacuation site provided before. The fact that people were headed towards the sea, while others were on their way inland created even more difficulties for evacuation and increased the chaos. In some areas, these traffic conditions continued up until about 3-4 hours after the earthquake.

Figure 8.6: Traffic Jam (After the Earthquake)

Source: Kominfo kota Padang

Based on that experience, Mercy Corp and local government provided the society with the evacuation plan including information on the evacuation scheme, access to information and procedures. The official evacuation plan (and map) for the city can serve as a reference for evacuation-planning activities at neighborhood level that will help the people at risk of a future tsunami event to know where they get information from and to determine where to go to in case of emergency.

Figure 8.7: Evacuation Route



Evacuation Map of Padang City

Source: *GITEWS Project*.

Evacuation of people in risk areas is the first priority once a tsunami early warning is received and/or natural warning signs indicate the possibility of tsunami. As the available time span between a warning and the impact of tsunami waves in Indonesia is generally very short, all necessary preparations need to be made in advance to ensure evacuation for as many people as possible.

The primary objective of tsunami evacuation plan is to get as many people as possible out of the reach of the waves to a “safe” or “relatively safe” area. “Relatively safe” areas are not necessarily located outside the inundation area and are unlikely to take the form of a single, central “temporary shelter

area"; rather, they will be multiple locations (such as higher floors in buildings or land elevations), close enough to be reached in a short time. Contingency plans should foresee the need for additional temporary shelter areas to accommodate people and provide for their basic needs, including first aid, during a tsunami event, which usually lasts for several hours.

Evacuation planning for future tsunami creates a momentum that can be used to educate people about tsunami risk as well as natural warning signs and early warning messages. Planning sessions can also be used to agree on local roles and responsibilities, e.g. with regard to warn dissemination in urban neighborhoods or villages. Again, the planning process requires participation of all stakeholders, in particular community representatives – since planning for future tsunamis means planning for those at risk.

CHAPTER VIII

Constraining Factors in Disaster Management

8.1 Culture

The Minangkabau (West Sumatran) people tend to wait for proof of value before following suit when it comes to change or innovation. They are wary of unproven ideas or what they consider to be hearsay. They are highly intelligent, somewhat critical people, and here, "*Cimeeh*" or 'stubbornness or challenging' is a common personality characteristic.

This local practice of 'challenging' stimulates debate and encourages people to seek more insight, or to gain deeper understanding about questions at hand. For people in remote areas of West Sumatra accepting new information is not easily done. They are however enthusiastic readers, and appreciate access to new ideas for consideration.

So how does a public awareness campaign successfully roll out in remote areas of West Sumatra where "*Cimeeh*" is still very much part of the culture of society? Here, changes in understanding arise gradually, public adoption of new ideas and practices emerge slowly, as people try and test new theories. If enough people consider and agree to try new ideas and the results are proven in practice, awareness and behavior can begin to change.

8.2 Lack of Capacity

In building local resilience to disasters, the role of local government is crucial. Indonesian law requires provincial and district administrations to be at the forefront of disaster management. While the National Agency for Disaster

Management (BNPB) and military provide backup when requested. However, nationally-formulated policies have not created systemic changes at local levels, there seems to be a strong sense of dependency on the national government to provide the necessary support, where the local government lacks capacity and resources.

Apparently many local governments are reluctant to use their budgets for disaster management. This may place a strain on resources at the national level, especially for responses when multiple disasters in different provinces occur simultaneously. Local communities need to become less dependent on the national government for assistance and local governments also need to allocate larger portion of their budget for disaster management. Building local capacity is vital and thereby ensures more effective responses to disasters. Indonesia's risk to multi-hazard disasters is increasing. Therefore, Indonesia must improve its capacity for recovery, rehabilitation and reconstruction from current disasters in order to mitigate future risks.

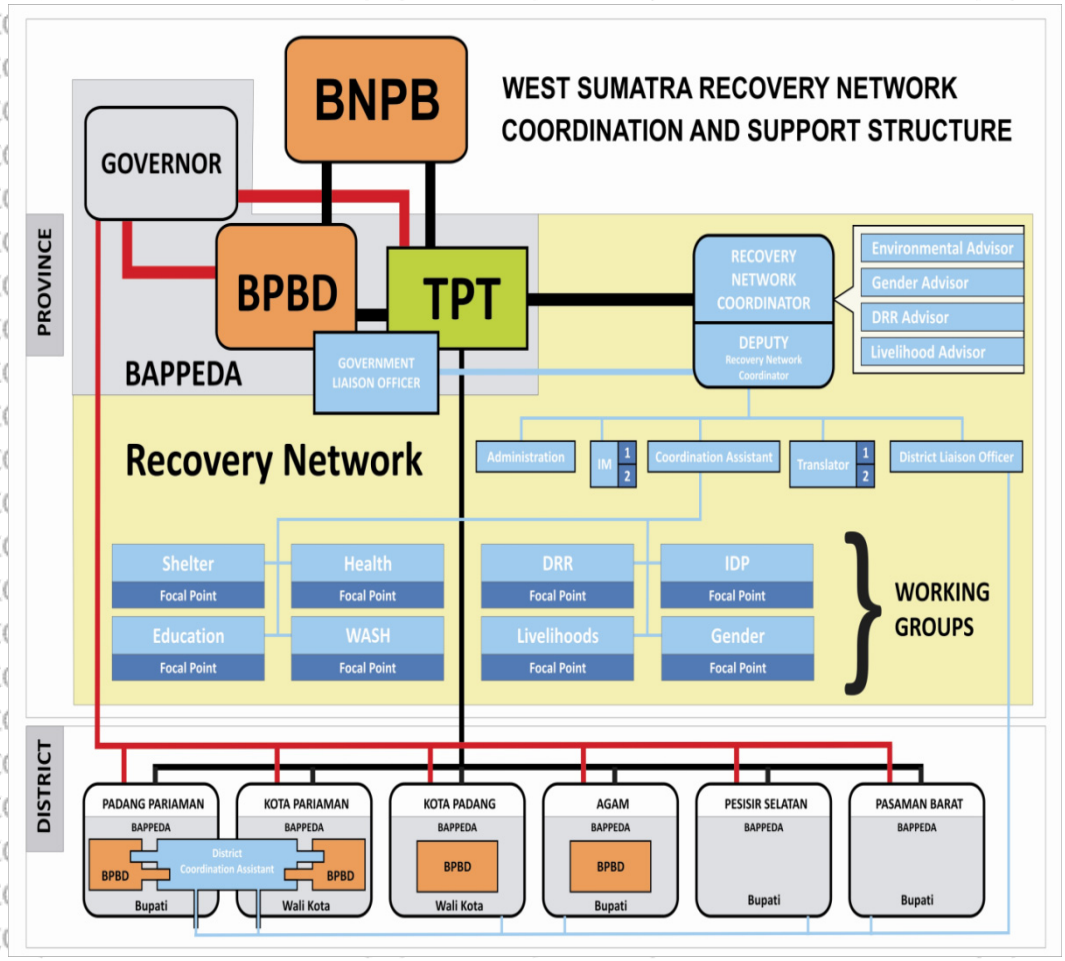
In PDMA's yearly activity plan, there is no kind of training to improve their capability on disaster management even though admitting that their human resources need to be improved.

On factors which responsible for the poor performance of the institutions on their statutory responsibilities, indicated that the institutions facing challenges of inadequate funding, lack of adequate human resources, operational equipments and as well as absence of appropriate legislations and harmonized national emergency systems in the city. These create communication and collaboration barriers among disaster managers, policy makers and urban development experts, and

furthermore weakened the capacity of public institutions to formulate and implement appropriate vulnerability reduction policies and programs in line with the development needs.

Padang Disaster Management Agency (PDMA) recently established with limited staff and institutional capacity. The staffs are those who previously worked in other government agencies and have no experience in managing disasters, including but not limited to, coordinating other government agencies and other stakeholders (NGOS, community and private sector) in emergency response and disaster rehabilitation or preparedness efforts. In one hand they have authority and in charge to coordinate implementation of planned, coordinated, and comprehensive disaster management activity, as stipulated in Article 20 by Law 24/2007. But, in other hand they have limited capacity. While the staff limitation is shown by minimum experience in disaster management, institutional capacity limitation is reflected by the absence of chart of accounts for disaster management, emergency, and preparedness for PDMA in the local budget. The limited funding has resulted in the limited institutional capacity of PDMA.

Figure 9.1 Framework of Early Recovery Network



Source: Humanitarian/Resident Coordinator (UN RC/HC)

8.3 Lack of Coordination

The lack of data and valid information from the 2007 earthquake response facing by Disaster Management Agency Padang has limited their capacity and energy to handle the early recovery process of beneficiaries affected by 2009 earthquake. In other words, there are a lot of 'home works' from previous disaster to catch up, while new 'home works' from recent disaster continues to pile up. Additionally, social dynamic among people caused by the recent local elections drained attention and resources of all stakeholders, including Padang Disaster Management Agency (PDMA.

District BPBD still busy accomplishing home work from previous disasters, NGOs and private sector are running their own early recovery projects without sufficient supervision and coordination from the BPBD. And as result, overlaps happened. One of them between PDMA Indonesia and Cordaid in Sungai Asam Sub District, though the case has been resolved by Shelter Cluster Coordination at provincial level at that time, it would have been much more efficient if the case was solved at respective district level. Cluster and/or working group system function to accompany district-based coordination mechanism, its role and mechanism is not the substitute of district coordination. Therefore, Local Disaster management Agency have to show leadership and utilize network and knowledge of cluster /working group system, while they are still in existence, to run coordination mechanisms at district level. This is where disaster management coordination workshop took place to build Local Disaster Management Agency capacity.

Sustainability of facilities built by NGOs and Private Sector fully rely on community and government capacity to maintain the facility. Since there is information gaps from/to NGOs and government agencies, due to lack of monitoring and information flow mechanism, facility maintenance cost not included in the government planning and budgeting for the next fiscal year. And without proper maintenance, facilities built will not sustainable. To fill the gaps, there should be good coordination, with sound knowledge on government development planning and budgeting system.

8.4 Lack of Political Will

Political and public service is largely about power and control of access over resources. Nevertheless, it would be cynical to say that ethical norms are irrelevant. Disaster Management is something that good leaders *should do* because *it is the right thing to do*. It is defined as part of 'good governance' and, there is a legally binding 'duty to protect' articulated by international human rights agreements.

The major challenge to implement disaster management policy is the establishment of clear institutional arrangements and capacities at national and local levels which support the development of public and institutional response capability at the local level. Due to lack of information and national guidance, most local actors have limited understanding about Disaster Management, and often show little political will and priority to engage in implementation of disaster management. The often-limited capacity of local governments contrast with strong engagement of NGO that have played roles as 'quasi-parliamentary', where they have been the drafters for local Disaster Management regulations, training local governments and local politicians to draft good Disaster Management regulations and as facilitators for Disaster Management knowledge at the local level.

In general, adequate public service delivery remains a challenge in Padang, Disaster Management are often perceived as added burdens without adequate additional resource allocation. Their priority lessen because of other issues, such as poverty reduction and overall development, are perceive as more important than putting a huge effort into preparedness for "waves" that might not occur in the near future.

Well-developed governance and institutional arrangements are the foundations upon which the four elements of early warning – risk knowledge, technical monitoring and warning service, dissemination and communication of warnings, response capability and preparedness to act by authorities and by those at risk (IFRC, 2009) – are built, strengthened and maintained. Effective governance that provides, a legal and regulatory framework and is supported by long-term political commitment, leadership and effective institutional arrangements, determines the sustainability of disaster management.

Reducing the impacts and consequences of disaster is a core aim of emergency management agencies; but it usually interpreted in multiple ways and pursued through locally specific political, administrative and legal institutions, consistent with the priorities of these institutions. Priorities may include commercialization of services; development rather than hazard management; aid intended to buy political influence rather than to assist victims.

CHAPTER IX

Conclusion and Suggestion

9.1 Conclusion

This study has elicited the capability requirement for local government in managing disasters. Learning from the many experiences from developing countries in their management of natural disasters, local government and the community must face the unexpected and the worst possible situation together. Local government learned that education, socialization and escape structures, warning systems, and wave-resistant structures are important factors in making people safer from future disasters.

From this analysis, it is important for local government to broaden issues about preparedness rather than only immediate responses to the disaster. The physical and economic vulnerability of the community in disaster areas need to be adequately taken into consideration. Because the lack of disaster management capability, local government bodies have been forced into making decisions based on piecemeal information that may be inaccurate and incomplete. Coordination and collaboration between all levels of government play an essential function is a real issue, because these will assist in saving lives. Local government bodies have limited resources and expertise, while other levels of government, organizations or agencies may have adequate resources.

In implementing disaster management policy there are several major constraining factors which are, Culture, West Sumatran tend to wait for proof of value before following suit when it comes to change or innovation; Lack of Capacity, The staffs of Padang Disaster Management Agency are those who previously worked in other government agencies and have no experience in

managing disasters; Lack of Coordination, there is information gaps from/to NGOs and government agencies, due to lack of monitoring and information flow mechanism; Lack of Political Will, the limited capacity of local government leader in disaster management makes it difficult for local authorities to play their role in disaster risk reduction.

9.2 Suggestions

9.2.1 Practical Suggestion

The development of local response capability must work at same level with commitment and investment provide to the development of the technological components in order to make the system effective. We need to develop human capacities at all levels to increase the institutional response capability at the local level. It is essential to build a common understanding of the system and to encourage all actors to accept and play their respective roles, the provision of sufficient funding, adequate capacity development and instructive guidelines. Developing these guidelines is a multi-stakeholder task. Only a joint learning process can lead to a tailor-made warning chain and public outreach strategies that really address the needs of the community at risk. Results and experiences from this learning process must be systematized and documented. It becomes the responsibilities of implementing agencies to set up several strategies in disaster mitigation and management that aim to reduce disasters and their impacts on people, property, agriculture, economic well-being, environment, and equitable and sustainable development.

Among the key practical action should be done are; (1). Sectoral and regional planning should incorporate disaster management, as it is not a priority

in the current national planning instrument. (2). Appropriate legislation should be drafted that provides financial resources for disaster preparedness and mitigation. Presently, parliamentarians endorse the development budget (3). Need for clear roles and responsibilities between agencies (4). Disaster management is still government driven. More community based initiatives are needed. (5). Committed and capable personnel, supported with well-equipped facility for coordination at every phase of the disaster management cycle.

9.2.2 Theoretical Suggestion

A top-down approach in viewing disaster management tends to overlook local resources that may have potential to build a disaster prevention or recovery program. But in some cases, this kind of approach also increases the vulnerability of local people to disaster risks. Such gaps in disaster management efforts serve as lessons in creating a new and better approach. After evaluating several possibilities and experiences in the field we concluded that a new risk management program must have more opportunities to involve local people or Bottom up approach. In creating bigger roles for the people, the new approach shall be community-based and focus to encourage and invite more active participation from members of the community to propose ideas in the planning, implementation, and evaluation of the program. Stakeholders at various levels, including the government, will work in a single, coordinated effort.

To be effective, government must support local communities to analyze their hazardous conditions, vulnerabilities and capacities as they see themselves. This concept gave rise to the idea of community-based disaster management where communities are put at the forefront.

REFERENCES

_____ 1999. Outcome of the RADIUS Initiative. RADIUS (Risk Assessment Tools for Diagnosis of Urban Areas Against Seismic Disasters).

_____. 2006. *Encyclopedia of Disaster Management, Vol. 2: Managements of Natural Disasters*. New Delhi. Deep & Deep Publication PVT. LTD.

Amit, R. and Schoemaker, P.J.H. (1993), "*Strategic assets and organizational rent*", Strategic Management Journal, Vol. 14 No. 1,

Awotona, Adenrele (ed). (1997). *Reconstruction After Disaster: Issues and Practices*. Aldershot: Ashgate.

BAPPENAS (Badan Perencanaan Pembangunan Nasional) and Bakornas PB (Badan Koordinasi Nasional Penanganan Bencana), 2006, *Rencana Aksi Nasional Pengurangan Resiko Bencana 2006-2009* (translation: National Action Plan for Disaster Risk Reduction), National Development Planning Agency, Jakarta, Indonesia.

Brynard, Petrus A. 2005. *Policy Implementation: Lessons for Service Delivery*. University of Pretoria.

Cannon, Terry (1994). *Vulnerability analysis and The Explanation of "Natural Disaster* Varley, Ann (ed). In *Disaster, Development and Environment*. John Wiley & Sons, Chichester.

Carter, W.N. 1991. *Disaster Management: A Disaster Manager's Handbook*. Philipines. Asian Development Bank.

Cigler, B.A. (2007), "*The 'big question' of Katrina and the 2005 great flood of New Orleans"*, Public Administration Review, Vol. 67 No. 1,

Coppola, Damon P, 2007, *Introduction to International Disaster Management*, Oxford, Elseiver's Science and Tehnological Right Department

Davidson, Rachael A, (1997). *An Urban Earthquake Disaster Risk Index,* Stanford, The John A. Blume Earthquake Engineering Center, Department of Civil Engineering Stanford University.

DEKOMINFO, Padang, 2009, *Earthquake victim data,* Padang

Don, L. & Leet, Florence. 2006. *Gempa Bumi: Penjelasan Ilmiah & Sederhana. Proses, Tanda-tanda akan Terjadinya, serta Antisipasi Dampak (Earthquake Simple & Scientific explaination, Forecast and Disaster Management)*. Yogyakarta. Kreasi Wacana.

Dorwick, J.David, 2003, *Earthquake Risk Reduction*, West Sussex, Jhon Wiley and Son

Edwards III, George C, 1980. *Implementing Public Policy*, Washington; Congressional Quarterly Press

El-Masri, S. and G. Tipple, 2002, "Natural Disaster, Mitigation and Sustainability: The Case of Developing Countries*",in International Planning Studies, Vol. 7*, No. 2, pp. 157-175, 2002

Elson, Peter R. "Tracking the Implementation of Voluntary Sector-Government Policy Agreements: Is the Voluntary and Community Sector in the Frame?" in *International Journal of Not-for-Profit Law / vol. 8, no. 4 / August 2006 / 2*

GITEWS: Official website of GITEWS, available at: www.gitews.org, 2010

Goel, S.L. 2006. *Encyclopedia of Disaster Managemen, Vol. 1: Disaster management Policy and Administration*. New Delhi. Deep & Deep Publication PVT. LTD.

Hewitt, Kenneth. 1997. *Regions at Risk: A Geographical Introduction to Disasters*. Longman, London.

Hill, Michael and Peter Hupe, 2002*, Implementing Public policy: Governance in Theory and in Practice*. London-Thousand Oak-New Delhi: sage Publication.

Howlett, Michael and Ramesh, M. 1995. *Studying Public Policy; Policy Cycles and Policy Subsystems*. Oxford University Press.

IFRC: World disasters report 2009 – *focus on early warning, early action*, available at: www.ifrc.org/publicat/wdr2009/index.asp? navid=09 03, (last access: 21 June 2011) 2009.

Jakarta Post (17/10/2009; 11/02/2010; 12/02/2010) available at: http://www.jakartapost.com last access 25 june 2011.

Kompas (12/10/2009) available at : http://www.kompas.co.id last accsess 27 June 2011.

Kusumasari, Bevaola et all (2010), "Resource capability for local government in managing disaster", in *Disaster Prevention and Management* Vol. 19 No. 4, 2010 pp. 438-451

Lindquist, Evert. Organizing for policy implementation: The emergence and role of implementation units in policy design and oversight', in *Journal of Comparative Policy Analysis: Research and Practice, 8: 4, 311 — 324*

Mazmanian, Daniel A, and Paul A Sabatier. 1983. *Implementation and Public policy*. USA: Scott Foresman and Company

McEntire, D.A., 2001, "Triggering Agents, Vulnerabilities and Disaster Reduction: Towards a Holistic Paradigm", in *Disaster Prevention and Management*, Vol. 10, No. 3, pp. 189-196, 2001

McEntire, David A. "Development, disasters and vulnerability: a discussion of divergent theories and the need for their integration". In *Disaster Prevention and Management Volume 13 · Number 3 · 2004*

McNabb, David E, 2002, *Research Method in Public Administration and Nonprofit Management, Quantitative and Qualitative Aprroaches*, M.E.Sharpe

Milles, Matthew B & A. M. Huberman, 1984, *Qualitative Data Analysis: An expanded Sourcebook*, California, SAGE Publication.

Moe, T.L. and P. Pathranarakul, 2006, "An Integrated Approach to Natural Disaster Management: Public Project Management and its Critical Success Factors", in *Disaster Prevention and Management*, Vol. 15, No. 3, pp.396-413, 2006

Natural Hazards Observer (1998) Another IDNDR update, XXII (4), pp. 10–11.

Natural Hazards Observer (2000b) *The hazards of responding to El-Nin˜o in South America*, XXIV(5).

Oosterberg, W., C. van Drimmelen, M. van der Vlist, 2005, "Strategies to Harmonize Urbanization and Flood Risk Management in Delta's", *paper presented at the 2005 ERSA Conference*, Amsterdam, Netherlands

Oyhus, Ame Olay. 2007. "From Disaster to Sustainable Developmet". *Disaster management Seminar.* Yogyakarta. Magister Administrasi Publik Universitas Gadjah Mada.

Ripley, Randal B and Grace A Franklin. 1982 *Policy Implementation and Bureaucaracy,* Chicago: The Dorsey Press

Scott, W.R. (1992), *Organizations: Rational, Natural and Open Systems*, 3rd ed. Prentice-Hall, Englewood Cliffs, NJ.

SEKNEG (Sekretariat Negara), 1992, *Undang-Undang Nomor 24/1992 tentang Penataan Ruang* (translation: Act Number 24/1992 on Spatial Plan), State Secretariat, Jakarta, Indonesia

Sobel, Russell S. And Peter T. Leeson. The Use of Knowledge in Natural-Disaster Relief Management. In *The Independent Review, v. XI, n. 4, Spring 2007,*

Sundar, I and T Sezhian, 2003, *Disaster Management*, New Delhi, Sarup & Son

Takeda, M.B. and Helms, M.M. (2006), "Bureaucracy, meet catastrophe: analysis of hurricane Katrina relief efforts and their implications for emergency response governance", *International Journal of Public Sector Management*, Vol. 19 No. 4, pp. 397-411.

Tolentino, Amado S. Jr. The Challenges of Tsunami Disaster Response Planning and Management. In *International Review for Environmental Strategies Vol. 7, No. 1, pp. 147 – 154, 2007*

UN/ISDR (United Nations/International Strategy for Disaster Reduction), 2004, *Living with Risk: a Global Review of Disaster Reduction Initiatives Volume I*. Geneva, Switzerland.

UN/ISDR (United Nations/International Strategy on Disaster Reduction), 2005, *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters*, World Conference on Disaster Reduction, January 18th-22nd, 2005, Kobe, Hyogo, Japan

UN/OCHA (Office of the Coordination of Humanitarian Affair), 2007, *Indoneisa – West Sumatra Earthquake – March 2007*, Annual Report. New York.

UN/OCHA (Office of the Coordination of Humanitarian Affair), 2009, *Indonesia West Sumatra and Jambi Earthquake*, New York

United Nations Conference on Environment and Development (1993) Agenda 21, Chapter 7: Promoting Sustainable Human Settlement Development, Rio de Janeiro, June (Nairobi: United Nations Environment Programme).United Nations Disaster Relief Coordinator (UNDRO, 1998). *Mitigating Natural Disaster : Phenomena, Effecs and option,* New York.

Weichselgartner, Juergen (2001) "Disaster mitigation: the concept of vulnerability revisited", in *Disaster Prevention and Management* Volume 10 . Number 2 . 2001 . pp. 85-94.

Winardi, A. Rahardjo, G. Sugiantoro, R.B. Leksono, N. dan Darmawan, A. 2006. *"Gempa: Jogja. Indonesia & Dunia."* Jakarta. Gramedia.

Wolensky, R.P. and Wolensky, K.C. (1990), *"Local government's problem with disaster management: a literature review and structural analysis"*, Policy Studies Review, Vol. 9 No. 4,