

DISASTER

Disasters occurred in many parts of the world in the last decades have created human tragedy and destroyed economic foundation of the society. In developing countries, natural and 'man made' calamity such as war, riots, conflicts, and financial collapse have impeded development process and poverty alleviations. The poor, in both developed and developing countries, often are those who most severely affected by disaster. They often lived in vulnerable places and had limited access to resources needed to mitigate or recover during and/or after disaster occur. Furthermore, in the world where countries are interdependent economically and socially, the impact of disaster could not be contained within certain geographical boundaries. This means that response and policies aimed to tackled them need collaborative actions from the societies in all countries irrespective their geographical positions related to a disaster area. Therefore, discussions and studies on disaster issues need to incorporate multidisciplinary approach in order to be able to understand the multi-dimensions nature of the issues, and hence produced better solutions and recommendations.

PROCEEDING

INTERNATIONAL SEMINAR
DISASTER
Theory, Research, and Policy



PROCEEDING INTERNATIONAL SEMINAR **DISASTER** Theory, Research, and Policy

The Graduate School of Gadjah Mada University
October 20 - 22, 2009

- Keynote: Prof. Dr. Irwan Abdullah
- Editor: Sudibyacto
Dyah R. Hizbaron
Raditya Jati



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PREFACE

Disasters occurred in many parts of the world in the last decades have created human tragedy and destroyed economic foundation of the society. In developing countries, natural and 'man made' calamity such as war, riots, conflicts, and financial collapse have impeded development process and poverty alleviations. The poor, in both developed and developing countries, often are those who most severely affected by disaster. They often lived in vulnerable places and had limited access to resources needed to mitigate or recover during and/or after disaster occur. Furthermore, in the world where countries are interdependent economically and socially, the impact of disaster could not be contained within certain geographical boundaries. This means that response and policies aimed to tackled them need collaborative actions from the societies in all countries irrespective their geographical positions related to a disaster area. Therefore, discussions and studies on disaster issues need to incorporate multi-disciplinary approach in order to be able to understand the multi-dimensions nature of the issues, and hence produced better solutions and recommendations.

In this light, the Graduate School Gadjah Mada University which has strong commitments to socio-economic issues is organizing a three days international seminar on "*Disaster: Theory, Research and Policy*", 20-22 October 2009. This activity is a part of Grand Program of the *World Class Research University* (WCRU) Gadjah Mada University set in 2009 aimed to foster international collaborative research and facilitates exchange of experiences among academics and practitioners concerning the most important and current socio-economic problems such as disaster. This international seminar will offer a platform for mapping research issues, reports and publications, and for formulating recommendations in responding to disaster. This activity will also allow academicians, scientist, and practitioners from various institutions in North and South regions to share soft resources such as skills, competencies, and cultures, as well as hard resources such as funds and facilities. By sharing these resources, they will be able to better

understand the complex dimensions of disaster phenomenon and come with better solutions in addressing the problem.

Objectives

1. To map disaster related issues in various disciplines including science and technology, religion, and socio-economic which could provide foundations for international collaborative research.
2. To identify the relationship between theory, research, and policy process in responding and anticipating disaster impacts.

Information

Inquiries and requests are directed to: Organizing committee of International Seminar on Disaster, Research and Policy The Graduate School Gadjah Mada University, Jl. Teknik Utara, Pogung, Yogyakarta 55281 Indonesia, Phone/Fax: +62 274 564239

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We would like to express our gratitude to the Director of Post Graduate Program GMU Prof.Dr. Irwan Abdullah and the Rector of Gadjah Mada University Prof. Dr. Ir. Sudjarwadi, and the Director of the Institute for Research and Community Services Prof. Dr. Ir. Danang Parikesit, M.Eng. to make this activity and publication possible. Our profound thanks also to Prof. Dr. Ir. M. Syamsul Maarif, M.Eng and Dr. Ir. Suprayoga Hadi for contributing their policies on disaster in Indonesia.

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Finally we would like to express our deep gratitude to everyone involved in this international conference, steering committee and organizations for developing the proceeding.

Yogyakarta, 2009

Editor Team

INTRODUCTION

The proceeding provide scholar with variant stories on disaster especially in Indonesian case and Asia, in general. It provide less information about mandatory definition as presented vividly in other disaster books or reports. In the introduction chapter, most of the explanation focuses on basic understanding about disaster theory, research and policy.

The Indonesian case promoted very unique experience and lesson learned. Since the urgency of disaster management which, later on shifting into disaster risk reduction management, increased in 2004 due to tsunami Aceh (2004), many scholar aware of the importance disaster research. The researches on disaster were flourishing recently, since physically, Indonesia provide laboratory to very wide range of hazard types. How scholars in Indonesia conceptualize the disaster event? How they conduct the research and how the practitioners formulate policy? This is a very new subject to Indonesia, which at the beginning of the journey to learn more about disaster risk reduction management.

How scholars define “Disaster”?

Scholar defines “disaster” in different manner, based on their interest and necessity to focus on. It means that “disaster” definitions are manifold, depends on the approach and interest. An example, disaster definition from social science might be translated

in different manner compared to the physical science. It developed different set of conditions, characteristics and impacts. Therefore, in each definition, scholar promoted revision, since the convolution on each conditions, characteristics and impacts that should be defined. As the result, definition of the term is evolving and dynamically translated into different variables and indicators.

Within the proceeding, many scholars provide definition of “disaster” in different approach and interest. Some were inductively attain the definition from field experience, while the rest deductively construct the idea from certain point of view. Some scholar promotes the multi disciplinary approach instead of mono discipline approach which entangled with complexities of understanding.

At the beginning of the research, disaster was defined as “act of God”, naturally occurred as the cause of physical process. At that era, disaster was unprecedented event that should be clarified with certain alternative scenarios. After disaster occurred, scholars seek the alternative solution to conquer the condition. Most of the work were structural-technical and operational management alternatives. These alternative solutions were susceptible to failure. An example of a case, the area prone towards flooding, were equipped by water canal or dammed. If by any chance, the structures were not well operated or there were human errors, the possible damage that threatened will bigger than previous state. The investments were at stake, there will be more losses. This is the critics arouse during that era.

Years after, disaster was translated as the mixture of physical condition and social character. Disaster shall not occur unless human were impacted, in the other hand, when particular natural force or other destructive forces potentially threatening in certain area, it will be entitled as hazard. Hazard shall turn out to be disaster when the potential threats turn out to be quantification of losses. The potential of losses were addressed as vulnerability. Thus, many scholars embed the word hazard and vulnerability into risk analysis. Risk is another term use as the final calculation among the hazard (potential threat) multiplied by potential of vulnerability (potential of losses) that depict the condition of

potential getting hit by hazard and possibly impacted from particular losses.

There were many arguments to construct the definition of hazard, vulnerability, risk and disaster. Most natural research and applied science consider that the risk can be quantified using the formula. It was argued by social research, how we can quantify something that was actually entangled in the community during the whole process. The argument was laid on the term vulnerability. This term was ambiguously described by many scholars. Some intended to translate vulnerability as potential of losses, some may entitled the condition of the community that cause them in vulnerable state. Therefore, some scholar indicates the vulnerable group such as children, elderly, disabled and women. However, some other claimed that vulnerability was not limited to age, gender or education level, it was far attached to the community due to poverty reason, lack of access to the information, low access to involve in the decision making process and so on. In the other paradigm, some mentioned that the structure of housing, the location of the settlement, the topographic condition and other physical related condition may also trigger human vulnerability towards disaster. This involved greater indicator to define the cause of human vulnerability, which at the end influence the level of risk.

The work to construct disaster theory and concept was evolving through time. At some point, scholars drew the line between hazard management and disaster management. In some cases, hazard management play certain role to quantify the vulnerability and mitigation strategy (pre disaster), whilst disaster management broaden up the concept to set the emergency response (per disaster) and disaster recovery (post disaster). Both management construct sequence process to prepare good information and system to deal with the predictive event (disaster) and conduct analysis on the action strategy during the event strike and formulate the action to strengthen the community resilience afterwards.

Hazard management closely attached to quantitative research. While, the quantification on risk, hazard and vulnerability was

questioned by several scholars who understood that disaster issue was not limited to structural mitigation strategy, but also involved the unstructured mitigation strategy such as construction of social and political system. Thus, qualitative researches were important to broaden the alternative scenario of the mitigation strategy.

Indonesian scholars were aware of the international ratification about disaster concepts and theories. Most of the scholar applied the European and American school as the pivotal role that leads their understanding. The Indonesian scholars were interested in providing solution and alternative scenario to mitigate the disaster impact. The work was likely to be in the domain of technique and less on the societal work, unless being supported by the international donor. The disaster definition was not quite in the debate, since the debate more on how to formulate standardize guidance that can be applied by the authority to conduct disaster preparedness.

How scholars conduct “Disaster Research”?

During the era where Disaster was seen as “Act of God” the scope of disaster research were permanent of post disaster event. Many scholars worked on how to find the right solution using technocratic approach to construct better built in environment. Technocratic approach considered that the truth is out there, where it can be found through formula or system management. Since scholar deemed that every problem had answer, thus they believe that formula or system management is the correct answer for the problem. In the disaster research, scholars were focus on the emergency management and recovery procedure, since it involves with problem solution. Activity to mitigation strategy was flourishing, as seen from several magnificent structure that prevent human from any natural forces, or various scales on magnitude of hazard has been formulated. This reactive approach was involving many scholars such as, engineering, natural science, physician, and geography.

As the post modernism era strike in to the academics world, thus more studies intensively join in to work on the disaster

research. Social science believe that there were no absolute answer to particular problem, it always relative from any point of view. The social disciplines such as sociology, political science, psychology, economics, decision science, regional science and planning, public health, and anthropology constructed their understanding via the postmodernism. Criticism to the previous approach had affects the method and focus of the research. More qualitative research had been carried out, focus of the research broaden to disaster preparedness. The disaster preparedness comprise of various effort from various stakeholder to minimize the possible impact of disaster. The preparedness was carried out in many designs, from technical to participative design.

Since the paradigm in concept and theory were shifting, thus the research method also modified. The modification has enlightened scholar to expand the ideas on the research theme. At the beginning of the disaster study, most of the researches were kept in how to find solution, nowadays, research theme broadened to find better alternative solution for varied circumstance. Uniqueness was dominant in particular area with different community member. It has different social political management system; therefore each area will have different approach to find the solution. The participative approaches were adolescent at first, since it took too many people and too much time. However, the uniqueness of the area was best known by these people, which turn the approach into compelling ideas to be carried out.

The hallmark of disaster research stretch from preparedness to recovery phase, it contains of varied approaches including the optimum usage of technology to predict the uncertain event. Scholars were quite unhappy with less valid prediction about the occurrence of disaster, thus they continue investigating the best method to predict disaster occurrence. Information technology were adequate to support the aim of the work, however to construct the unpredictable method of occurrence, series of data investigation is essential. Therefore, disaster research also involved the importance of data collection, analysis, maintenance and computation into models and matrix using system information (National Academy of Science, 2006).

Previously, disaster research was conducted solely by each discipline, it turn out into different path nowadays. Disaster research is preferable conducted in multi disciplinary approach and employed both quantitative and qualitative data analysis.

Indonesian scholar keen on the quantitative research, compared to qualitative research. Although, some work applied the quantitative and qualitative method. The ideas on researching was merely on the mitigation strategy, not much of the work concern with the social condition after disaster event, and the information system of the risk should be communicated to the community. The subjects to educate community with shared knowledge were hindered by some political value. This is not a good situation to promote the socialization on disaster research result. Locality issue in each area is something that important to be documented, thus, there were adequate information about what should do next in each different administrative boundary.

How practitioner constructs “Disaster Policy”?

Policies were translated as a mandatory system or legal binding management to cope with any problems in particular area. As scholars were intensively dealt with the normative approach on disaster issue, the practitioner had more opportunity to explore the fact finding in the field. Both deductive and inductive approach provided by scholars and practitioners were adequate to formulate policy. In the other hand, community as the third party involve in the formulation process is the target or object to carry out the policy mandate. Classical problem occurred at this point, where practitioners and scholars may have the knowledge, but in the other hand, they were not able to get the sense of difficulties of the policy application. The debate went to the same direction, which is the gap between the planning and implementation.

Disaster policy in Indonesia is in the very early process. At the beginning of the process, Indonesia set up reactive approach, when the disaster occurred, the government or any authority member took action. At the very latest paradigm, it was stated that Indonesia shall take the proactive approach to prevent from further

losses. However, the institutional setting had been very preoccupied with the coordination, cooperation and communication management which is not set up in well organized manner. The ego sectoral is dominated. Some may agree with Pelling (2004) which had been argued that the disaster policies were driven by very strong political agenda. The hidden power to prevent from further loss is actually laid in the hand of political realm.

Future challenge

In general, the development of theory, research and policy formulation was not value free. The critics continued, especially in these following aspects:

Varied theory and concept

The variety of theory and concept were formulated, either deductively or inductively attained. At some point, scholar failed to explain certain concept since it was formed based on totally different background. An example, European concepts certainly provoke different translation when it comes to different background, such as Asia. The experience and case study in different places draw different overview. It means that locality could not be generalized using globalized term. It had to be argued that locality carried varied values need to be highlighted among other experiences.

Multidiscipline approach

Multi discipline approach requires more thing tankers, which could be difficult to joint their basic thoughts and understanding. This multidiscipline approach is novel approach needed by the decision maker, since it able to accommodate various problematic situation. However, at stated earlier, disaster is unprecedented event which cannot be easily predicted when and where the research shall be taken. Therefore, multidiscipline approach will be difficult to be implemented at the level of preparedness, unless

the problem discussed is in the case of general situation, when it continued to the very detail action, each area has different system.

Gap between policy and implementation

As stated earlier, policy was formulated by scholar and practitioners, whilst the implementation went under the authority and community level. At some point, there were missing links among the shared knowledge. Since policy had mandatory nature, while implementation is sensitive towards any alteration, thus, policy formulation method need to be revised. Tracking back the nature of disaster research recently, where all the multidiscipline approach has emerging, it is not essential to experience different method on decision making process. However, there were some argument that stated that too many alteration in the planning product shall influence the practice of implementation. It means that the practice of policy implementation were not yet adequate, while at the same time it has to transform into different type of practice.

Structure of this Proceeding

This proceeding is based on the experiences on theory, research, and policies that is developed to integrate all of these phase into one unification of disaster management. The proceeding includes the contributions of the selected speakers from different point of view and related topic to discuss issues on *The Structure and Culture of Disaster: Theory, Research and Policy*, *Policy on Disaster Management in Indonesia for the Implementation of the Law No 24/2007*, *Organizational Adaptation and Coordination in Disaster Management*, *Spectacles of Innocent Suffering: Media Images of Children During Disaster (Case of Padang Earthquake)*, *A Theory of Disastrous Suffering: Disaster, Culture and Zeitgeist*, *Estimating The Psychological Impacts of Earthquake From Data of Mortality, Injury and Physical Destruction*, *Dentist Participation in The Identification of Mass Disaster Victim in Yogyakarta*, *On Saving Lives, Healing Wounds and Rebuilding Devastated Areas: Burma, Singapore and Cyclone Nargis*, *The Transfer Method of*

Earthquake Resistant House Concept: Practice in Transfer of Knowledge and Training of Earthquake Resistant Masonry Houses to Mandors (Foreman, Field Construction Applicators), Preliminary Survey To Build Disaster Information System in Yogyakarta Special Province, Gotong Royong as Local Wisdom: Recovery Program After Earthquake in Yogyakarta, and Cultural Recovery in Disaster.

At the beginning the introduction explain the relation on theory, research, and policy also their approaches of multi-disciplinary and filling the gap of it. Short review for further challenges and how to put it into practice. At the end of the chapter, the summary of the international conference is explained the important role of these three element on theory, research, and policy to be integrated as one in disaster management. At last, the appendixes show the notes of question and answer taken during the international conference, National Law on Disaster Management (UU no 24 tahun 2007, Related Resources and References (Websites), List and contact of Speaker and Participant, Committee of the International Seminar, and Documentary photos of the International Seminar.

THE STRUCTURE AND CULTURE OF DISASTER: THEORY, RESEARCH, AND POLICY

Irwan Abdullah

*"They are part of nature, have happened in the past
and will happen again..." (Smit, 2003: 97)*

Introduction

Every natural disaster has been always a new experience for all of us, as it comes unexpectedly, surprising, and we are not ready to confront, and it can create a chaos in many forms. Disaster is a consequence of complex processes which is started from natural phenomenon such as wind and rain. Those turn out then become disaster when the quality of infrastructure is not enough to confront the natural phenomenon or the settlement situated in a hazardous location. The disaster takes place mostly related to the poverty, vulnerability, inappropriate policies. The victims have been the poor, the uncouneted, the marginal, or the slum inhabitants. This has more to do with social economic and political processes than natural phenomenon as disaster is created by the interaction between man and environment, where many agencies get involved in creating the risk or hazardous environment to the life of the population. Social processes has, for example, created inequality which then place the lower strata of the society living in unsafe environment. This makes disaster become close

experience for the population. Disaster has been taking place in different location for different reason and in different forms.

Disaster which had happened, for example, in China (1333), Japan (1891, 1923), the Philippines (1645, 1867, 1877, 1879, 1892), Indonesia (1815, 1883, 1963, 1994, 2004, 2006, 2009), Africa (1973-1985), Middle America (1970s), and the USA (1906, 1991, 1992, 2005), basically took form in wars, drought, famine, flood, storm, tsunami, landslide, erosion, earthquake, Nuclear blast, illness pandemic, physical damage, wealth loose, disability, mentally damage, and damage in the structure as well as social system. Hewitt, for example, classifies the disaster into natural disaster (atmosphere, hydrology, geology, and biology), technological disaster (dangerous things, destructive, mechanic, and productive processes), and social disaster (wars, terrorism, civil conflict, and the use of dangerous things, process, and technology) (Oliver-Smith, 2002: 25).

In this paper, I limit the discussion into the first category and perhaps will be related to the second one. This is because talking about environment (as natural disaster) could not be separated from technology. Many studies show that the use of technology could become the supporting factor of risk and hazard to the nature (Palsson, 2004; Tierney, 2006; Yarnal, 1994). The category of disaster could also be considered from its impact in death, mentally damage, disability, the loose of properties, as well as in the damaged social process and structure such as production system, job description, social norms and roles, national and international politics, could also be in the hope, motivation and vision destruction (Blaikie, 2002: 298). Before discussing the those factors and impacts in detail, let me address three approaches to gain some insights into the issues and policies.

Technocratic Approach to Disaster

The impacts of disaster in its various aspects have become the basis of many studies in various field of study. In social science for example, the study about disaster which was started in 1950s, was begun by long discussion about nature-culture relation. The

interaction model of the two raised many new understanding about human dependence and independence with the nature and vice versa. The first opinion believes that nature is something separated from humans who have undeniable power. Natural environment defines humans' identity even categorizes human into "the other" as the result of deterministic differences of environment for human adaptation.

In this first opinion, disaster is seen as the phenomenon which mainly correlated with nature and is separated from human's daily experiences as well as common human activities (Hewitt, 1983: 6; Anderskov, 2004: 10) since disaster is believed to be extra ordinary experience. One of the studies argues that nature (with its irregularity) is the factor that defines social order. When the cyclone happened in England in 1987 the concept of nature as the ruler Gined its explicit assertion:

"Nature goes crazy, destructive, irresponsible, destructs itself and dragged everything with itself, it was what happened. The end of day happened today, now, and no one able to stop, mirrors ruined, objects fall down, and all the noises intolerable, all the live thing stops when its happening "(Homan, 2003: 150).

The focus toward the power of nature and supernatural asserts an abnormal condition, unpredictable, unwished, and unplanned condition. That is why people unaware and are not ready to face the disaster (Hewitt, 1983: 10) as the result policies taken to response is focused for physical protection on the physical hazard only as well as the prediction and geophysical process of monitoring (Blaikie, 2003: 299). In that era, human and nature is in opposition.

In the 17 and 18 century the interaction between human and nature start to be noted and is perceived as a mutual power, as Murphy stated that humans "... *are capable of manipulating, domesticating, remolding, reconstructing, and harvesting nature*" (Oliver-Smith, 2002: 32). The next studies found a new variant, that it was not only human exploitation to the environment and natural resources misuse which causes the disaster, it is also

mediated by market with its orientation of production and competition:

“Ecological crises and disaster... are produced by the dialectical interaction of social and natural features. Socially constructed production systems that impoverish the essential and absolute level of resources sustaining and environment will create environmental crises and perhaps disasters, impacting a human population” (Oliver-Smith, 2002: 34).

In viewing the two notions – which in the beginning pointed that the cause of disaster are prompt and sudden occurrence on the one hand, and by human actions on the other – raise the debate about behaviorist responses to map people reactions toward disaster, mainly to come out of the technocratic approach which set aside humans.

Behavioristic Approach to Disaster

The behavioristic approach highlights the individual and institutional responses, cultural response which questions human existence, political and power response, and economic responses. Institutional and individual response can be seen from individual and group’s behavior in the stages of and after the disaster. The studies about individual and organizational responses, explains particularly on religious institution adaptation, technology, economy, politics, and in the model of cooperation and conflict that may happened after the disaster (Oliver-Smith, 1996: 306). People responses are different based on the difference of class, ethnicity, gender, and age (Maskrey, 1989; Rossi, 1993). Various studies also show the integration level of the community have become basis for recovery and community reconstruction. It also reveals that good local knowledge toward social and physical environment determine society’s ability to decrease short and long term harm (Oliver-Smith, 1996: 306). Conversely, the ignorance toward local knowledge, as what had happened to the rancher community in the slope of Merapi, caused the people to be moved far from their originality and was unable to adapt to the new environment (Laksono, 1985).

Cultural response is related to the construction of meaning and cultural view toward disaster. This often leads people to the complex existentialist questions. In the case of tsunami in Aceh, which was also happened in Berkeley, and other places in the world, disaster was interpreted in many ways. The questions about God's justice, His sacred, and the true meaning of Human and God relations haunt the survivors (Oliver-Smith, 1996: 308). Often, disaster causes the shift in human beliefs, symbols, and rituals as has been noted by Oliver-Smith in the case of Peru (Oliver-Smith, 1977). Disaster was responded as the assertion of God or Gods' coming. Citing a speech of a pastor, a mother says:

"People may go to the moon, doing something extraordinary by technology and think that they would be able to have everything in the world, however God will send the disaster to show that He is the power" (Homan, 2003: 149).

The construction of meaning on the disaster is full of interest, since the voices from various agents involves in shaping the discourse, so meaning itself become an arena of important competitions. Heddy Shri Ahimsa-Putra showed that the process of meaning in the case of Merapi has become an arena of discourse which involved multi-actors (Ahimsa-Putra, 1994). This statement is in line with Clancey's argument who says:

"Natural disasters, by contrast, are moment in which the voices of experts mix with – and often have no privilege over – the voices of politicians, journalists, religious figures, and all manner of survivors. Everything is 'out of order' – nature and society both – and this makes things as messy for the chronicler of the event as for those who lived the experience" (Clancey, 2006: 914).

Politic and power response discuss about how the disaster shapes, maintains, stabilizes, or destroys an organization and political relationship. Disaster in this view is an opportunity as well as the cause of the local politic of socialization and mobilization and at the same time caused the alteration in its relationships with state (Oliver-Smith, 1996: 309). Therefore, disaster could become a context to form solidarity, activism, new political agenda and the shaping of new power relation which could change a power structure.

Economic response correlates with the notion that disaster always destroys the physical environment and material resources of a community, while causing urgent demand for material needs. Even in all disaster involves the discussion about assumption and human behavior such as altruism, rational choices, private property, competition, reciprocity, as well as social and economic interest (Oliver-Smith, 1996: 311). The study also mentioned that material distribution in recovery efforts could be challenged by various access structures and sometimes religion is become a determinant factor in the process of distribution (Torry, 1979). Often, a disaster creates an “*economic boom*” because the donation and the new projects open new job and income for the community (Dudasik, 1982; Button, 1995; Palinkas, 1993; Oliver-Smith, 1996). However, it should also be taken into consideration that job opportunity follows market segmentation of the labor that has already existed in the area.

The Structural Dimension of Disaster

Shifting paradigm in explaining disaster happens along the way of viewing the community as the more systematic analytical basis, when disaster is understood in its relation with “history and human evolution”. The approach that underlines the disaster as a form of “social change” tries to comprehend disaster as an important factor in cultural and social change, because all disaster needs adaptation and new formation of damaged functions. Anthropology in this regards pay more attention to the long term implication of the changes caused by disaster (Oliver-Smith, 1996; Hoffman, 2002). The changes could become an acceleration from the existed changes, could also become a factor that initiate a new change. Conversely, many studies also showed many negative impacts, particularly when the reconstruction process involves many different agents that suddenly brought about something new and alien in the society that may cause stress and damage social order. Chairtakis dan Rossi showed that many donations in the process of reconstruction could be very hazardous more than the disaster itself (Oliver-Smith, 1996: 314).

A community could also maintain the model of life they experience before, and try to gain it back after the disaster. On the contrary, other society may see the new opportunities after the disaster (Oliver-Smith, 1996; Clancey, 2006; Schencking, 2006). In the case of earth quake people gain so much freedom (Oliver-Smith, 1977), that trigger the formation of new social system and new attitude (Borland, 2006). Behaviorist approach tends to see this response imprisoned in the form of emergency responses, not in the structural precondition factors of vulnerability which experience many shifts from the previous study which view disaster in its relation with effective human adaptation ability toward environment that is open the possibility for people to keep long term stability in a difficult situation (Torry, 1979; Oliver-Smith, 1996). This kind of approach is also unable to explain a structural process which should not be separated from the disaster when it becomes a global phenomena, not only a local matter (Illouz, 2003; Kasperson dan Kasperson, 2001; Oliver-Smith, 2002).

The above considerations strengthen the opinion which see the problem of disaster as not on the natural phenomenon however it comes from the unbalance of social structure of the community. This opinion rose on 1980s and was based on the frame of structural Marxism and political economy. This political economy point of view see the natural phenomenon such as storm, earth quake, flood, could be non disastrous. Reminder, protection, knowledge, access, either for the material resources or toward knowledge, network, and the sources of assistance mitigates the impact of natural phenomenon and develop human ability to recover from its impact (Blaikie, 2003: 299). This opinion sees the correlation between disaster vulnerability, chronic malnutrition, low income, and famine potentialities at the same time depict the root of disaster lies on the social factors rather than natural factors (Oliver-Smith, 2001: 27; Anderskov, 2004: 10; Wisner, 2003: 183). Hewitt clearly states:

“... disaster less as the result of geophysical extremes such as storm, earthquakes, droughts, etc and more as functions of an ongoing social order, of this order’s structure of human-environment relations, and of the larger framework of historical and structural

processes, such as colonialism and underdevelopment, that have shaped these phenomena” (Oliver-Smith, 1996: 314)

Here, the emphasis is given to the structural processes that distribute and manage material resources, wealth, power, in a community which meant to be a precondition of disaster. A good structural process would open the possibility to the community to avoid, facing successfully and recover from natural phenomenon/challenges (Blaikie, 2003: 300). Some researchers note that subsistence modes, social organization, the dense of population reflects a process of rational adaptation to the marginal environment. Economic suppresses which causes land shortage and population overloaded become a basis of population vulnerability and land to face drought cycles (Oliver-Smith, 1996: 315).

In this modern community, however, this vulnerable still becomes a problem. Such as a Katrina case in America, it is obviously seen a difference between the effect of disaster and the ability to overcome the disaster. The Higher community easily avoids the disaster by using their private facility and simply recovered by living in their second home. On the other hand, The Lower community depends on the delayed and inadequate public facility, also stays in evacuation place. The Lower community also has limited access of mass media that becomes the real source of supporting information and deliverance (Timey, 2006: 113).

Such a disaster deeply determined by the interaction scheme between human being and nature, has truly generated a new complexity where the characters of relationship between human being and the environment is still being argued (such as debate on materialist and culturist, keeping on moving). The complexity occurs when the relationship between human being and environment obtains it’s global frame with the more expansive economics and market principal, as elaborately explained by Holling:

“Through this globalization process problems have become basically nonlinear in causation and discontinuous in both space and time, rendering them inherently unpredictable and substantially less amenable to traditional methods of observation of change and adaptation. Human-induced changes have moved

societies and natural systems into essentially unknown terrain, with evolutionary implication for element of both. As has been argued, societies and nature have always been in a process of co-evolution in local, relatively discrete contexts. Now people, economies, and nature are in a process of co-evolution on a global scale, each influencing the others in unfamiliar ways and at scales that challenge our traditional understanding of structure and organization, with serious implications for the adaptive capacities of people and societies" (Oliver-Smith, 2002: 45).

What has been occurred in Peru showed this such a situation. Disaster began from the colonialization then changed Peru as a part of world economic system that unfortunately placed it as a kind of developing country in its region. The Inca-ornamented buildings that had kind of strength to resist earthquake then changed into modern architecture. The alleys within densely housing, lost wall, heavy roof, those were considered as a dangerous combination which lately destroyed 80 percent of structures on the 83 thousand acre land and killed 70 thousand people also generated 500.000 refugees (Oliver-Smith,1999: 18).

Three implication from this political economics approach namely: (1) That disaster is enable to be avoided and natural occurrences is not always changed into disaster if its impact can be well-overcome; (2) Human being is not be seen as an undressed casual but as an actor with his/her own level of capability can solve and overcome the natural occurrences even avoid it. In this situation, any resources owned by the community take a significant role for the recovery; (3) The justice issue becomes important. The wealthy has different impact on disaster that means in every disaster they do not always severely suffer from disaster like what the poor has, even disaster stands as the public misery with its own level of severe (Hoffman, 1999; 2002). Women, old people, children, or any groups with a label of low social status, minority, a group with any limited access, a group with no social capital, experience a worst situation. (Blaikie, 2003: 300). As it is according to Oliver-Smith, that a natural occurrence does not always produce one disaster since its depends on the level of human integration with their environment and on the level of human dependency on the nature danger.

Natural Disaster: Between Theory and Policy

From the previous theoretical tendency – the technocratic approach that puts aside human being, the behaviorist approach that emphasizes on the attention on the response forms toward disaster, and the political economic approach that focuses on the structural process as a precondition of one disaster – those are able to trigger a number of crucial issues on the understanding of status, cause, process, effect, meaning, and response toward one disaster.

First, it is urgent to obtain its firm, that in social science, “a disaster is not an immediate and undeniable occasion”, but it is an integral part within the routine and normal life. Disaster, indeed, is an inseparable community system that its sign can be observed and predicted. However, it can possibly occurs “unexamined normality” over the human incapability and system to anticipate such a disaster. One disaster does not always destroy stability, because uncertainty, holocaust, or break down the social cultural system, destroy the ability of community adjustment, also danger the system of world perception. On the other hand, the capability and readiness for one disaster owned in community:

“... people attempt to prepare, construct, recover, reconstruct, how they adjust to the actual or potential calamity either recants or reinvents their cultural system. Disaster exposes the way in which people construct or ‘frame’ their peril (including the denial of it), the way they perceived their environment and their subsistence, and the way they invent explanation, constitute their morality, and project their continuity and promise into the future” (Oliver-Smith and Hoffman, 2002: 6).

This such optimism is possibly to be obtained if a disaster has become a collective knowledge which its response mechanism toward those disaster has been well-integrated through socialization process and supported by the infrastructure of adequate institution.

On one side, a disaster is characterized by external plurality and on the other side by internal complexity. The external plurality deals with wide spectrum from the objective phenomena in natural

and technology discourse that triggers a disaster. The characteristic of its occurrence covers a slow process, such as drought or being poisoned that causes a slow death until the fast process, like earthquake or nuclear accident that leads to the destruction and death soon. The internal complexity deals with the process and occasion that puts disaster as a total process that covers dimension of social, environment, culture, politic, economic, infrastructure, and technology. The relationship between one and another shows a consistency and inconsistency, coherence and contradiction, cooperation and conflict, hegemony and resistance. This condition shows how the process of system of physique, biology, and social within its interaction with society, group, institution, and its relationship with socio cultural construction over the disaster (Oliver-Smith, 1999: 19-21). In this situation, a disaster then generates from a historical process and the result of systematic structural relationship.

The huge logging or mining practice that occurs in any part of the world proves those systematic structural relationships. This also shows that there is no effort to finish the basic problem within the human relationship with their environment as the cause of diverse agency interest (Pelling, 2003; Wisner, 2003). The globalization that brings a market as mechanism of natural resources management, has caused the local principles and border of supporting power to be put aside. In this situation, the local wisdom/ knowledge of natural conservation is too weak to resist when it has to be put against the interest of a powerful agent. The result of its nature-cultural relationship then becomes the foundation from the construction of landslide or flood, even other disasters. Therefore, disaster truly sticks on the human behavior and group in a frame of special disturbance and destruction case, produced by personal, group, or institutions (Oliver-Smith, 1999: 24).

Indeed, one natural occurrence has been able to be responded from the level of elementary until advanced. In any natural occurrences, it is often be uttered that any signs seems to be appeared before due. In the case of Merapi explosion in 1994, any signs seemed to be appeared in any forms, such as dreaming or

whisper, the weird of natural phenomenon, and the behavior of plants also animals that led to the change of natural (Ahimsa-Putra, 1994). The similar signs were also recognized by the community which its existence were considered as a clue/sign, like what had happened in Egypt, England, and Middle part of America (Homan, 2003; Pettiford, 1995). What makes interesting here is, the occurrence of distortion that causes a direct-indirect message does not always change into action since its sensitivity and influence power also changes. In order to answer this kind of tendency, Ahimsa-Putra states:

“... that natural signs which had been delivered first in the community in a slope of Merapi could not be comprehended its meaning since the message or sign had been ‘disturbed’, had mixed with the new ‘noise’ coming to Turgo. It came from the ongoing changes that runs in this area, that reflects a ‘wrong destination’ of modernization process that occurs in Turgo”(Ahimsa-Putra, 1994: 6).

It is different from Turgo, the natural signs in Japan has become an official reference in any prediction of disaster occurrence. The identification of plants and animals with their own behavior within the different natural condition has been applied to detect the danger (Borland, 2006: 875).

The readiness to confront disaster was apparent in any systematic form in Japan. The experience of earthquake in Nobi (1891) and Kanto (1923), for example, had caused Japan to have national curriculum in three series of book with the title *Shinsai ni kansuru kyoiku shiryō* (*Education Materials Related to the Earthquake*) (Borland, 2006: 875). The readiness then was not only apparent from the effort of Japan to conduct the remapping space and the standardization of the earthquake-proof building (Clancey, 2006), but it was also the development of life style and community mental that appeared in any forms of dedication in the relationship with the disaster (Borland, 2006). As a result, there are lots of following questions in order to arrive at the answer on how the commitment of human, institution and any agencies can be built and give a synergetic results to community to survive and even to confront the danger that threatens the existence and human dignity.

The second, not all the natural phenomena always become a disaster since the emergence of one disaster depends on the vulnerability status of personal, group, environment, and institutions. One natural phenomenon in one place can possibly cause death and destruction, whereas it brings another effect in another place. This vulnerability covers the dimension of nature, physique, techno, economic, social, politic, culture, ideology, and institution. One disaster roots in the system of ideology, social, and economy that places human being in a hopeless status when they have to confront with the pressure of deathly environment. The vulnerable situation of human being, environment, and institution that changes one natural symptom becomes a disaster for human being's life:

“A disaster becomes unavoidable in the context of a historically produced pattern of ‘vulnerability’, evidenced in the location, infrastructure, sociopolitical organization, production and distribution systems, and ideology of a society. A society's pattern of vulnerability is a core element of a disaster. It conditions the behavior of individuals and organizations throughout the full unfolding a disaster far more profoundly than will the physical force of destructive agent” (Oliver-Smith and Hoffman, 2002: 3).

Human condition and ecosystem had been more vulnerable that weakened their ability to cope with diseases and hunger; avoid risks and hazards; or even to survive. When they were wounded or hit by a kind of disaster, they need long time to recover (Kasperson dan Kasperson, 2001; Tierney, 2006). Vulnerability is not a static status; rather it is a system that formed through a historical process. This was shown in Peru society, where modern style settlement was replacing the traditional settlement architecture which was more adaptive to the environment and had been used for centuries since the period of Inca. This replacement has resulted in environment that is vulnerable to disaster: it is reported that 80 percent of settlements in Lima were destroyed by earthquake.

Many societies failed to avoid the emergence of such vulnerabilities. In 2001, 400 houses in middle class settlement sank in Santa Tecla El Salvador. Before the disaster occurred, the

community had come to the city council to request them to end the development of the settlement but to no avail. The concentration of development in cities has also triggered rapid migration in El Salvador, and as it was also happening in Ahmadabad India, this unprecedented migration has put pressure on the environment sustainability in cities and increased the number of people living with risks and hazards (Wisner, 2003:45). These phenomena show that social economic process contributes to the emergence of vulnerability. Rural-urban migration is partly triggered by rural poverty, and without Government's action to improve employment opportunities and income level, those people will be vulnerable to the impact of disaster.

In many cases, this vulnerability is deepened by the process of global capitalism expansion, such as forest and resources exploitation driven by market forces. This process has weakening people adaptive ability to the environment whilst destroying nature's resilience (Oliver-Smith, 2002: 44; Wisner, 2003: 49). It is important to note Holling observation:

"Now people, economics, and nature are in a process of coevolution on a global scale, each influencing the others in unfamiliar ways and at scales that challenge our traditional understandings of structure and organization, with serious implications for the adaptive capacities of people and societies" (Oliver-Smith, 2002: 45).

Vulnerability is also a structure that systematically formed through the intersection of inequality in class, ethnic, religion, race, gender, and age.

Third, disaster is a test to human limitation and survival. Science and technology development have made people confident of their ability to conquer nature, as is shown by the dichotomous relation in the concept of nature versus culture (wild-tame; object-subject). Modernization is seen as a way to liberate mankind from unpredicted and unkind nature. Heater is put in houses to overcome winter cold, whilst Air Conditioner is invented to overcome summer heat. Houses and building are designed to keep away human from external threat and inconvenience,

medicine and modern health facilities is developed to fight the phantom of diseases, and weapons is created to keep away enemy. This perception is challenged by the occurrence of disaster of various kinds and severities. In *the Black Death*, Ziegler (1997) illustrated a tragedy of human inability to survive or to avoid destiny of self destruction and death. Ancient China history shows severe drought in 1333 which had caused starvation at river Kiang and Hooi. The same thing happened in Houshouang and Honan in 1334 which had caused million deaths. At Tche, more than 5 million people died. This disaster continued to happen through 1349 (Ziegler, 1997).

Disasters which occurred in other places in Asia or Africa, and even in America challenges human ability to manage the environment, to fight against risk and hazard, and to develop social and institutional system that able to protect human and their environment from destruction. Nevertheless, there is a momentum and space where human is severely confronted with limitations. Developed society can still be unable to appropriately respond and mitigate the impact of disaster such as shown by the Katrina hurricane in New Orleans. When the infrastructure design, organization, skills, can not prevent disaster, values and mental behavior become the last coping strategy; *nrima* is understood as not merely a passive behavior, but it is a strength which drives dynamic actions in responding disaster impacts in the aftermath. Cultural responses provide explanation and justification:

“Cultural perceptions of environment hazards, dramatic events, and morality tell much about ideologies of human earthly and human-supernatural relations. How concepts of uncertainty, peril, safety, fortune and fate are constructed and perceived constitutes basic features of worldview. Such cultural construction, and the ways they are enacted, are often, then, posed against the realities experienced in disaster preparation, impact, and recovery. Not only are the nature and operation of mental construction revealed, but at times novel forms and interpretations also emerge. Concept of social and cosmic justice and the nature of existence as well come to the fore” (Oliver-Smith and Hoffman, 2002: 11).

Human limitation can be seen in the way they responding to disaster in the forms of ritual which is a reflection of reinvention and revitalization of norms, values, and existence of a society. Conversely, human strength and power can be seen in the way they identify and acknowledge the existence of natural space where they have power to control, and other space where they are powerless in the face of greater power beyond them (Bankoff, 2003). For this reason, disaster can be seen as an indicator of adaptive ability of a society to interact with their natural and social environment. In this regard, a society is challenged to promote sustainability whilst undergoing development process that tends to bring changes and disrupt social stability (Torry, 1977; Bankoff, 2003). It is interesting to note that a society is often underestimated their ability to cope with disaster when they self perception is focus on their weaknesses, and not their strength.

Fourth, disaster is an opportunity for social and physical improvement. In one hand, natural events caused trauma, harms, disabilities, or death; but on the other hand, it brings opportunity for change in many aspects. Earthquake in Nobi (1891) and Kanto (1923) had bring opportunities for Japan to take social, cultural, spatial, and institutional transformation and reformation. This momentum had been used to design better spatial planning whilst integrating Japanese traditional architecture heritage. This opportunities is also can be seen in the shifting of Japanese perception and behavior which is more adaptive to earthquake disaster and responsive to its impacts (Borland, 2006; Clancey, 2006; Schencking, 2006).

In many cases, disaster brought economic surplus to the area which opening new opportunities locally or even nationally. Sometimes even, the opportunities were better used by and more beneficial for people outside the area (Diamond, 2006: 13). Significant improvement in the aftermath of disaster are improvement in infrastructures: roads, buildings, settlements, hospitals, and markets.

Furthermore, disaster can bring improvement in economic and social condition with the rising demand for goods and services that open employment opportunities. Disaster can bring

employment opportunity that can absorb large number of labor. However, the used of such opportunity by local labor is still restricted due to their low skill and competencies, and the absence of affirmative action by authorities. As a result, employment opportunities tend to bring benefit for people from outside disaster area. In every disaster event, there were always the losers and the winners.

Disaster is an event that provide context for competing interest. This is shown in the way different parties react and respond to disaster impact in the aftermath, such as observed by Schencking:

“A reconstruction process is a series of interrelated, interconnected processes that not only reveal, uncover, and disclose the under-currents in society, but also exacerbate many of the pre-existing or underlying tensions, fissures, or fault lines that exist in the political arena.... Not surprisingly, post-disaster reconstruction is an arena fraught with political, ideological, and economic divisiveness and contestation” (Schencking, 2006: 841).

American disasters in the period of 1960-1988 where 50 disasters occurred in Costa Rica, Nicaragua, El Salvador, Honduras, and Guatemala provide an illustration of how various interests formed and competed. The government and political parties used disaster to form political alliance which led to military cooptation in the government (Pettiford, 1995: 149). In Georgetown, Guyana, flood had become a battle field of two dominated political parties; the People’s Progressive Party (PPP) which has rural base and the People’s National Congress (PNC) which has urban base, to put forth their influence in the process of delivering emergency aid, leaving the victims to become merely an object (Pelling, 2003: 78-80). Other danger of such competing interests is that it impeded rehabilitation and reconstruction process and therefore aggravated the impact of disaster felt by the victim. In many cases, such situation halted relocation effort and economic recovery activity.

Remarks

Studies on disaster just started intensively at the mid of the 20th century. There were hardly any studies carried out before

that period. A few studies carried out by coincidence before that period as the disaster occurred when the researchers were doing interview in the area. That explains why the academic debate on various aspects of disaster is still limited and it is needed not only for a better understanding of the problem, but also for the better of human life. The limitation of the studies in Indonesia, for example, has brought about the poor understanding of the disaster and then every disaster become a new experience for every population, even the disaster has been taking place along the life course of the people in different places. In the 1820, for instance, tsunami had taken place in Bulukumba, South Sulawesi, which is not many people recognize this historical record and then almost no one get inspired from this story when tsunami took place in Aceh. Limited number of research and publication brings about poor quality of policy and intervention in order to response disaster in different places.

There are at least three points can be formulated based on this discussion. First, the need to develop perspective in looking at disaster: from the point of view the victims, the central/local government, NGOs, and international donor and support agencies. The difference in perspective will bring a more comprehensive understanding of the various aspect of disaster. Secondly, the focus of the research can be broaden by looking at more comprehensive issues, such as the experience of disaster by different group of people, coping strategy, the meaning of disaster, the explanation of the causes of disaster through different point of view, and the impact of disaster on the life of the population. Ethnicity, age, gender, class, geographic location will be important variables to be accommodated in the research. Thirdly, the research should also be focusing on the evaluation of the response performed by different agencies, including the implication of the donation to the life of the victim and community. In many cases, the response by different actor and institution have created new burden and destructive for the life of the victim.

Finally, it is significant to note that any research and policy should address the potential victims of disaster. We should immediately orient ourselves to study and then formulate an

appropriate policy and intervention toward the potential victims of any kinds of disaster. The people living in slope of the hill, along the river, in the slums areas, and in many other hazardous location or settlement should be relocated before they experience the disaster. It is also because research has enough competence to state the type, characteristics, and attitude of various kinds of disaster in different geographical, social, economic, political, and cultural setting. The researcher in many cases can already state where the next disaster going to happen.

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POLICY ON DISASTER MANAGEMENT IN INDONESIA FOR THE IMPLEMENTATION OF THE LAW NO. 24/2007

Syamsul Ma'arif

Introduction

Law No. 24 Year 2007 on Disaster Management has been enacted to respond to the need for dependable disaster management system in Indonesia. The enactment of this Disaster Management Law was followed by the enactment of Government Regulation No. 21 Year 2008 on the Implementation of Disaster Management, Government Regulation No. 22 Year 2008 on Disaster Aid Financing and Management, Government Regulation No. 23 Year 2008 on Participation of International Institutions and Foreign Non-Governmental Organizations in Disaster Management, and also Presidential Regulation No. 8 Year 2008 on the National Agency for Disaster Management, has raised the expectation of the public that the implementation of disaster management in the country will be more reliable and that the new disaster management agency will be able to handle effectively each disaster that occurs.

Disaster events that had occurred recently included the West Java earthquake on 2nd of September 2009, flash flood in Mandailing Natal of North Sumatra Province on 15th of September, and also the West Sumatra earthquake on the 30th of September 2009 has provided us with invaluable lessons learnt to increase our capacity for the implementation of disaster management in Indonesia. Each

disaster event always poses specific challenges that in turn will enrich our experiences, knowledge and capacity in emergency management. However, in general, the basic challenges are mostly similar in each of those disaster events.

Each of the emergency situation normally starts with panic period, that is, a certain period which is actually required to enable us to adapt and to think rationally in dealing with the situation. The panic period that occurred in those three disaster events varies and they highly depend on the preparedness level of the community as well as the disaster management actors, including the physical accessibility and communication at the affected areas.

The Tasikmalaya earthquake in West Java has affected vast area with significant population density, starting from Sukabumi up to Cilacap, and has caused 81 persons killed and 42 others missing, and has also heavily damaged 66,863 houses. The panic period did not last long even though the updated information on the latest situation in areas such as Garut, Ciamis and Cianjur, could be obtained within 3 – 5 hours after the earthquake occurred.

The timing of the occurrence of flash floods in Mandailing Natal, that is, during the preparation phase to celebrate Lebaran/ Idul Fitri, has contributed to the challenges in obtaining the information and mobilizing the required resources. The affected areas were the six villages that were isolated as there was no access to get to these locations, due to the inundation and the damage of the bridge. Consequently, the information on the situation could be obtained only through direct inspection by using the Military (TNI) helicopter a few days after the disaster occurred.

The earthquake in West Sumatra was rapidly responded by Jakarta, even though information from the affected areas was very limited due to the limited access for communication. During that time, only two telecommunication providers were still functioning with its limitations. The lack of communication means and the unavailability of the electricity power by PLN for the first three days have led to the information to grow uncontrollably. As a result, there was speculative information on the number of victims

that reached up to 4,000 persons, released mostly by overseas media. This has led to the influx of assistance provided by the international community, which include international institutions, neighboring and donor countries, NGOs, as well as those from within the country and requires specific management. In addition, media coverage has also shown their strong interest on the situation.

The varied understanding among disaster management actors on the emergency operations has become its own challenges and lessons learnt that should be used as the triggering factor in developing public policy related to the development of dependable disaster management system in Indonesia.

I. HAZARDS AND RISKS

Hazards are often viewed as disaster. As such, when a river overflows, people view it as a disaster although the impact is very minimal, and maybe there was no impact at all on the livelihood of the people. Meanwhile, risk is viewed as the probability of a disaster to occur and is highly correlated with the level of hazards and people's vulnerability. Such view or understanding is often used as the basis of consideration in making a policy, especially in disaster management plan.

Meaning of Hazard

Socialization and dissemination of information related to hazards of disasters in Indonesia by various channel of media has been undertaken continuously. However, our awareness on hazards is still considered as very minimal. Usually we become aware only after a real disaster occurs and yet we tend to forget it again as time goes by and there's no longer media coverage. The disaster event in West Sumatra showed that although this area has obtained incredible attention in preparing its communities from the earthquake and Tsunami, they still experienced the long panic period. Some factors may contribute to the panic experienced by the people and one of them could be the lack of understanding on the characteristics of the hazards. As such, they did not know

how to anticipate the situation. The collapse of the buildings was due to the failure of constructions that were not earthquake resistance, as it was not previously considered.

The Law No. 24/2007 has trusted the importance of understanding on the hazards characteristics, disaster risks and the development of plan to anticipate the disasters. However, since the Law is still quite new, the socialization of the Law itself, as well as its ancillary regulations and technical guidance has not reached wide audience. Consequently, in general disaster management is still considered as ad hoc or incidental event during emergency situation. Comprehensive and coherent management at the top level is in existence, however the implementation or operational level is still facing challenges due to lack of understanding and inadequate capacity of the existing disaster management institutions.

To better understand about disaster, we can use multidisciplinary approach. This is related to the primary factors that lead to the occurrence of disasters, namely the hazards and the vulnerability. Hazards, in Bahasa Indonesia is often viewed as "threats" is a natural phenomena or event or human behavior that can trigger the damage, economic loss and or loss of people's lives. Meanwhile, vulnerability is the inability of human beings or the people in dealing with the hazards due to physical, economical, social, cultural and environmental factors.

Since natural phenomena is actually a natural process of physics and chemical balance of the universe, which is often beyond human being's control, the efforts to reduce the existing hazards is often overlooked and viewed as something that will really happen. On this note, when we try to control the risk, it is the vulnerability aspect that we can manage. Risk management will succeed if the characteristics of the hazards are understood and the possible risks are being posed so that strategic plans can be determined.

In the case of an earthquake, in which the main characteristic of the hazard is the destroyed structure of the land and buildings/housings that may affected human beings, some main options for

risk reduction is to strengthen the structure of the constructions and cliffs, as well as to regulate the spatial planning for the housing/residential areas and business activities. The monitoring of the construction, especially for the issuance of the Permit for Construction, must also be based on earthquake resistance technical standards. The implementation of “building code” must become a mandatory in areas that are prone to earthquake.

Padang City, as well as other Municipalities/Districts in West Sumatra, which geologically has the potential to experience devastating earthquake as a result of the movement of Indian Ocean Plate and in-land tectonic of Sumatra, must promptly identify the characteristics of the earthquake by using detailed micro-zonation mapping “Peak Ground Acceleration”, which is a measure of earthquake acceleration on the ground and an important input parameter for earthquake engineering. On this note, cities that have historically experienced destructive earthquake must have micro-zoning map as one of the basis for its development planning.

Vulnerability

Vulnerability is the inability of the people in handling the existing hazards. Vulnerability is highly affected by various factors, namely physical, social, economical and environmental factor. Physical vulnerability is the vulnerability aspect that is easiest to identify since physical condition (e.g., handicap, sick, old, damaged road, etc.) can be visible. Meanwhile, other aspects of vulnerability are quite challenging to be identified clearly. Social vulnerability within the urban community that is usually individualistic is actually higher than the vulnerability of the rural communities that still cultivate the value of solidarity as its social capital.

Social capital such as high social solidarity, followed by capacity building programme for the community in facing the hazards, may save people’s lives or at least reduce the risk of the disasters such as the loss of lives and property. This has been proven in some areas that have been hit by disasters, since the

first responder is the local community and they are the ones who have the ability to save the affected people from fatalities during the “golden period” prior to the arrival of further assistance. 77% of the people affected by the earthquake that hit Kobe, Japan, in 1995 were reported to be saved by self-assistance, their families and people in their surroundings and the other 10 percent was rescued by external assistance.

The environmental condition is also one of the factors that affect the vulnerability of the people. Poor environmental condition will worsen the impact of the occurring disaster. Poorly planned residential areas can hinder the access for mobilizing emergency assistance which will affect the early response and lead to more disaster with devastating impact. For instance, the fire that occurs in crowded residential areas will speed up the spread of the fire and eventually burn more than one Rukun Wilayah (RW).

Community empowerment should be directed to utilize the existing local resources and aim to reduce the community’s vulnerability. The key factor to be successful in this regard is the enhancement of understanding about the characteristics of the hazards and existing risks so that the choices or options to reduce the risks will be in alignment with the local hazards and local resources that are available within the community.

Management Policy

Implementation of Disaster Management

a. Pre-Disaster Phase

During the pre-disaster phase, the approached that should employed is disaster risk reduction that aims to build the resilience of the Indonesian people in facing the disasters. Considering that disaster is a complex problem that requires multi-discipline and multi-sectoral management, disaster management system must be based on firmed legislation to establish the institution, to develop planning that can be implemented, as well as to allocate sufficient budget. All these components are required to enhance the capacity of the people, and also the disaster management

institution. With such approach, we can create the resilience of the people. It is hoped that such systemized efforts can be internalized and eventually become part of daily routines of our people who reside in disaster prone areas.

For the reason mentioned above, the initiative to build disaster management system has been undertaken and the priority has been put on the formulation of Law No. 24/2007, as well as its ancillary regulations. Following the Government Regulations and Presidential Regulations, other Ministerial Regulations were also enacted, such as Ministerial Regulation of Home Affairs No. 46 year 2008 on Organization and Administration of Local Agency for Disaster Management (BPBD) and Regulation of Chief of BNPB no. 3 Year 2008 on the establishment of BNPBD. As a result, to date, BNPB has been established at the national level, and 19 BPBD at the Provincial level, and also 42 others at the District/Municipality level. This is quite an achievement although the process has been considered as slow since the Law no. 24/2007 requires the establishment of disaster management institutions at the local level within one year after its enactment.

Disaster management institutions by the government are crucial as they are the focal point for disaster management. Moreover, with the spirit of togetherness/solidarity, the focal points at the community and private sector must also be in existence. On this note, BNPB has encouraged and facilitated the establishment of non-formal institutions at the community and local level in the forms of disaster management forums, including those within the universities, such as Centers of Studies, for the following reasons:

- Universities have the capacity to maintain and enhance science and technology related to disasters
- Universities have the ability to effectively disseminate to the community, local government, as well as to its students as they will become the nation's leaders in the future
- Universities have a common mission that must be implemented, namely Tri Darma

To ensure that disaster management can be implemented effectively, the planning and budget allocations become crucial factors. For this reason, we develop our programmes through National Disaster Management Plan and National Action Plan that will be integrated into the development planning to secure its funding.

b. During Disaster (Emergency Situation)

During this phase, the activities that need to be undertaken is related to emergency management, which aims to 'save more lives". The main activities include searching, rescuing and evacuation, as well as the provision of basic needs, such as drinking water, food and shelter for the affected population, Furthermore, during this phase, efforts should also be made for emergency recovery, especially in regard to public facility and utility that is vital for the people's livelihood, such as health services, transportation, electricity, communication, markets, and banking operation, as well as other supplies of energy.

Information and communication is one of the factors that determine the success of emergency management. This factor is very crucial to support the command function mandated to BNPB and or BPBD, depending on the status or level of emergency. There was an interesting case related to the West Sumatra earthquake that occurred on 30th of September, in which the electricity and communication system was damaged, and hindered the dissemination of accurate information on the real condition or situation of the affected areas. As a consequence unverified news and information has caused panics and challenges in coordinating the influx of the volunteers, both, on the individual as well as on the organizational basis, national and international, including those from friendly countries. This lesson learned is invaluable and will be evaluated soon to improve the implementation of disaster management in Indonesia. It is worth to know and to be aware of that each disaster has its own uniqueness; therefore, we have to believe that each disaster will require specific management. In other words, in each emergency operation, is indeed a special operation.

Having learned from the experiences in West Sumatra, the main weakness seems to lie on the management of assistance/logistics, as well as the lack of information on the damages and humanitarian needs during the early days of the emergency period. Many factors contributed to these challenges, such as the overwhelming supply of logistics was not supported by adequate human resources and equipment. Many actors at the provincial and district level were among the affected population. As such the panic period was prolonged and this was the general condition during the early period of emergency situation.

The influx of local, national and international assistance requires well-established mechanism. Humanitarian solidarity that was induced by, among other, the media news, has encouraged the local government in the surrounding of West Sumatra province, and even the whole nation, to grow their empathy which resulting in the provision of assistance in the forms of funding, human resources, and also logistics. The assistance from the international community also overflowed and arrived within the early days of the emergency phase as the government provided easy access for these assistance. The number of SAR teams mobilized during the first week was 21 from 15 nations, consisting 688 personnel and 67 search dogs. It was recorded there were 226 organizations, overseas delegations, military, police, NGOs, UN agencies and red cross societies.

As mandated by the Law and Government Regulation No. 23 Year 2008 the participation of international institutions and foreign non-governmental organizations is coordinated by BNPB after they obtain diplomatic clearance from the Ministry of Foreign Affairs. International assistance derived from the Military, TNI is the coordinator, while BNPB is providing the guidance on where the assistance should be mobilized or deployed.

c. Post-Disaster Phase

During post-disaster phase, the main activity is targeting the recovery of the livelihood condition of the affected people and building them back better, despite of the existing limitations. The

allocation of the budget from the government to cover the personal asset/housing is mostly in the form of stimulus or compensation. The government does not replace all damaged and losses of personal assets, however, the government is committed to reconstruct the damaged public facility by prioritizing those considered as vital infrastructures.

Data and information on damages and losses is actually the basis for developing rehabilitation and reconstruction planning. Based on the experiences in various disaster affected areas, initial data provided by the local government usually indicate numbers that still requires verification to ensure the level of damages. As an example is the case in West Sumatra, in which currently 135,448 houses were heavily damaged, 65,380 were moderately damaged and 78,604 others were slightly damaged, and the total is 279,432. If one house represents one family consisting of 5 members, it means that the total number of affected population is 1,397,160 persons. Meanwhile, the number of population in Padang City and Padang Pariaman District is less than one million. On this note, the government provides lump sum for side-dishes for the “displaced population”, based on that calculation (which means that the whole population is considered as displaced people). The tendency to provide such uncertain data happens in nearly all areas affected by the disasters.

To anticipate such situation, the government undertakes verification efforts by using the ECLAC (Economic Commission for Latin America and the Carribean) method, which has been adapted into the Indonesian context. Based on the verification, more realistic data (close to real fact) on the damage and losses will be obtained and will be used as the basis of consideration in developing the plan and prioritization of post-disaster activities. This verification process involves lecturers and students from local universities.

System Development

The development of disaster management system is based on the Law No. 24 Year 2007 on Disaster Mangement, which entrusted

that disaster management should be implemented holistically and is indeed “everybody’s business” and therefore, should be integrated between the government, civil society and private sector. Consequently, disaster management must be well planned and coordinated among the relevant actors, in which the Government and local government are the primary responsible parties.

As mandated by Law No. 24/2007, the implementation of disaster management must be undertaken once the policy is determined, as well as within pre-disaster, during and post-disaster phase. When the policy is about to be determined, participatory approach to all relevant stakeholders must be used and it can be built through various means, such as using the coordination mechanism of a Forum, at the national level known as National Platform (Planas). It is expected that such coordination mechanism can effectively accommodate the needs of all relevant stakeholders.

Management Capacity

The experiences of our ancestors in adapting to the nature of this country that is full of challenges should be counted as indigenous knowledge to understand better about disasters. For this reason, the ability and knowledge to adapt to the nature must be explored further and learned so that it will become a theory in dealing with disasters, that is originated from our own nation. We must believe that each disaster has its own specific characteristics, therefore, it is our challenge to be able to produce disaster management concepts and methods what has Indonesian characteristics.

a. Human Resources Capacity

We must admit that the capacity of disaster management in Indonesia still requires to be strengthened. Strengths and resources that exist within the community must be further identified and developed. Cultural values that are rooted within the community

must be explored and cultivated as social capital that can enhance the resilience of the people against disasters. By utilizing the advanced science and technology, we will be able to strengthen our capacity in handling disaster and the number of disaster events, as well as its impacts can then be reduced.

The enhancement of preparedness measures to deal with emergency situation must be continuously exercised, drilled and planned. This is in alignment with what has been agreed at the Hyogo Framework for Action for Disaster Risk Reduction, in which one of its priority is to increase the preparedness measure in order to better response for disasters.

The capacity building of human resources should not be limited to the government authorities but also to the communities who are the objects as well as the subjects within the disaster management.

b. Equipment

Series of disasters that occurred simultaneously within last month has made us become more aware on the importance of available standard equipment that is normally required during sudden-on-set emergency that threaten the lives of thousands of people with vast impacts. The standard equipment that must be owned or at least made available include:

- moderate communication system, and yet reliable and functioning in the affected areas where the regular electricity power and communication line is damaged
- transportation means (air, land and sea) available anytime
- dependable emergency management system

Even though we have reliable equipment, we still need to ensure that the human resources are well trained and experienced in utilizing that equipment to ensure optimal results. On this note, training and exercises at all levels must be undertaken.

The Role Of Universities

Universities are national assets in maintaining the development and sustainability of science and technology on disaster in Indonesia. Furthermore, universities are the mediator to anchor the needs of the community, government and private sector as they are viewed as neutral. On this note, BNPB has gathered this strength through the establishment of University forum for disaster management. Through this forum, the coordination mechanism and information exchange to socialize and disseminate disaster management policies among universities, as well as to the communities, private sectors and government can be done.

In each disaster with devastating impacts, being requested or not, universities always involve in providing the assistance as well as in undertaking assessment in various aspects. This is the reason why BNPB attempts to synergize the needs for information that is scientific based with the scientific activities in disaster management. For instance, Universities in Yogyakarta play its role in all phases of disaster management in that province as well as in other parts of the country. We know that the University of Gadjah Mada has developed an early warning equipment for land slides which was also facilitated by BNPB and installed at Karang Anyar of Central Java. UII has developed the design of the earthquake-resistance houses, etc. Detailed micro-zoning mapping for areas prone to earthquake will be very useful for decision makers dealing with spatial planning.

In planning, both through direct and indirect means, universities have made significant contribution, such as the preparation of spatial planning and also other policies related to disaster risk reduction. Therefore, we would like to encourage and continuously facilitate the activities undertaken by universities in enhancing sciences, methods and technology that will support the capacity building of the Indonesian nation so that it will become resilience against disasters.

Challenges

The Law No. 24/2007 on Disaster Management as well as its ancillary regulations is still considered as new. As such they are still required to be further socialized and explained in more detailed, so that they will become the technical guidance for the implementation of disaster management.

The understanding of the people on the hazards and vulnerability is still lacking. As such, they are not aware on the high risks of the disasters that they are facing. Consequently, the preparedness measure such as the awareness on the needs to build the capacity of individuals, as well as the communities in the surroundings, is still considered as weak. People still relies on the government as their main helper as they are not aware that they themselves have the resources, namely thhe social capital and also their own individual capacity.

At the field or operational level during the emergency phase, the weakest point of the existing disaster management institutions is that the rapid assessment on the situation and humanitarian needs is not undertaken effectively:

- Limited information and weak communication system
- Limited number of human resources and equipment
- Organization Emergency operation is still not functioning due to lack of socialization of the available guidelines so that the information cannot be followed up

The overflow of assistance that arrives spontaneously requires dependable logistics management system. On the other hand, the scattered locations of the affected areas, as well as the poor and limited access to those areas, hinder the mobilization of assistance.

The assistance provided to the affected population can also trigger social jealousy among the unaffected population or those who are slightly affected. This was indicated on the increasing number of damages, especially those of personal assets such as heavily damaged houses. This must be induced by the amount of compensation that will be provided.

Media has its incredible strength in calming, as well as in creating panic among the people in the communities.

Remarks

We hope that this seminar provide the opportunity to strengthen the network among researchers and disaster management actors and enhance the efforts in sharing knowledge and information on theory, results of researches, experiences, and policies on disaster management in Indonesia so that they become significant contribution of the universities in accelerating the development of dependable disaster management system.

ORGANIZATIONAL ADAPTATION AND COORDINATION IN DISASTER MANAGEMENT

Sunyoto Usman

Introduction

The first reconstruction fund promised by the government had been given. *Pokmas* (the community group) now no longer needs to worry. They only need to consult with the facilitators how to allocate the funds according to the budget plan. It is very important for if the government found a deviation, the next reconstruction funds will not be given.

Does it mean that the problems of reconstruction have been solved? Not that simple. It is found that the policy of reconstruction funds distribution through community group instrument groups is potentially emerged new problems. Institutionally, *Pokmas* (community group) is an organization which only stands for residents whose house are classified as heavily damaged (collapsed) building. Meanwhile, for those whose house are categorized as moderate or minor damaged or can be occupied (although only partly), cannot become member of the group. They do not have the access to the reconstruction fund.

Such policies may be quite reasonable, but not easily implemented. House is a series of one building system. House is not like a layer cake which can be sliced easily. Hence, a house which is classified into a partly damaged category is still dangerous to occupy. If the number of them which fall into this category is large

enough, the fund may invite social jealousy. Both of the groups whose house was heavily or partly damaged were suffering and living in a tent, but they got different treatment from the government.

Members of *Pokmas* (community group) are representative of each family. If there are groups that have 15 members, it means that there are 15 families in the area. Reconstruction fund is distributed on a family-base, meaning groups that have 15 family members will receive 15 “packages” of reconstruction funds. The question arise is what if a house is inhabited by several families? Are the funds will also be budgeted for the reconstruction of 15 families? If it happens, it is obviously unfair since a house will get more than one “package” of construction funds. But if is given on the basis of the number of damaged houses, there will be families who lost their rights.

The house which is heavily damaged (collapsed) and receives a reconstruction fund must be on a self property status. It means that the tenant, “*Mager Sari*” or “*ngindung*” will not receive the fund although the houses they rent are badly damaged (collapsed). The houses which stand on a government land owned also ineligible to get the funds. Until now there is no clarity of a specially designed policy for them.

So far, many of the residence whose house was heavily damaged had built the house with their own money. They got the fund from their relatives, companion, private sector, donor agencies, or NGOs, and even from a bank loan. They reportedly remain eligible to receive reconstruction funds from the government as long as they can show that their houses are built on earthquake-resistant construction. However, until now the procedure to determine earthquake resistant construction is still unclear, or at least not yet broadly known by the public.

We need to consider that the *Pokmas* (community group)-based reconstruction funding aid still cannot answer the housing needs of those who suffer from the earthquake disaster. Therefore the agenda of housing development undertaken by the private sector, NGOs, donor agencies, as well as own funds must be supported

and facilitated. The Government should proactively develop a network and coordinate with those stakeholders.

The Reconstruction Fund

Debates on the mechanism of reconstruction funds for the victims of earthquake are still going and there is no sign of convergence. The government remains adamant that reconstruction funds should be distributed in stages. According to the government, the fund distribution mechanism must be preceded by the formation of groups, priorities ordering and technical planning of earthquake resistant housing, and administration preparation for the accountability of the future distributed funds.

On the other hand, some of the residents are still refusing the mechanisms. They demand that the reconstruction funds be shared equally. For them, the formation of the group is not difficult, but determining priorities who shall receive earlier reconstruction funds is not a simple thing. In such a sad situation, categorizing socio-economic status to determine priorities is not appropriate for they are in the same sorrow. That is why, distributing funds in stages is not only damaging their 'togetherness' feeling, but also potentially emerge jealousy and social conflict.

So, what should be done? It seems that the process of reconstruction funds distribution cannot be performed equally. The two kinds of mechanisms above might be implemented simultaneously. Staged-reconstruction funds distribution can be implemented in communities which have: (1) not totally-damaged house, meaning that some residents are still able to inhabit the house, (2) most citizens have been able to build the house by themselves, either with their own funds or the help of relatives or relatives-governmental organizations, and (3) housing needs is not too urgent, in the sense that people are still prioritize the fulfillment of other needs, especially business recovery. While the equally reconstruction funds distribution may be prioritize to for totally damaged areas, where most of the citizens cannot built the houses by themselves and urgently need housing.

In such conditions, the urgently needed step is not a systematic design, but a relevant implementation and monitoring strategy. Therefore, whatever the chosen mechanism is (given in stages or shared flat), it should be able to maintain participation, transparency, and accountability. The government needs to invite the citizen to sit on the same room and discuss the best solution, for they are the subjects who have an interest and need housing.

The distribution of the reconstruction funds should be accompanied by clear procedures. Clarity of this procedure will provide assurance (security), create certainty (certainty), and security (safety) for the citizens. So far, most people feel unsure whether they really will receive the promised reconstruction funds. Until now most people think that they will never get a guarantee, how much reconstruction funds they will obtain, and when it will be realized. Initially, they were promised to get USD 10 to USD 30 million, but then the government said that they will not receive that much. Some residents also did not know who will distribute the funds, and to whom it will be given. That is why; it is understandable if there are a lot of public distrust grows among them.

Rehabilitation and Reconstruction Phase 1

Entering the rehabilitation and reconstruction phase is not a simple thing. Besides the demand of basic needs (food, housing, education and health) which needed to be fulfilled, the government also needed to provide policies and facilitations which were able to motivate the society to perform productive activities. During this process, the policy of disaster victims assisting was no longer in planning framework, but under a management umbrella which focusing on participation. Citizens were no longer put as objects or the receiver of donation or help, but as subjects who had the ability to identify problems and find the solutions and able to create and use any opportunity.

Nowadays, there are many parties have developed a variety of grand strategy to deal with the issues and answer toward the needs of rehabilitation and reconstruction. As reported in the recent

daily newspaper, there are some parties which already implement some recovery actions, such as fixing and rebuilding damaged public facilities, constructing earthquake-resistant house model, promoting economic infrastructure (markets and traditional crafts), and rolling the business capital. Of course, we have to support those actions, however, they should also be regulated in order to answer the sense of justice, and not damage the sovereignty and personality. We have to realize that any form of recovery action is performed in a social area. Any form of recovery action shall meet norms, social values and personality of the community because even though their houses destroyed, infrastructure damaged, but the culture and social structure are still preserving.

There are at least three things to be done to support the rehabilitation and reconstruction activities. First, set up a board of trustees, a body at the provincial level which is expected to make strategic policies related to rehabilitation and reconstruction activities. This body is a representation of the stakeholders (such as: community, government, businesses, professionals and non-governmental organizations). Government-led terrace such as governors, regents, and mayors can be placed as a core controller of the agency. This body could also horizontally have an institutional relationship with the government (central), national agencies and international humanitarian care.

This agency has a secretariat which is expected to facilitate and provide operational support toward various forms of policies and programs implemented later. The secretariat can be lead by the Secretary to the Regional Government, both in the provincial and regency/city level. It also has a board of audit, which was assigned to oversee the financial traffic and the cost of rehabilitation and reconstruction activities. In this function, the council can work with financial Supervisory Board, both at national and local levels.

Institutionally, the agency could also relate to provincial and regency/city government agencies. Institutional relations should be arranged properly so that all of the implemented policies and programs would not be conflicting with the policies and programs of provincial and district/city government agencies. The board can also have a relationship with the institutions of government

organizations, universities, private companies or religious organizations that have been committed to facilitate, provide aid and assistance to community rehabilitation and reconstruction activities.

Second, clear, comprehensive and systematic grand strategy of rehabilitation and reconstruction which involve active participation of all levels of society should be immediately set of. In the grand strategy, it should clearly defined what issues to be answered, the needs to be met, the players who will implement them, the necessary amount of budget, and other forms of activities and budget coverage responsibility. The issues to be answered and the needs to be met should come from the community, not from the central government or foreign donor agencies. Rehabilitation and reconstruction phase may be started from economic empowerment, such as improving agricultural infrastructure, traditional markets, and centers of handicraft industries (leather, silver, batik, pottery, tiles, traditional food, etc). Then, we can perform simultaneously residential construction by considering earthquake resistant housing design, the adequacy of raw materials, and the adequacy of labors, brick layer trainers, and government aid distribution mechanism for housing.

Third, a good communication system among stakeholders should be developed. Our society life is totally affected by public distrust. That is why; it is understandable if we often find are news on people who blame each other and become selfish. Some of the citizens felt disappointed with the performance of government officials, which as assessed to be slow and unprofessional in distributing aid, dealing with problems and addressing the needs. The Government was also disappointed with the activities of some groups who concerned with disasters (such as artist, college, politicians and others) for operating without coordination. The local government felt disappointed with the central government because it's lack of empathy and made inconsistent policies which put the local government officers into a difficult position.

The development of good communication systems requires knowledge of the purpose, recipient or target characteristics, and characteristics of the sender, the surrounding circumstances, the

media, and content of the message. The major capital to build good communication systems is that all parties must be in the same vision and strategy. The process of rehabilitation and reconstruction needs to be understood as part of an effort to create not only to facilitate all forms of assistance and care to be arrive on time and can be enjoyed by the community, but moreover to create conducive conditions to the establishment of an independent and honorable society.

All parties should understand that those who are suffering from the disaster is undergoing a change in the life and living. Some of them suffer from physical disabilities, hundreds of people lost relatives, relatives and friends, and thousands of people lost their shelter. Therefore, any form of policies and programs in the rehabilitation and reconstruction phase should be packed carefully. Policies and programs must be able to bring security and certainty of life. This earthquake disaster must be seen as a stimulant to build a genuine attention and enhance solidarity, not constructed as a stage to demonstrate the economic power or event to gain political support.

Rehabilitation and Reconstruction Phase 2

The 5.9-scale earthquake richer May 27, 2006 still left us with grief. Now, although the grief has not been recover, that earthquake disaster does not dim the life spirit of the victims. Economic activities of the people began to squirm slowly but surely. They are still living in tents and makeshift facilities, but they begin to return to work, do not want to continue to dissolve in grief. Some of them even started to build their own houses by themselves, without waiting for the central government assistance which has not arise.

As reported in today's newspaper, the provincial and regency/city government have promised to improve public facilities. Therefore, we may see renovated schools, society health centers, and traditional markets soon. The business and banking stakeholders have promised to give capital to small and medium entrepreneurs. Therefore, transactions in the industry centers

would probably flare again. The activists also remain actively give mentoring and counseling services. The trauma suffered by victims of the earthquake may soon vanish.

Does it mean that the rehabilitation and construction phase will go smoothly without a hitch? Not that simple. In the field, It is identified that each party who is involved in the process of rehabilitation and reconstruction is walking alone, without coordination. They are in the same goals, but not communicate to each other. Even there was a loud cynical complaint about government performance, business, and NGOs. Government is complained to be slow to anticipate the situation, so do not be surprised if in some places aid distribution is choked. The business party is suspected to hide an agenda to show local business potential own by the region for a commercial goal. And, the politicians are considered to perform political maneuvering to get support on the suffering of disaster victims.

Coordination difficulties mainly stem from differences in how to construct a problem in the process of rehabilitation and reconstruction. First, those who think that the main issues that need to be answered is still around giving aid and charity. The evidence is more longing than the promise. They keep on fighting for the rights of victims, while continuing to build a social network to knock generous hearted people to give some of their to ease the burden of the victims. This group's activities include establishing coordination posts, making and distributing charity boxes, and opening accounts both in government and private banks. For this group what is needed is real action to eliminate of the victims' suffered.

Secondly, those who think that the most important issue in the process of rehabilitation and reconstruction is the clarity of the grand plan. For them, vagueness of the grand plan is not only a blur of the status and role of the parties involved in the disaster recovery process, but also create duplication activities and waste of money. In an effort to build such a grand plan, this group performs collaboration with the experts or experienced practitioners of earthquake problem. Their activities started from mapping the problem and identify the needs of victims. Next, they determine

priority areas that should be worked. For this group, the disaster victim's recovery program and policy must be systematic and can be evaluated through scientific rules.

Third, those who think that the most important issue in the rehabilitation and reconstruction process is the maintenance of victims' independence and dignity. For them, the earthquake did result in the destroyed houses, but the social structures, norms and social values are still preserved. Leaderships and distribute roles there. This group would prefer to the accelerated emergency response, so people are not accustomed to meet the need through the generosity of others. Instead, they have to strengthen the heart, work ethic needs to be raised in order to make them willing, knowing and able to make use of the possibilities. This group always says aloud that all parties should not capitalize and politicize the aid to disaster victims.

Is it possible to unite those three groups so that they can build a better coordination in the rehabilitation and reconstruction process? Maybe it is possible; I just do not expect that it could run smoothly. In the context of our socio-political life, long before the May 27 earthquake happened, there were already seeds of mutual distrust between the communities, the public sector, private sector, professionals, and NGOs. It is as if to find an expression space when it meets the process of rehabilitation and reconstruction of disaster victims. Our task now is to build a good disaster management, or a management model which prioritizes participation, transparency, professionalism, and integrity of all parties. Failure to build a good disaster management, not only makes the process of rehabilitation and reconstruction get the wrong direction, but the potentially create worse social disaster.

SPECTACLES OF INNOCENT SUFFERING: MEDIA IMAGES OF CHILDREN DURING DISASTER (CASE OF PADANG EARTHQUAKE)

Ratna Noviani

Introduction

These last two years were bad years for Indonesia. Various disasters from floods, terrorist attacks to earthquakes occurred in some areas causing thousands of death and injured people. The latest big disaster was a powerful earthquake, which rocked Padang, West Sumatera on September 30, 2009, trapping thousands under collapsed and damaged buildings. More than a thousand of people were confirmed dead and hundreds were reported seriously injured. The tragic event has captured mass media attention worldwide. In this paper I will discuss news media report on the Padang earthquake and the way in which news media visualize human suffering. I focus mainly on how media make use of and functionalize photographic images of suffering children in their coverage on the tragic event. Images of suffering children as 'ideal' victims of natural disaster have been largely used not merely by the media but also by other interests which may have certain political implications.

Media Images during Disaster

Natural disaster, including earthquake, is one of momentous events which mostly gain media attention. Media – print, broad-

cast and online – play a significant role on this point to foster a collective global compassion regarding the ongoing tragic event. In reporting the event, media often needs pictures to inform a wide audience about what actually happened during the coverage of disasters. To ensure audience, media therefore needs certain pictures as visual evidences of the reported events. In this regard, news coverage often use and expose pictures of damaged properties and of human suffering that have the effect of moving and inspiring pity in its audience. Televisions usually provide footages which expose the damaged situation, the collapsed building and the bloody victims of the disasters. More than that, certain footages, especially which contain tragic and horrible aspects of disaster, will repetitively play to its viewers. Televisions tend to overexpose injured and bloody victims and consider them as the striking evidences of the tragic event.

The use of photographic images in news coverage of disasters also becomes one striking strategy to attract people's attention to the coverage. Photographic image is often perceived as being an unmediated copy of the real world, a trace of reality (Sturken & Cartwright 2005, p.17). It has a capacity to freeze a moment of time, which enables the image to speak the truth. According to McNay (2009, p.626), what happens in front of the camera is beyond the control of the photographer. As during the coverage of earthquake, photographers only have the opportunity to see and record the event, not control the event. It is important to remember, however, that the way in which the image producers direct their camera is not neutral. Image production process includes certain representation commitments, e.g., it records certain kind of things and not others, and it records and exposes certain objects more intense and complete than others. Such representational commitments determine in a very obvious way the limits of a resulting images' potential uses in acts of communication. On this point, Mitchell argues,

“We must consider....how [photographs] are *used* – how their potential uses are established, how they are appropriated and exchanged, how they are combined with words and other pictures and made to play roles in narratives and how they may have the effect of creating beliefs and desires” (Mitchell 1992, p.192)

Regarding the use of photographic images as visual evidences, William J. Mitchells also asserts that a piece of evidence is a fact which has been pressed into service, used to support some claim or argument. Just as the use of photographic images in news coverage on disasters, they are functionalized by the media to support media claims about the tragic events. Those images are performed in news media, as Rössler (1989) asserts, not only to elicit a response in its viewers, but, it might induce viewers to do certain action (in Johnson 2005). In other words, the use of still photographic images are mostly ideological and should be faced the questions of who uses the image, in what context, for what purpose.

Images of Innocent Suffering during Earthquake

Media coverage on natural disasters, including earthquake, often involves pictures of human suffering in order to underline the horrible impact of the disaster to human life. Suffering children are among the most frequently chosen subjects to visualize such tragedies. Children are often seen as helpless in such tragic situations and therefore they are more suitable to be performed and depicted in media as evidences of suffering. In her writing on media coverage on famine, Moeller asserts that children become headliners of media (2002, p. 37). They become entry point for the media to discuss tragic events or issues, because children are perceived to be “one of the few ways to attract eyeballs”. The use of images of suffering children in media, in other words, become one of commercial strategies to attract people attention toward media reports on disasters. Images of children especially when they show their feelings by looking sad, showing pain or crying are considered as perfect evidences of human suffering. In this regard, children are perceived as “ideal” victims, because they are so helpless, innocent, vulnerable and thereby deserve other people’s, particularly adult’s, pity and compassion.

During the last big earthquake which hit Padang, West Sumatra, Indonesia, media tendency to use images of innocent suffering is palpable. In the case of television footages, it is obser-

vable that Indonesian television channels tend to overexpose human suffering caused by the earthquake in their footages. Television tend to play overly repetitive footages of human suffering during the earthquake, especially the suffering of children, women and older people. What is more, in those footages, television camera attempts to expose looking sad children or injured children, zoom in their injuries and bloody bandage and they are even interviewed by television reporters who seek for convincing evidence regarding the earthquake. In another footage, it is revealed that television also intentionally uses child as a narrator, whose innocent voice is played in the footage to accompany the running images. The innocent side of those children is functionalized by the media to dramatize the disastrous event.

Some photographic images also appeared in print and online media, both national and international, trying to offer a kind of true evidence of what was happening during the earthquake. Those photographic images were taken by photographers of major press agencies and were transmitted worldwide through print and online media. It is unsurprising that one image could be appeared or published in more than two media, which indicate that the image of the innocent suffering has a convincing evidential force about the earthquake. The photographic images of suffering children are intended by the media to be read as a visual piece of factual, objective information, and thereby, as an eyewitness of the earthquake. In so doing, those images are presented in high visual modality, the way in which the innocent suffering is framed, the angle of the camera, the choice of the object; all these work to reinforce the evidential force the images can provide to the spectators. As seen for instance in the photographic images as follow, the images offer spectacles of pain and suffering experienced by children during the earthquake.



Figure 1 Victim of Padang

This photographic image was published in Germany online daily news, *Bild.de*, 3/10/2009 under caption “Gonrizal (11) weint vor Schmerzen. Er liegt auf einer duenner Matte, in einem notduerftigen Krankenlager in Padang” [Gonrizal (11) cries for pain. He laid on a think bed at emergency camp in Padang], photographed by dpa (www.bild.de; accessed 3 October 2009)



Figure 2 Children as disaster victim

This photographic image was published at www.bild.de under caption "Die kleine Dafi (9) hat ueberlebt. Vor ihr im Baby-Koerbchen liegt ihr kleiner Bruder. Das Haus, in dem sie wohnte, ist voellig zerstoert" [The little Dafi (9) was rescued. In front of her laid her little brother in a baby basket], photographed by dpa (www.bild.de; accessed 3 October 2009)



Figure 3
Padang: An Injured Quake Survivor Sleeps with the Koran at a Hospital

This photographic image was published at www.guardian.co.uk 01/10/2009 under caption "Padang: an injured quake survivor sleeps with the Koran at a hospital", photographed by Herlambang/EPA (accessed 03/10/2009).



Figure 4 Padang: An Injured Boy in Hospital

This image was published at www.guardian.co.uk 01/02/2009 under caption "Padang: an injured boy in hospital", photographed by Bay Ismoyo, AFP (accessed 03/10/2010).



Figure 5 More children subjected to media capture

This image was published at www.washingtonpost.com 02/10/2009 under caption "Saiful carries his brother Aziz inside a house damaged by an earthquake in Pariaman, a coastal town about 40 miles (60 kilometers) northwest of Padang, West Sumatera, Indonesia, Friday Oct. 2, 2009. Wednesday's 7.6 magnitude earthquake started at sea and quickly rippled through Sumatra, the westernmost island in the Indonesian archipelago", photographed by Achmad Ibrahim, AP. (Accessed 04/10/2009)



Figure 6 Indonesian boy as survivor from Padang Earthquake

This picture was published at www.washingtonpost.com 04/10/2009 under caption "Indonesian boy Mohammed Ansri, 2, who was injured in last Wednesday's earthquake, shouts in pain as he lays in a makeshift hospital in the Sumatran Island cit of Padang, Indonesia, Saturday, Oct. 3, 2009. The full extent of Wednesday's 7.6 magnitude earthquake was becoming apparent three days later as aid workers and government officials reached remote villages in the hills along Sumatra island's western coast", photographed by Kevin Frayer, AP (Accessed 04/10/2009)

The images of innocent suffering, albeit being published in different media, have a similar inclination; they capture and expose children who are in pain and look sad and vulnerable. Some images do not need a long caption to delineate what is happening to the suffering children depicted in it. It seems that those images have already delivered more than a thousand words to illuminate the tragic event experienced by those innocent children. It could be seen that those images tend to capture and expose the innocent side of those children, their vulnerability, their helplessness, their unspoken pain. The injured head and body, the bloody bandage and the empty gaze when they were looking at the camera amidst the damaged building as if are talking directly to the picture spectators, the horrible situation they experienced during the earthquake. Those images also tend to remove adults and leave them outside the frame. In image 1, 3, 4 and 6, for instance, the adults next to the photographed children are simply cut out, indicating that the children are detached from anything and anyone surrounding. Those children become the full centre of such images, without the presence of others.

Those images, in my opinion, have been functionalized by the media to underline the assumption that children are "the most ideal victims" to be exposed in media coverage. They become the striking evidences of the tragedy which caused suffering of human being. The absence of adults in those pictures strengthen their suffering, since children should not be without adults' protection. As Wells notes, "The general acceptance in everyday life [is] that adults have a responsibility to care for children" (2007, p.60) In other words, children in fact demand being accompanied, cared

for and protected by adults. During disasters such as earthquake the shelter children obtained from adults was suddenly broken in. In this situation, children are usually left helpless and vulnerable. Media attempt to expose this dramatic side of lone children in an intense way, which to some extent could arouse tragic impression toward to disastrous event. It is also observable that images of the lone suffering children are often performed and framed within the narratives of rescue. To underscore the children's need of rescue, the photographic images tend to frame children all alone, without the presence of adults. The lone children, on this point, offers subject position for the image's spectators to be the possible protectors and carers for the children. Such an image can arise the feeling of pity among spectators, which then can inspire them to do certain action.

The Political Use of Images of Suffering Children

The spectacle of innocent suffering in media during disaster is not without any purposes. As mentioned earlier, children who are endowed with innocent and vulnerable characteristics become the most ideal victims who provide evidential force for its spectators. The ubiquitous images of suffering children in the media, national and international, is originated predominantly from media's commercial interest to sell information for profit. Dramatic and sensational human stories, especially regarding the innocent ones, are considered as news with a very high value. By this reason, suffering children are commodified and objectified by media to arise dramatic impression of the tragedy. The more dramatic and sensational spectacle the media can provide, the more profit they can dig up. However, media often justify the representation of suffering and pain during disaster as being in the public interests. Media often excuse that public has the right to know about what is the truth and is happening during disaster. The way in which they visualize disaster victims, including the innocent ones, is considered as media effort in fulfilling objective and factual information for the public. Children, in this regard, become worthy and ideal victims to be repetitively shown in the media. and become the perfect indicator that media do their reportage very

well. Media often claims that they just provide evidences which can speak the truth to spectators. In other words, images of suffering children become perfect indicators to demonstrate the good work of the media in providing a piece of truth in their coverage. It is important to note however that the choice of camera lens in shooting object is never neutral. It involves photographer's subjective choice through selection and framing. When a photograph records a certain object, at the same time it ignores and disregard the others. This choice thereby involved the notion of purpose, of how the image is being used in certain contexts. And in the context of media, it is hard to detach the use of certain images from media's commercial interests.

Other than commercial interest of media, the use of images of suffering children during disaster is also aimed to produce moral spectatorship. In this understanding, spectacle of suffering children are used to evoke the feeling of pity among spectators, which subsequently reveal benevolent concern and action for the suffering. It seems that media know very well the extraordinarily visceral impact of the pictures of innocent suffering. Such images can call and compell spectators to feel a moral obligation to act in the face of distant suffering. There is an assumption that photographic images has the moral capacity to build bonds of mutual responsibility and solidarity that unite all people in the world toward suffering victims of disasters (Konstantinidou 2008, 144). In the context of Padang earthquake, the spectacle of innocent suffering during the earthquake are presented in media to draw other people's attention to it and direct them to certain actions to alleviate the suffering. Following Luc Boltanski, such an image is used to generate "politics of pity" (1999, p.3). In this understanding, the overexposed helplessness and vulnerability of suffering children in media potentially call some response of pity, which is possibly transformed into certain actions. According to Boltansky, such actions could take into two forms, that is, paying such as charity, and speaking. Speaking can reduce the unfortunate's suffering and for it to be regarded as a form of action. In the sense of 'speaking is acting', a different kind of instrument is needed: public opinion engaging directly with political institu-

tions. It means, citizens can express their opinion – may take form of election, demonstration or even revolt – to pressure its governments to intervene on behalf of the unfortunate.

It could be said that images of suffering children are used by media to mobilize pity and connect such a feeling to political action. The way in which suffering children are represented in media could result in a response of concern from the spectators, usually in the form of donation and charity. In this regard, the suffering children still become objects to arouse emotional response and sympathy, and subsequently to raise donation. In other words, images of suffering children are intentionally used to call humanitarian concern of people and organizations for fund raising. It is observable that media during the Padang earthquake do not merely provide information and spectacles of human suffering, but they also organize donation or fund-raising for the victims. This opportunity is used not only by the media organization itself, but also other interests such as political parties, corporations, humanitarian organizations, individuals to show their humanitarian concerns. As a result, disaster becomes a site in which many interests struggle for domination. Media images of suffering children become a perfect stimulus to arouse humanitarian sponsorship among those interest groups. It is unsurprising that humanitarian sponsoring during disasters becomes the latest trend within marketing (Höijer, 2004, p.514). Those interest groups give money and other resources for humanitarian aids, sometimes accompanied by huge publication of it. They want to win goodwill and good impression by being seen as benefactors. For media organization, they do not merely give information regarding the actual disaster for the sake of public interests, but media also use this opportunity to raise good corporate images and to show their humanitarian concern by organizing fund raising and distributing people's donation under their own media label.

As mentioned earlier, there is objectification of suffering children in the circulating media images during disaster. Suffering children are only positioned as the perfect objects, firstly for attracting people's attention to media coverage; and secondly, for arousing politics of pity, which subsequently raising donation and

charity. It is often the case, however, that such donation which is generated from moral spectatorship through images of innocent suffering does not trickle down to those children. During disaster mitigation and recovery, children's special needs are often forgotten or ignored. Such donations are distributed and used mostly to recover physical infrastructures and to provide foods for adults. Children rights to have physical and emotional safety such as to cope with the trauma, are simply ignored. Suffering children remain the objects, which are beneficial for adults and commercial interests only.

Remarks

Images of suffering children have been mobilized and functionalized by media to represent the distressing conditions of disaster, including of earthquake. Media during the disaster indeed play a significant role in giving a massive publicity about the actual disaster. In the context of Padang earthquake, media – print, broadcast and online – also cover the tragic event in an intense way. In doing so, those media tend to use spectacles of innocent suffering in their coverage. Suffering children, on this point, become mass-produced sign which provide evidential force to its spectators about the horrible impact of the earthquake to human being. In reporting the earthquake, the media tend to dramatize and objectify suffering children, zooming in and overexposing their pain and suffering for commercial interests. In addition, the use of image of suffering children is also aimed to generate a politics of pity. In this understanding, suffering children become another objects which are mobilized by the media to raise humanitarian sponsorship. It could be revealed that humanitarian sponsoring during disasters tend to be the latest form of marketing strategy for certain interest groups to generate good impression as benefactors. Suffering children during disasters remain the objects whose rights to physical and emotional safety are simply forgotten.

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A THEORY OF DISASTROUS SUFFERING: DISASTER, CULTURE AND ZEITGEIST

Bonnie K. Carenen

Introduction

The experience of a disaster creates unique categories of suffering for individuals and communities.

This presentation interprets disaster through a philosophical and theological lens¹ that will be helpful in thinking through the psychosocial and spiritual implications of a large-scale crisis, both for individuals and for communities. I explore distinctive qualities of suffering for survivors and witnesses of a disaster by developing a category of disastrous suffering, which contextualizes the facts of disaster within a cosmic framework. Next I consider the impact of disastrous suffering after a disaster happens by exploring the notion of *zeitgeist*, the spirit of the times, which must incorporate the collective experience, memory, and grief of disaster survivors into its milieu.

This presentation should be useful for anyone who may someday experience a disaster themselves, but also for people who give counsel, promote disaster risk reduction, emergency response, transitional rehabilitation, or policy-level advocacy. (That is, everybody in this room.)

Put simply this presentation addresses three related questions:

1. What is a disaster?

2. What is profound suffering?
3. How does it affect people?

What is a disaster?

In English, the words used to describe disastrous events indicate its cosmic and social dimensions. The word *disaster* comes from Greek, meaning “the stars are broken,” and alludes to the metaphorical experience of the heavens coming unhinged. Consider what this involves: To say that the stars are broken indicates that all the ways human communities have interpreted the starry skies and the heavens no longer make sense – they don’t mean anything.

This includes the practice of naming constellations to tell stories about the past, the desire to “read” the stars for portents of the future to come, the necessity of measuring the distance and movement of the stars to navigate by sea or land, speculation about what personality traits your lover has, and whether you are compatible, or considering the type of person your child may grow up to be, based on the alignment of the stars in the heavens. The stars are useful for knowing the time of day and when the sunrise will come, predicting weather patterns, even making wishes on a star. To name an event as a “disaster” says something deeply profound, and troubling, about what that experience meant for the people who survived it, and how they are supposed to live now.

There is no way to conceive of disaster apart from its impact on meaning-mongering human communities,² since they are the ones who interpret the starry cosmos and depend upon meaning and purpose in individual lives to sustain life itself. However there are some specific considerations to put into a definition of disaster, which is both qualitatively and empirically different from crisis, an emergency, or grief.

A disaster refers to both natural events like hurricanes and tornados, earthquakes and tsunamis, volcanoes, mudslides, flood, drought, etc.; and moral disasters like warfare, crimes against humanity, famine, systemic poverty, racism, et al. My contention

is that there is no such thing as a purely “natural” disaster. Whether disasters come from natural or moral causes, in affecting communities they are phenomena with moral, social, economic, and political implications. All disasters are political, both natural and moral disasters.

A disaster is a crisis event or events that are not limited to individuals and families but impact communities, institutions, infrastructures, response mechanisms, and whole populations. Unlike some unexpected events whose effects are concentrated on individuals and families, such as a house burning down, a job loss, or a cancer diagnosis, the scope of disaster indicates a collective experience, a cultural moment, an event that affects everybody. Disasters require specific, sustained, collaborative response, and often external resources, physical or symbolic, will be necessary.

Disasters compromise or devastate the established, necessary systems and institutions that promote and extend individual and collective life. By impacting multiple sectors such as local governance, economy, education, health care, sanitation, communication systems, agriculture, et al.; responsible disaster relief requires both immediate and longer-term recovery efforts. An affected community will benefit from external resources made available from panoply organizations, institutions, and structures because extant infrastructures have been damaged or disassembled.

During and after a natural or moral disaster mere survival impulses override grief, shock, or rage because access to water, food, shelter, money, fuel, and medical care are limited. Once the initial crisis has passed a larger magnitude of devastation and suffering emerges. In the aftermath of a disaster, the reality of suffering is related not only to the physical suffering of a population or the infrastructural limitations of a system that is simultaneously compromised and overburdened. There is also a spiritual and psychic trauma to individuals and communities, the experience of profound suffering.

My ten word summary of a disaster is: An event that leads to institutional destruction and ontological uncertainty.

What is profound suffering?

Disastrous suffering is a qualitatively distinct diagnosis for the psychological, social and spiritual agony that survivors of disaster experience, on individual and collective levels. Disastrous suffering is distinct from other forms of suffering, including grief, depression, or post-traumatic stress disorder. These are technical terms in a theoretical discussion, and it is useful to think instead of the meta-experiences of surviving a disaster and suffering. To consider the qualities of disastrous suffering, I draw from a twentieth century French philosopher, Simone Weil who endured intense physical pain, social upheaval, and intense moral suffering.

In her essay "The Love of God and Affliction," Simone Weil writes about *malheur*, or "affliction," a type of suffering that carries the weight of inevitability and doom, and is "something apart, specific and irreducible" from other forms of suffering.³ Weil characterizes *malheur* as a tripartite social, psychological and physical seizure, which grips the soul and discolors the afflicted one's worldview. Each arena contributes to the intractable nature of the experience.

Socially, to be afflicted involves alienation and isolation from others who are threatened and defensive against the prospect of such grief. According to Weil, the afflicted one is humiliated by her situation; but the mercurial point of *malheur*, that subjective moment which moves the experience from suffering to affliction, is that socially, the isolation is also imposed by others who cannot bear to relate to the experience. The afflicted one is wiped of identity, personality, and subjectivity, turning the personal soul into an anonymous object. Therefore, according to Weil's formulation, social compassion in and of itself is impossible.

Psychologically, as well, *malheur* is different from suffering. It is poignant, acute, and penetrating to the core of the soul; experienced, according to Weil, as if God has pointed a nail directly at one's heart, and hammers until the very self is penetrated, and yields in dissolution. She describes the experience as if God were to take a live butterfly and pin it to a board for dissection.

The psychological implication of such suffering is profound and conceivable only to those who have endured it, including a turning-in of scorn, revulsion, and hatred until a masochistic perversion compels the sufferer to complicity in her own suffering, and to resist compassion and relief from others.

Also, Weil describes the *physical* component of radical suffering. Unlike a toothache, which of itself may lead to a crippling pain, but once the tooth is removed the pain is forgotten and a functional order is restored, the physical agony of *malheur* leaves a disfiguring scar, a limp, an enduring ache. The physical experience of *malheur* is tied into social and psychological trauma, a somatic manifestation that compounds the experience and disbars any exit or release. In aggregate, each of these aspects of *malheur* wipes away the possibility of consolation, largely because the suffering is gruesome, gratuitous, and purposeless.

The problem is this: disastrous suffering is hard to talk about because it refers to something unspeakable. It manifests as a breakdown in an ability to communicate about the suffering itself, and even unravels what it means to communicate – the meaning of words themselves. This is what it means for the stars come undone. Suffering of this kind imposes a strict solitude, even in the midst of others suffering in the same way, as after a disaster. In this way a disaster impacts the experience of suffering and prospects of its relief. Therefore, disastrous suffering raises distinct interpretive requirements that resist and defy a simple resolution to the problem of human suffering, especially when it affects a community or population.

How does it affect people?

The psychological, social and spiritual trauma a disaster imposes on individuals and communities breaks the meaning-making structure which have defined a community, in its identity, language, values, systems and institutions. When these are destroyed in a disaster those individuals and that community must move from “undeadness” into a new *zeitgeist* that incorporates and accounts for the reality and gravity of the disaster, and

disastrous suffering. I first examine “undeadness” and then *zeitgeist*.

“Undeadness,” is a complex matrix of life that has been scarred by suffering and death (which Weil describes as *malheur*), and at the same time, one in which the life force has not yielded. It means to be physically alive, perhaps still in torment, and seeing no reason to live. In an individual “undeadness” is being trapped in life when the identified reasons for living, for instance love of family and home, meaningful work, hoped-for ends, etc., have been destroyed in a disaster.

The threat of “undeadness” for individuals and communities is that it could become the end of culture and abandonment of identity. The disaster, and disastrous suffering, may force a community to depend upon and perhaps adopt an alternative or competing culture or identity, a relinquishing of a whole meaning-making structure because it has been broken. These realities come about as a result of disaster, and must be handled responsibly by internal agents (victims and survivors) and external actors (witnesses). Stakeholders must strive to respond sustainably, accountably, equitably, and with care to prioritize and protect the most marginal and vulnerable populations.

The notion of *zeitgeist*, which comes from German and means “the Spirit of the Age” is used to describe an ambient sensibility regarding cultural, intellectual, ethical, spiritual, or political commitments, priorities, and values. It is used to describe the mood of an era. Separate from a disaster, *zeitgeist* is like culture – but *zeitgeist* is broader and more subtle, although they exist in dialectical relationship with each other.

The philosophical category of disastrous suffering can also help interpret the nature of suffering-writ-large, since the disaster and the experience of the disaster have cosmic causes and implications. Recalling that “disaster” relates to the heavens coming unhinged, individuals, communities, and external resources that may be called upon to respond to the disaster to anticipate, interpret, and respond to unexpected catastrophic events, whether they occur locally or remotely. Meaning must be

rebuilt, integrating the pre-disaster culture and zeitgeist with a new spirit that will have emerged within the community, which is to make sense of the disaster and disastrous suffering.

To review, the capacity for disastrous suffering at a philosophical level to yield to hopelessness, meaninglessness, and death could overcome the resources that already existed in the community before the disaster, and have to be re-created. Zeitgeist must incorporate and integrate the community experience of disaster and suffering. For this process to play out adequately, survivors and witnesses must acknowledge the disastrous suffering, and second chart that onto a broad experience and a cultural level, leads to a need to assess how the disaster (including grief, trauma, physical infrastructure breakdown) creates a new moment.

In this new moment, Individuals and communities will have to reconstruct their cosmos of meaning – the “stars” of their cultural and moral universe which have been destroyed in the experience of disaster. They may do this by turning inward, and also by turning outward. By turning inward, resources and reinterpretations of the symbol systems produce a new model of meaning. By turning outward, external symbol systems are appropriated and often blended with traditional structures. This zeitgeist, “the Spirit of the Age” will be distinct from what existed before.

In conclusion, this paper has identified disaster as a philosophical category, indicated that there is a distinct quality of disastrous suffering which accompanies the disaster, and that this impacts the culture and zeitgeist of an affected community.

Endnotes

¹ I am trained as a Christian theologian, and I am an ordained pastor, however this is not designed as a theological presentation but as a philosophical consideration.

² It is the shared structure of meaning, and ways of constructing, transmitting, and communicating this meaning which disasters, by definition, damage. Human communities rely on meaning-making structures, and cannot exist for long without them. People will improvise when they need to.

³ Weil, Simone. "The Love of God and Affliction" in *Waiting for God*. Tr. Emma Craufurd. New York: Harper Perennial Modern Classics. 2001. Pg. 68.

ON SAVING LIVES, HEALING WOUNDS AND REBUILDING DEVASTATED AREAS: BURMA, SINGAPORE AND CYCLONE NARGIS

Mark Woodward

First, we must save lives. Second, we must focus on healing the physical and mental wounds of the survivors. Finally, we must rebuild the devastated area, a long-term project that will take years. The Burmese people deserve the right to grasp the helping hands of the international community. Yenni, May 21, 2008¹

Introduction

In the wake of cyclone Nargis, the people of Burma did have the right to expect “helping hands,” and more, from their own government and the international community.² This is exactly what they did not get, at least not soon enough or in sufficient measure to prevent tens of thousands of people from dieing unnecessarily and hundreds of thousands more from enduring trauma that will scar them for life.³

The extent of destruction and loss of life stemming from the Burma Government’s mishandling of the disaster are well known.⁴ This paper briefly discusses possible motivations for “man,” or rather “general-made” aspects of the disaster. From there it moves to a more detailed consideration of the ways in religious organizations attempted to fill the gap left by the Burma Government

and the International Community. It focuses primarily on the Burmese community in Singapore where I was living at the time Nagris struck. It comes to the painfully obvious conclusion that despite the increasing importance of NGOs and diaspora communities in global politics that only states and state based international organizations have the capacity to intervene effectively in such massive humanitarian crises.

Burma's Generals and Cyclone Nagris

Burma's generals knew approximately where and when Nagris would strike and did little to warn the people or prepare for relief efforts. In the wake of unprecedented devastation, they "Fiddled while Rome burned," or in this case drowned. They appeared to be more concerned with presenting themselves as the guardians and saviors of the nation, staging "photo-ops" of smiling officers distributing small food packages to well scrubbed and clothed, smiling and grateful victims, and relief centers with neat rows of blue tents, some occupied only by stray goats, and stage managing the tragic-comedy of a blatantly rigged referendum that establishes a "constitutional" basis for continued autocratic rule.⁵ Nagris also provided them with yet another weapon in a continuing campaign of state terror against religious and ethnic minorities restricting delivery of relief supplies primarily to those thought to be loyal to the regime, or who at least do not actively oppose it. Christians, Muslims and Ethnic Karen were seemingly targeted for neglect. On May 29, nearly a month after the storm hit, Senior General Than Shwe promised United Nations Secretary General Ban Ki-Moon that aid would be delivered to people regardless of nationality. It was an ominous sign that such promises were necessary. They were not kept.

The generals also used the disaster to strike symbolic blows at the "external destructive forces seeking to interfere in the affairs of the state," the tortured expression (English in the original) they use to describe the international community.⁶ On June 6, 2008 the state run daily *New Light of Myanmar* reported that footage broadcast by CNN showing corpses rotting in fields were faked

by “self-seekers.”⁷ As thousands perished, CNN and Channel News Asia repeatedly broadcast footage of sailors languishing on a flotilla of American, British and French ships waiting to bring supplies ashore that could have saved them. US admiral Timothy Keating took the extraordinary steps of offering Burmese military officers the opportunity to inspect the ships and to accompany every relief mission to the Burmese coast. The generals refused his offers.⁸

The Burma Government and the state controlled press are well known for telling preposterous lies when the truth does not serve their purposes. In late May of 2008, these fabrications reached new heights of absurdity. On May 27 the *New Light of Myanmar*, reported that conditions in the delta were not really serious and that the people could enjoy a healthy and delicious diet of wild plants, fish and frogs and that they could rely on the beneficence of the state to meet other needs. Painting a typically rosy picture the paper speculated that:

A year from now, the people of the Irrawaddy delta will be beaming as fields are flooded with golden rice, marking a return to complete self-sufficiency.

Nonsense. It is not clear why the Burma Government resorts to such lies and deceptions. It has often been speculated that the regime is so isolated that it is incapable of understanding the outside world or how its actions will be perceived. This may have been true in during the Ne Win era when isolation and self sufficiency were cultivated virtues. It seems unlikely today. Following the 1988 democratic uprising the government opened its doors economically and diplomatically.⁹ Burma’s elite know the world rather well. They maintain luxury apartments on Singapore’s prestigious Orchard Road. Despite years of “isolation”, they speak near perfect English.¹⁰ The children of the elite are educated abroad. Mid-level officials routinely attend ASEAN meetings. And yet they continue to make pronouncements the absurdity resembles those of North Korea.¹¹ Collective paranoia and fear of foreign intervention have also been mentioned as motivating factors, both for the regime’s behavior in general and its reluctance to accept international assistance. So has fear that

the presence of foreign aid workers, and especially the presence of foreign military personnel would alert to the Burmese people to the incompetence of the regime and the absurd nature of the statements it has made about the nefarious designs of the international community. Some have even mentioned the film "Rambo IV" as a motivating factor.¹²

Pe Maung Tin has argued that the Burma's leaders suffer from a deep sense of collective anxiety and fear, and perhaps know, that their policies have failed to bring either peace or prosperity to the nation, but are unable to envision an alternative that would keep them in power.¹³ It *may* be the case that there is a perverse logic to the regime's heartless response to Nagris that is deeply rooted in a world view based the assumption that the nation is at risk of destruction by a combination of "internal and external destructive forces" and that only they can save it¹⁴ While the Generals *may* in fact believe that they are the saviors of the nation their response to the disaster was also characterized by callous disregard for the lives and wellbeing of the Burmese people. Distorted worldviews and delusions of grandeur may explain their behavior. Nothing can excuse it.

It is likely that the Burma Government understood very well that discussions of "involuntary" delivery of aid and the United Nations doctrine of the "obligation to protect" were empty talk. The international community has a long history of not intervening in humanitarian crises when it is not invited. Dafur and Zimbabwe are among recent examples. The ASEAN doctrine of "non-interference" in the internal affairs of member states provided an additional diplomatic shield, as did the Burma government's close relations with Russia and China, who, for reasons of their own, advocate similar non-interference approaches. The Burma Government had no reason to expect that talk of the "Obligation to Protect" would be lead to foreign intervention. They were correct.

Religious and other voluntary organizations, especially those with close ties to communities in Burma attempted to step into the brink when it became clear that others, with far greater resources could not or would not. My focus for in the rest of this

paper is on Singapore and the Singapore Burmese community. I have chosen this focus for one reason. I was in Singapore at the time teaching at the S. Rajaratnam School of International Studies at Nanyang Technological University. To understand the way in which the Burmese community in Singapore responded to the tragedy that was Nagris, it is first necessary to understand something of Singapore and its resident Burmese.

Singapore Burmese

There are at least fifty thousand Burmese in Singapore. The exact number is unknown because there are a substantial number of undocumented immigrants. The majority are ethnically Burman and religiously Theravada Buddhist.¹⁵ There are also significant numbers of ethnic minority populations, some recognized as “National Races” by the Burma government and others denied such recognition. Of these Karen, of whom there are both Christians and Theravada Buddhists, are the most numerous. Most non-Burman Singapore Burmese are Christians. There is also a small Burmese Muslim population, most of whom are Rohingya. Others are ethnically Burman or are members of small minority communities. Many Burmese have come to Singapore in search of economic opportunity.¹⁶ This is especially true of Burmans and other Theravada Buddhists. Others, especially Christians, Muslims and pro-democracy political activists of all ethnic and religious origins have fled persecution by the Burma government that rises to the level of state terrorism.¹⁷

As is true in diaspora communities the world over, notions of collective identity among Singapore Burmese differ significantly from those operative in their country of origin. These differences are in part the product of the fact that Singapore Burmese, of all religious and ethnic backgrounds, tend to disregard internal diversity and to use “country of origin” as a criteria for distinguishing Burmese from other immigrant and indigenous, to the extent that any in Singapore – other than Malays – can be understood as being indigenous, communities. Most Singapore Burmese refer to themselves as Burmese and their country of origin

as Burma. In keeping with ASEAN political correctness they are sometimes referred to by the Singapore government and some Singaporeans as “Myanmarese.” The distinction between “Burma” and “Myanmar” and “Burmese” and “Myanmarese” is almost entirely political, the former indicating loyalty to the Democratic Opposition, the later allegiance to the current government.

Generally speaking Singapore Burmese define individual and collective identity on the basis of varying combinations of nationality, ethnicity and religion. Of these distinctions, those between Burman and “minority” ethnicities and between Buddhist, Christian and Muslim religiosity are the most significant. Religion, however, is the single most significant identity marker within the Singapore Burmese community because it often transcends ethnicity.¹⁸ There are Theravada Buddhist, Roman Catholic, numerous Protestant Christian and Muslim “sub-communities.” The overarching category “Singapore Burmese” is defined on the basis of nationality and opposition to the Burma government.

Theravada Buddhists

An overwhelming majority of Singapore Burmese Theravada Buddhists are ethnic Burmans. There are small numbers of Shan and Karen Buddhists who have no option other than to affiliate with ethnically “other” Buddhist communities if they are to practice their religion, as their numbers are insufficient to support temples or monasteries.

In countries with Theravada Buddhist majority populations there is a strong tendency for concepts of religion, ethnicity and nationality to fuse in the construction of national identities.¹⁹ In post-colonial Burma and Sri Lanka, and, to an only slightly lesser degree in Thailand, the consequences for ethnic and religious minorities have been disastrous. The fusion of ethnic and religious identities is also apparent in Theravada Diasporas, though with quite different consequences. As is true in Europe, North America and Australia, Theravada Buddhism per se is not an especially salient feature of collective identity in Singapore. Burmese, Khmer, Lao and Thai communities maintain separate temples and

monasteries and generally to not mix on merit making and other religious occasions. Burmese Theravada Buddhist often invite prominent monks from Burma to deliver sermons or “Dhamma Talks,” as they are often called in “Singlish,” and to accept donations at merit making ceremonies. These events are of great religious significance for the Singapore Burmese Theravada community because there are often no resident Burmese monks and many do not feel comfortable patronizing a non-Burmese *Sangha* (monastic order.) These events are often difficult to arrange because Burmese “government monks” are not welcome and “opposition monks” find it difficult, if not impossible, to leave Burma legally. At times “exile” monks are brought from Thailand, generally without the knowledge of the Singapore government.

In Singapore, the category “Theravada Buddhist” is salient primarily in opposition to the “Mahayana Buddhism” practiced by many Chinese Singaporeans. Among traditional Chinese, Buddhism is fused with Taoism, Confucianism and Ancestor Veneration is a complex religious synthesis. Especially among young, well educated Singapore Chinese there is growing interest in a highly intellectualized “ecumenical” Buddhism that is cognizant and accepting of variations within Buddhism but which rejects non-Buddhist elements of the Chinese religious synthesis as “superstitious” and “not modern.” Proponents of this ecumenical Buddhism welcome the participation of Theravada monks and lay people in merit making and other rituals. They use the category “Theravada” without reference to the ethnic categories used by Theravada Buddhists themselves. When they refer to Theravada texts, it is to Romanized Pali versions or to English translations rather than the Pali texts written in ethnically distinct scripts referred to by Singapore “Theravadins.”

The Buddha Tooth Relic Temple (Singapore), also known by the acronym BTRTS, is an especially well established and articulate advocate of this new ecumenical Buddhism.²⁰ At *Vesak* (Singlish “Buddha Birthday”) celebrations the temple distributes “goodie-bags” “Blessed by Theravada and Mahayana *Sanghas*.”²¹ Despite this, and other ecumenical outreach efforts, the architecture, iconography, ritual program and teachings promulgated by

BTRTS are based almost entirely on Chinese Pure Land Buddhism.²² Few Burmese, or other Theravada Buddhists, participate in this new Singapore Buddhism. BTRTS has strong ties with Burma. The relic it houses is of Burmese origin. BTRTS also sponsors pilgrimage tours to Pagan and other Theravada historic sites in Burma, DVDs of which are sold in the temple's gift shop.

BTRTS was built by the Charismatic Chinese Mahayana monk Venerable Shi Fazhao at a cost of more than fifty million Singapore dollars.²³ Even before the construction of the temple, Shi Fazhao was known for his fund raising ability. He also sponsors the more traditional Chinese Mahayana Buddhist Golden Temple Monastery and numerous social welfare organizations. He is also known for his support of monasteries and pagodas in Burma. The relic was discovered by workers renovating a pagoda in a remote area in Southern Burma. It was subsequently entrusted to Shi Fazhao by the grateful Burmese abbot. Many Singapore Burmese doubt its authenticity. Many, seemingly unaware of textual and historical transitions concerning the characteristics of relics, state that it cannot be genuine because it is much larger than a human tooth and closely resembles a *bovine* molar. Others question it for political reasons. One Singapore Burmese I spoke with stated: "I don't think it is real. If it was, the generals would have kept it for themselves. They are always looking for things like that." Another: "They have lots of bogus relics they show off. You can see lots on Mandalay Hill. They just gave him this one to get more money. They sell natural gas, they sell drugs, they even sell Buddhism to make more money."²⁴ In the hundreds of times I have visited BTRTS hundreds of time since its construction began I have encountered very few Burmese Buddhists. It is patronized almost exclusively by Singapore Chinese and pilgrims/tourists from China, Taiwan and Japan.

Christians

The Singapore Burmese Christian community is as religiously diverse as that in Burma. It includes Roman Catholics, Anglicans, American Baptists and members of other Protestant denomina-

tions.²⁵ The organization of the expatriate churches differs substantially from that in Burma.

In Burma ethnicity provides the basis of the social organization of Christianity. Ethnicity is especially salient among larger denominations such as the American Baptists. American Baptists are the largest Christian community in Burma. There are separate, self-governing synods for each of the ethno-linguistic communities represented in the denomination. These synods hold services in local languages and most have their own translations of the Bible. In ethnically diverse urban areas, and particularly in Rangoon, there are many congregations comprised almost exclusively of a single ethno-linguistic community. The exception is Judson Church, on the campus of Rangoon University (formerly Judson College). Here services are in English and the congregation a mixture of expatriates and English speaking Burmese of varying ethnicities.

Christians in urban areas are subject to constant harassment and restrictions but are free to practice their faiths. Those in areas in with a history of insurgencies face persecution and ethno-religious cleansing by the military, sometimes in collusion with pro-government Theravada Buddhist monks and lay people. The government fosters anti-Christian sentiment to further its own Burman-Buddhist nationalist agenda. In this respect its policies are similar to those of early post-Yugoslavia Serbia, which fostered anti-Catholic and anti-Muslim sentiment to promote its Serbian-Orthodox nationalist agenda. In June of 2007 a Baptist minister in Mandalay told me of cases of force conversion to Buddhism and church burnings in tribal areas. He referred to documents that surfaced in January of 2007, which, if genuine, indicate that there have been discussions of such plans in government circles.²⁶ His view was that the Burma government has a long-term strategy to Burmanize these areas and to transform the country's population making it uniformly Burmese and Buddhist - in other words a strategy for cultural genocide.

Burmese churches of all denominations attempt to maintain close relationships with co-religionists outside Burma. These ties are important for financial and political reasons. Foreign church

groups often supply funds for the repair and construction, when the Burma government allows it, of churches and other buildings. They also publicize the persecution of Christians and atrocities committed by the Burmese military. It is difficult to ascertain the accuracy of reports circulated, most of them on the inter-net, by western Christian organizations, some of which have theological reasons for promoting the view that Christians are subject to persecution on a global scale. They are, however, similar to those of credible human rights advocacy groups including Human Rights Watch and the International Crisis Group.

In part because of these relationships with overseas organizations the Burma government is extremely suspicious of representatives of international Christian organizations and individual Christians visiting the country. In 2007 a Burmese pastor, who seemingly mistook me for an “undercover” missionary, strongly cautioned me against distributing Bibles in public, attempting to “share the Gospel” with Burmese Buddhists or attempting to visit churches in tribal areas. This indicates that some foreign Christians actually engage in these activities.²⁷

The organization of the Singapore Burmese Christian community is less complex than that in Burma. None of Singapore’s Burmese Christian denominations is large enough to support even a single church. There are Burmese and Karen language services at several Catholic, Anglican and Baptist churches. Saint Andrew’s Anglican Cathedral, which has ecclesiastical authority in Burma, has an officially recognized Burmese sub-congregation.²⁸ Burmese Baptists are represented with the Singapore Baptist Convention, which has ties with its Burmese counterpart.²⁹ Some Baptist churches have Burmese pastors. Other Burmese Christians worship at English language services at many of the country’s Protestant Churches. Many Singapore denominations, especially Baptists, Roman Catholics and Anglicans, maintain official and unofficial links with churches and ecclesiastical hierarchies in Burma.

Muslims

Burma's Muslim population is very ethnically diverse. There are Burman, indigenous ethnic minorities the most numerous of which are the Rohingya, Yunanese Chinese, Begali, Hindustani, and Malay. There were formerly small numbers of Persians and Hadrami Arabs. In this respect the diversity of the Burmese Muslim community reflects that of the former British Indian Empire. But the Muslim presence in Burma pre-dates colonialism. Yunanese Muslims have figured significantly in the caravan trade that crosses northern Southeast Asia and southern China for centuries. The Rohingya and other, smaller Muslim ethnic communities are indigenous to what it now southern Burma.

Islam is, or at least was, prior to the rise of Burman Buddhist Nationalism in the early twentieth century, indigenized in much the same way that it has been in South Asia and the Malay societies of Southeast Asia. There are depictions of bearded figures of what appear to be Muslim in Pagan frescos. The *Taunbyone Brothers*, two of the most important figures in the Burmese *Nat* (spirit) Cult are believed to have been Muslims, prior to their current incarnations as spirit lords. King Mindon sponsored the construction of a rest house for Burmese Muslim pilgrims in Mecca. Mandalay Muslims trace their descent of Indo-Persian artillery officers who served in King Mindon's army. They are monolingual in Burmese and are in most all respects ethnically indistinguishable from other Burmese, though, like other Muslims, they do not eat pork. At times, there has been a symbiotic relationship between Muslims and Buddhists in Mandalay. Muslims are the city's primary cattle and goat butchers.³⁰ Muslims also served as the city's exterminators, selling and distributing products intended to kill rodents and other vermin.

The rise of Burman Buddhist Nationalism and its intensification since Burmese independence has led to the "de-indigenization" of Islam and Muslims. Many Burman-Buddhists do not consider Muslims, even those who are ethnically Burman, to be "real" Burmese. Some point out that while they speak Burmese, their vocabularies often do not include many of the

religious terms used by Burmese Buddhists. Burmese Muslims were active participants in the independence movement. Muslim leaders were close associates of General Aung San, but according to Burmese Muslim students studying in Singapore Islam and Muslims have been all but written out of Burmese national history. In 1988 the Burmese military used the repression of democracy advocates as an excuse to burn the Muslim quarter of the city, which was located near the central market, to the ground. An untold number of Muslims were killed. Theravada Buddhist monks and lay people joined the military in this act of terrorism. Throughout the country the construction of mosques and Muslim schools is severely restricted. There is an All Burma Muslim Association, but it exists primarily on paper and has little impact on the daily lives of Burmese Muslims. In southern Burma Rohingya and other Muslims are subject to severe repression. Many can not obtain the internal passports required to leave their native villages even to sell goods in neighboring market towns. Opportunities for government employment and education are severely restricted. Rohingya are denied Burmese citizenship. Many have fled to neighboring Bangladesh, where despite being Muslim, they are welcome and living in miserable conditions in squalid refugee camps.

In Singapore Muslim and Malay identities are strongly linked. Malay Muslims are a small minority (approximately 15%) but are culturally and politically significant because they are the "indigenous" element of an overwhelmingly "immigrant" population. The equation of Muslim and Malay is overstated because there are also significant South Asian and Hadrami Arab Muslim communities. Because mosques are local, neighborhood institutions, and Singapore's housing policies promote neighborhood diversity there are few ethnic mosques. There are no Burmese Muslim mosques. The community is for the most part "off the radar screen." Dietary restrictions also restrict Muslim participation in informal Burmese social activities that transcend religion and ethnicity. Burmese Muslims do not eat pork. Burmese Christians and Buddhists are very fond of it.

Shopping, Food and Politics: Inter-Religious and Inter-Ethnic ties among Singapore Burmese

Eating and shopping are among the staples of social life in Singapore – some would say that Singapore national culture is little more than a giant mall with sumptuous food courts with corners reserved for Muslim vendors whose stalls are certified by the *Majlis Ulama Islamiyah Singapura* (The Singapore Council of Muslim Scholars) as being *halal*. The Singapore “experience” is remarkably uniform, except for “heritage” neighborhoods in which representative elements of ethnic cultures are displayed and where specialty foods, religious items and other “ethnic products” can be purchased. The most visible are “China Town” and “Little India.” Kampung Gelam, the Malay equivalent appears to be little more than an after thought in Singapore’s program of social engineering as is more of a miniature “cultural theme park” than an ethnic enclave.³¹

The Burmese equivalent is found on the upper floors and the basement of the Peninsula Plaza, a more than somewhat dilapidated shopping mall in central Singapore, immediately across the street from Saint Andrew’s Cathedral. The first floor houses the usual run of down-market Chinese shops. The basement and upper floors are Singapore’s unofficial “Little Burma.”³² They sell all manner of Burmese goods, clothing, books and magazines, snack foods, stationary, cigars, beer, DVDs and CDs, audio tapes, Buddhist and Christian religious items, etc. and imported goods (in both Singapore and Burma) including off brand Scotch Whiskey and “tinned provisions” commonly found in markets in Burma.³³ There is a very good full service Burmese restaurant and several teashops. There are also employment and travel agencies, currency exchanges and other, legal, but less reputable establishments tucked away on the upper floors.

On Sundays the Peninsula Plaza is filled with Burmese of many ethnicities and religious orientations. It is an important, and perhaps the main, venue for inter-ethnic and inter-religious communication among Singapore Burmese. People exchange news about employment opportunities; gossip and news from home,

plan religious and other social events and in general enjoy the opportunity to interact in a Burmese, and largely Burman environment. There are, however, few Muslims at these informal and impromptu gatherings because almost none of the eating establishments or food vendors are certified as *hallal*. Many sell pork and alcohol which, in principle at least, Muslims do not consume.³⁴ The degree to which the “*hallal*” question divides the Singapore Burmese community is as much the product of the politics of food and religion in the larger community as of endogenous concerns.

Pork is among the sources and symbols of inter-ethnic and inter-religious tension in Singapore. The issue is rarely discussed in the media or in public but is a common topic of conversation within and across ethnic and religious communities, especially among Chinese and Muslims. Singapore Burmese have become full participants in this underground discourse. Christian and Buddhist Burmese, like Singapore Chinese, are very fond of pork. This facilitates their “integration” into the larger community and impedes that of Burmese Muslims, many of who interact more closely with other Singapore Muslims than they do with Christian and Buddhist Burmese.

Many Singapore Muslims, of all ethnicities, will not eat at restaurants and hawker stalls that serve pork. They are as concerned about the dishes in which food is served and the utensils with which it is prepared as with the pork itself. In Singapore this severely limits opportunities for social interaction between Muslims and others because these interactions often take place in public space and usually involve eating.³⁵ Many ethnically Chinese Singaporeans (the vast majority) find Muslim concerns about pork to be excessive. For some, eating pork, is an element of Chinese, and hence, unofficially, Singaporean, identity. They do not understand, or choose to ignore, the fact that eating from a dish from which pork has been served, and which has not been ritually purified, is as much forbidden By Muslim law as actually eating pork.

The pervasiveness of pork in Singapore public culture and its function as an identity marker makes Muslims in Singapore more

sensitive about eating in public than it does in the Muslim majority countries in Southeast Asia, where it is presumed that food is *halal* unless otherwise indicated. Two ethnographic vignettes, only one of which involved Burmese, and one public controversy, illustrate this depth of this concern. When I asked about the Peninsula Plaza and its function as a Burmese community center one Burmese friend replied that he never went there because he could not eat or drink there and that this made him uncomfortable, even around other Burmese. Sometime later I was discussing the government sponsored Muslim Converts Association with a young Chinese Singaporean woman who had converted to Islam in order to marry a Malay.³⁶ In the course of the conversation she *whispered* that sometimes when she was with her Chinese girlfriends she took off her *tudung* (headscarf) and treated herself to a bowl of pork organ soup because: “It is so delicious, and How can I be Chinese and not eat pork?”³⁷ The “pork question” occasionally spills over into the public sphere. In June 2008 a Chinese Singaporean blogger was arrested for inciting racial tension after posting a (staged) audio clip in which two Chinese customers repeatedly demanded that the Muslim proprietor of a hawker stall serve them pork, despite his insistence that he only sold *halal* food.

This issue rarely, if ever, evokes such emotional intensity in Burma, though there are sometimes highly charged discourses about symbols of Muslim identity. It is killing goats, not eating pigs, which is at the center of these disputes. On Id al-Adha, the most important Islamic holy day, Muslims sacrifice goats and other ritually pure animals to commemorate the Prophet Abraham’s willingness to obey God’s command that he offer his son as a sacrifice. When Abraham agreed, God substituted a ram for the young man. Some wealthy Muslims make very ostentatious displays by hanging numerous carcasses of animals they have sacrificed in front of their houses or shops. Some Burmese Buddhists find this to be very offensive. They are perfectly happy to eat goats slaughtered by Muslims, but find the idea of ritually slaughtering them repulsive. The Burmese government has long placed restrictions on this practice, which, of course, offends Muslims. The feast of sacrifice happens once per year. In Singapore

questions concerning the slaughter and consumption of animals divided the Burmese community on a daily basis. The fact that Peninsula Plaza is the only Burmese “cultural center” in Singapore brings Christians and Buddhists together in ways that they might not. The fact that it is uniformly not *halla* drives a wedge between Muslims and other Burmese. The ethno-religious politics of food in Singapore has contributed significantly to this development.

The Peninsula Plaza is also the political center of the Singapore Burmese community. Among Singapore Burmese politics transcends ethnicity and religion. One of the reasons for this is that most consider themselves to be refugees or exiles united by a common, largely symbolic, struggle against a common foe. There is a global tendency for exiles and refugees to idealize opposition leaders in their countries of origin to the point of hero worship and to cling to lost causes and battles that cannot be won. Many feel obliged to support vanquished champions of collective identity because to do otherwise would be to deny it, and in so doing, deny themselves. There is also an element of “survivor’s guilt” in the process. These feelings are common among survivors of all varieties of psychological trauma ranging from domestic violence to genocide. They are persistent and deeply troubling questions about why it is that “I have survived, while others, perhaps more worthy than I am, have perished.”³⁸ One of the consequences of this self-doubt is righteous anger and a desire, however futile, to strike back at the perpetrators of violence. Consequently political struggles against despised regimes come to be understood as what Juergensmeyer describes as “cosmic struggles” between the unambiguously righteous and the equally unambiguously evil.³⁹ The Singapore Burmese community is no exception.

The depth of sheer hatred for the Burma Government in the Singapore Burmese community can be judged from their overwhelmingly enthusiastic reception of the action adventure movie *Rambo IV*. This is a “B” movie at best. The plot is simplistic, the acting indifferent and the depiction of violence so graphic that many find it sickening.⁴⁰ It is not difficult to summarize. John Rambo (Sylvester Stallone), a now retired soldier’s soldier, lives

peacefully by the banks of the Salween River. He reluctantly escorts a group of well meaning, but hopelessly naïve, American Christian medical workers into Burma to care for Karen villagers. They are captured by a Burmese army unit that appears to enjoy tormenting them and torturing, killing and raping Karen villagers. Rambo leads a band of mercenaries back into Burmese territory; virtually single handedly wipes out a substantial Burmese force and with the aid of Karen insurgents rescues the now terrified missionaries. A scene near the end of the film depicts a final confrontation between the “good” Rambo and an unspeakably evil and sadistic Burmese officer. Rambo cuts his opponent very nearly in half with a *dao* (sword) he forged himself. For Rambo, this is a redemptive experience that enables him, at long last, to return to his home and family in Arizona. The Karen live to fight another day.

Singapore Burmese lined up around the block when the film opened. Clips and trailers are now available on Youtube. Stallone became an instant hero. There were special performances at which audiences sang the Burmese National Anthem and collected funds for victims of the 2007 “Saffron Revolution.”⁴¹ Stallone is now an unlikely, unofficial hero of the Democracy Movement. He is officially barred from entering Burma. For Many Singapore Burmese the film had a mythological quality. It indicates that while the may revere Aung San Suu Kyi, the leader of the National League for Democracy, Noble Laureate and an advocate of non-violent action, they long for a messianic figure who will cleanse the land of evil, by any means necessary. One Singapore Burmese put it this way: “Just like Rambo in the movie Burma is waiting for a hero or someone to lead the revolution.” His comment has been repeated many times on the internet.

Singapore and Cyclone Nargis

Anyone who watched the weather reports on Cable News Network or Singapore’s Channel News Asia *knew* well in advance that Nargis would strike the Burmese coast and strike it hard. Many feared that the Burma government would be unable to mount an effective response and that it would be reluctant to accept

foreign assistance. These fears were more than justified. As news trickled in and both major news networks broadcast increasingly sickening footage of massive destruction, smiling generals passing out small aid packages to “cleaned up” grateful looking victims and soldiers manually unloading cargo planes.⁴² Among the more pathetic of the Burma Government’s responses to the growing crisis were statements by an Australian mercenary journalist in the pay of the regime that Burmese do not like high energy biscuits that that the government had arranged shipments of rice and fish paste more in keeping with local tastes. Emotional responses ranged from fear, to grief to rage and combinations of all of them. The sense that the international community was capable, but unwilling, to institute effective relief measures added to the sense of frustration. Many secretly, or not so secretly, hoped that the American, British and French naval vessels stationed off the Burma coast actually did constitute an invasion force. The Burma Government’s irrational fears were the irrational hopes of many Singapore Burmese.

While the international community attempted to negotiate with the Burma Government, Singapore Burmese, and those of almost every other ethnic and religious community mounted a hastily organized relief campaign. Singapore’s religious communities were in a sense “pre-positioned” to respond to the disaster. Singapore is the communications and transportation hub of Southeast Asia and there was no shortage of supplies. The Singapore government has long encouraged religious communities to engage in local and international social welfare and relief efforts.⁴³ Almost all of the major religious groups have extensive networks of volunteers that can be organized at virtually a moments notice. They are also very efficient fundraisers, both in public and behind the scenes levels. The Singapore Red Cross probably provided more aid than any other NGO in the country and actively solicited donations. Some religious organizations encouraged members to give directly to the Red Cross or to World Vision, which is one of the few private relief agencies with a presence in Burma at the time Nagris struck. Others relied on existing ties with religious communities in Burma or simply started raising funds assuming

that they would somehow find a way to get them to those in need. There were also numerous on-line, and especially bog, appeals, many of which included links to which funds could be transferred along with often poignant Christian and Muslim prayers and Buddhist (Mahayana as well as Theravada) merit dedications. These sites received tens of thousands of hits in the days and weeks following the tragedy. One is reproduced below. The image is that of the “Medicine Buddha” believed by many Chinese Buddhists in Singapore to bring relief from sickness and other suffering.

Dedications to the killed in Cyclone Nargis in Myanmar



May We dedicate to the thousand perished in this Cyclone that killed thousands and those suffered intensely under the loss of families and beloved ones in Myanmar

Response to the Nargis disaster was not based on nationality or religion. Within days, virtually every Church, Buddhist and Daoist temple and Mosque in the country had organized relief efforts and placed fund raising containers at their entrances. They also collected funds on the inter-net in malls and on the streets. These efforts were highly effective. BTRT(S), for example, reported raising more than 250,000 SD in less than a week. *Wesak*, which

celebrates the birth of the Buddha and is the most important Buddhist holiday in Singapore can shortly after Nagris struck. It is customary to rice offering that are distributed to monasteries and the poor. In 2008 many temples (including BTRT(S)) made special appeals for rice to send to Burma. People of all faiths responded enthusiastically. In some temples there were pallets of bags of rice piled ten or more feet high. One does not normally see Christians and Muslims donating rice to Buddhist temple. In 2008 – it was a common sight.

There were also efforts by Christians, especially Baptists, and Theravada Buddhists to bring supplies and money directly into Burma. There was not shortage of many critically needed supplies in Burma. The problem was finding the money to buy them and the means to get them to where they were needed. In Singapore there are legally questionable ways of transferring money to Burma, many of which rely on definitely illegal branches of Thai banks that operate in Rangoon and money laundering networks. Singapore Burmese used them to move funds to friends and relatives who bought supplies, *some of which were originally donated by foreign governments, private relief agencies and the United Nations*, in Rangoon markets and attempted to ship them to the delta.

Almost as soon as the storm was over a delegation from the Judson Baptist Church was on its way to Rangoon to consult with Baptist leaders there and to conduct a needs assessment. Some Burmese Buddhists and Christians journeyed to Northern Thailand, crossed the Burma border, sometimes illegally, bought supplies in Mandalay and from there set out for the delta in convoys of local trucks, buses and cars. Some of these were accompanied by prominent Mandalay monks in hopes that this would deter bandits and predacious Burmese government officials. Sometimes it worked, sometimes it did not. Many such convoys were turned back, charged high unofficial tolls by the Burmese military or simply seized and the goods they carried confiscated. Muslims were not as efficient at organizing these informal relief efforts as Christians and Buddhists because the Islamic infrastructure in Burma is far weaker than those of Christians and Buddhists and because their numbers in Singapore

are smaller and they have, even relatively speaking, fewer resources.

Like those attempted by the international community and relief agencies, these small scale relief efforts were non-sectarian. They did not discriminate on the basis of ethnic or religious criteria. One might have expected that when a major earthquake struck Szechwan shortly after Nagris struck Burma, that the focus of fund raising and relief efforts would have shifted because of the overwhelming Chinese majority in Singapore. In public, at least this was not the case, the collection boxes and posters changed, adding Chinese victims to those for whom the aid was intended. Similarly in Burma, relief efforts organized by private donors were, at least to the extent that I was able to determine, were non-sectarian. It had every appearance of being a genuine, collective, humanitarian effort.

In Singapore business went on as usual. Singapore is Singapore and business is usual. But as far as relief efforts were concerned there seems to have been what Victor Turner called a moment of "spontaneous communitas" in response to human crises that transcended nationality, ethnicity and religion.

These were valiant, heartfelt efforts, but they were not enough. Ramshackle convoys of trucks and buses were not substitutes for the amphibious vehicles and helicopters that were needed to bring relief to the hardest hit victims.

The comparison of responses to and the Tsunami that struck Indonesia, Thailand and Srilanka and the earthquakes that struck China and Indonesia show that rapid effective responses to even the worst natural disasters are possible. I was in Yogyakarta in Indonesia a week after the 2007 earthquake devastated hundreds of villages and portions of town and cities in south central Java. There was UN "blue tents" and portable water purification systems everywhere. There were many small scale relief operations, many of them by Muslim and Christian groups. People from a mosque I have known for decades loaded what cars and motorcycles they could with hastily collected cases of bottled water and instant noodles and headed south, by any possible road they could find.

Like those in Singapore a year later these efforts spoke of the depths of compassion that disasters of this sort can evoke. But in Yogyakarta, there was also a well orchestrated, sultanate, national and international relief and reconstruction effort. I was in Bantul, one of the hardest hit areas, again in September of 2008. In many places one would hardly know that there had *been* a major natural disaster such a short time ago, except for the number of newly constructed houses, shops, schools and clinics. It is the dry season here so few of the fields are “flooded with golden rice.” They are filled with typical dry season crops: corn, peanuts, chilies and other vegetables. Mango season is at its height. The roads and bridges had reopened and markets in the city were flooded during Ramadan.

Some have speculated that the Burma government was reluctant to accept foreign aid workers for fear that they might include foreign religious “agitators” seeking to convert Buddhists and rouse anti-government feelings among Christians and Muslims. These fears are almost certainly well founded. American Christians and Saudi Muslims *did* use relief efforts as a cover for spreading their messages in Indonesia and Srilanka. Some American Christians tried to adopt orphans so that they could be raised as Christians. Middle Eastern Wahhabis are well known for linking aid with extremist religious teaching. Neither was very successful.

In Ramadan in 2008 I spent the evening sitting in a beautiful new mosque in Bantul, next to the ruins of one that had been completely destroyed in the earthquake, eating sweets, drinking tea, smoking clove cigarettes and talking about Allah, Ramadan and the world with local residents. When I asked about the new, and obviously very expensive, mosque, they explained that it had been built by the Saudis. When I asked about the Saudi practice of using aid to spread Wahhabi teachings, they all laughed. One old man explained: “Oh they sent a teacher, but we just said Thank you for all the help, but we really don’t need an Arab to teach us how to be Muslims, and we sent him home.” I expect that Burmese Buddhists, Christians and Muslims would have responded in similar ways. They have not gotten the chance. In Bantul lives

have been saved, the wounds of the survivors have started to heal and the work of reconstruction is underway. Were those it was so in Burma.

Endnotes

¹ Irrawaddy, May 21, 2008

² The analysis presented here is based on a wide variety of sources including Burmese state media, opposition press reports by refugee organizations, Burmese blogs, reports by international press and broadcast journalists and interviews with Burmese in Rangoon, Mandalay and Singapore. Research in Burma and Singapore in 2007 and 2008 was supported by the Center for the Study of Religion and Conflict at Arizona State University and the Institute for Internal Exchange of Scholars. Burma is also known as Myanmar. In respect for those massacred in uprisings of 1988 and 2007 and those who died needlessly as the result of Cyclone Nargis in 2008 I will continue to refer to the country as Burma and its' people as Burmese.

³ At an ASEAN (Association of Southeast Asian Nations) regional security conference in Singapore in late May, the US Secretary of Defense stated that every effort had been made to provide relief to the victims and that the intransigence of the Burma Government had cost tens of thousands of lives. Irrawaddy, May 31, 2008.

⁴ I wrote about the tragedy in almost "real time." See M. Woodward, *Burma's Generals and Cyclone Nargis: Incompetence, Callous Indifference or Both?*, COMPOS Journal: Analysis, Commentary and News from the World of Strategic Communications, pp. 1-18, (May 2008), <http://comops.org/journal/2008/05/27/burma%e2%80%99s-generals-and-cyclone-nargis-incompetence-callous-indifference-or-both/>

⁵ On Burma's "constitutional process" see, S. MaCarthy, "Prospects of Justice and Stability in Burma," *Asian Survey*, Vol. 46, No. 3, 2006, pp. 417-436. The referendum passed by such an overwhelming margin, 92.4% with a 99% voter turnout, that no other evidence is required to ascertain the utterly fraudulent nature of the process.

⁶ Banner posted on Merchant Street, Rangoon, across from the US Embassy,

⁷ Angry rebuttals of international reports of the extent of the catastrophe were a consistent theme in Burmese media coverage. On June 9, 2008 NLM reported that: "The rumors are invented and circulated by certain Western countries and internal and external ax-handlers," it said. "In other words, it is just a scheme conspired by a crafty tiger that is desperate to eat the flesh and the fox that is waiting for leftovers."

⁸ Irrawaddy, May 29, 2008. The flotilla had the capacity to deliver up to 250,000 pounds of supplies per day and heavy and medium lift helicopters capable of reaching the most remote afflicted areas of the delta.

⁹ See Mya Maung, *The Burmese Road to Capitalism: Economic Growth versus Democratisation*, Connecticut: Praeger, 1998 and R. Taylor (ed.) *Burma: Political Economy Under Military Rule*, New York: Palgrave, 2001. The Generals legalized private enterprise and allowed foreign, mostly Chinese, investment.¹⁰ Between 1988 and 2006 Burma received 14.4 billion US Dollars in foreign investment. It now earns in excess of 2.61 Billion US Dollars per year from natural gas sales alone, A. Thawngmung and M. Myoe, "Myanmar in 2006. Another Year of Housekeeping." *Asian Survey* vol. 47 no. 1, pp. 194-99.

¹¹ Other children of the elite attend special schools that employ native speakers of English, mostly Americans, as teachers. English speakers willing to teach at these schools are very well paid (up to USD 80,000/year) and live in "splendid isolation" from ordinary Burmese. Foreign students who study at Burmese universities and Buddhist studies centers are equally well treated but denied meaningful contact with the Burmese population. These observations are based on conversations with "alumnae" of these programs in Singapore and Indonesia in 2007 and 2008.

¹² In 2005 I listened to a North Korean official deliver a two-hour speech on "economic miracles" resulting from the wise policies of Beloved Leader Kim Jung Il at the Asian Pacific Roundtable in Kuala Lumpur. In 2008 a Burmese diplomat in Singapore told me that there were no more than six thousand internally displaced people in the entire country and that the government was striving diligently to resettle them. One of my Burmese students found this claim to be simply ludicrous and noted that there were more than 6,000 IDP from his home town alone.

¹³ Expatriate Burmese responses to this film are discussed later in this paper.

¹⁴ This is in a volume edited by FKL on military rule in Burma that I do not have access to here in Yogya,

¹⁵ The fact that one of the regime's responses was to blame Nagris on the effects of global warming caused by foreign forces may lend support to this position.

¹⁶ In this paper "Burman" refers to native Burmese speakers who make up the country's largest ethnic group. Burmese refers to people of all ethnic identities who are residents of the country. One consequence of Burma's policy of ethnic discrimination is that not all Burmese are citizens of Burma. Non-Burman Burmese citizens are referred to as "National Races." "Singapore Burmese" refers to Burmese living in Singapore, regardless of ethnicity, religion or legal status.

¹⁷ Economically Singapore Burmese range from undocumented immigrants who work primarily in the construction and hospitality industries to phenomenally wealthy business people who manage companies, including banks, that are either owned by, or represent the interests of the military elite. A substantial number of young, well educated Burmese women work as "house maids." They are in great demand because most speak excellent English, often better than that of their Chinese Singaporean employers and because they are more familiar with "modern" housekeeping techniques and appliances than

the more readily available village women from Indonesia and the Philippines. There is also a long established merchant community many of whom are engaged in the gem and jade trade at wholesale or retail levels. Some of Burma's generals and their families maintain residences in Singapore, which they use while on shopping and vacation trips or while seeking medical and educational services.

¹⁸ In Burma there are also Sikh, Hindu and animist communities. There may be some members of these communities in Singapore, but I have not encountered them.

¹⁹ See S. Tambiah, *Buddhism Betrayed and Leveling Crowds. Ethnonationalist Conflicts and Collective Violence in South Asia*. Berkeley: University of California Press, 1996

²⁰ BTRTS has close ties with Burma. The relic the temple houses was a gift from a Burmese monk. The Temple sells DVDs featuring Buddhist shrines in Pagan and elsewhere in Burma and sponsors pilgrimage and meditation tours for Singapore Buddhists. Most Singapore Burmese Buddhists are not impressed. Many believe that the "relic" is not authentic, because as one put it: "If it was the generals would have kept it for themselves."

²¹ Singlish is the colloquial dialect of English commonly spoken in Singapore. Depending on the speaker's native language, and facility with "proper" English, it includes words and grammatical forms taken for the various Chinese dialects spoken in Singapore, Tamil and Malay. Singlish words and expressions used in this paper are reproduced from original documents. Here "Sanghas" refers individual monks not monastic orders.

²² A museum located on one of the upper floors does include some Tibetan and Burmese Theravada displays. BTRTS promotes vegetarianism, and the veneration of a pantheon of Chinese Mahayana Bodhisattvas. While publications promote a simple life style and detachment for material existence, fund raising materials focus on a this worldly "health and wealth" Buddhism that corresponds with Singapore's capitalist, achievement oriented self image. One striking feature of the temple is that it does not house a major image of the Buddha. The two large images on the ground floor are the Chinese female Bodhisattva of compassion Guan Yin and the future Buddha Maitreya. The relic, which is enclosed in a gold stupa, located on the top floor takes the place of the Buddha image. When I asked about this feature of the temple's iconography one of the monks replied that a "relic is like an image, only better."

²³ The Venerable Shi Fazhao is an ethnically Chinese Singaporean who studied and was ordained in Taiwan. The temple is located in the heart of Singapore's China Town neighborhood on land donated by the Singapore government. Construction funds were from private donations. Donors can "sponsor" or "adopt" anything from a Bodhisattva image to a roof tile. Thousands of both are still available.

²⁴ Shrines on Mandalay Hill figured significantly in the legitimation of the last Burmese capitol constructed by King Mindon. It is also the site of a temple built to house a relic discovered by the Archeological Survey in India in Peshawar in what is now Pakistan. See M. Woodward, *When One Wheel Stops, Theravada*

Buddhism and the British Raj in Colonial Burma, in, *Crossroads: An Interdisciplinary Journal of Southeast Asian Studies*, Vol. 4, no. 1, 1989, pp. 57-90. The Burma government has recently constructed a new shrine on the summit at which "relics" of the Buddha, his Great Disciples and arahats and publicly displayed.

²⁵ American Baptists are distinguished for US Southern Baptists who are more theologically and socially conservative. Burmese American Baptists consider themselves to the "Spiritual Children" of the early 19th Century Boston based missionary Judson.

²⁶ Reported by the Telegraph January 21, 2007 <http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2007/01/21/wburma21.xml> These reports have now spread across Christian Web Space.

²⁷ The Burma government's concerns about the activities of foreign Christians are in no sense unique. It is common throughout South, Southeast and Central Asia and the Middle East. In many countries there are similar concern about Middle Eastern Wahhabi Muslim "missionaries." These concerns are especially pronounced in which religious and national identities are officially or unofficially fused. See, L. Cady, G. Thomas, S. Umar, C. Warner and M. Woodward, *Prostelytization, Conversion and Political Instability*, Arizona State University, Center for the Study of Religion and Conflict, 2005.

²⁸ Saint Andrew's in among the most "multi-cultural" churches in Singapore. In addition to Burmese, it has services in Mandarin, Cantonese, Tamil, Malay and English. It is located in center of the city on a location selected by Sir Stamford Raffles, the founder and first British East Company governor. It is one of Singapore's national icons.

²⁹ The Myanmar Baptist Convention is an umbrella organization representing all of the country's Baptist synods.

³⁰ Few Burmese Theravada Buddhists are vegetarians, but almost all shun slaughtering animals for fear of the negative kamma it would produce. In Mandalay in the early 1980s most cattle and goat butchers were Muslims. Almost all hog butchers were Chinese. Both slaughtered chickens, ducks and other fowl.

³¹ The official categories Chinese, India, Malay and "other" are misleading and mask Singapore's considerably more complex ethnic character and diversity. They reflect the goals of a social engineering program designed to promote "racial" harmony and reduce the risk of the recurrence of the religious and ethnic conflict that marked the city state's birth as a nation.

³² Many shops sport signs written only in Burmese. This is extremely unusual. Most signs at Singapore business establishments are at least bi-lingual (English and an "ethnic" language). Those that are mono-lingual are generally in English or Singlish.

³³ Unlike other Burmese establishments in the Peninsula Plaza the restaurant is patronized by non-Burmese Singaporeans, other than Muslims who avoid it because it serves pork.

³⁴ Establishments that sell either pork or alcohol cannot be certified as hallal.

³⁵ Of course selecting a hallal eating place, of which there are many, is an alternative, but one with which Chinese are not always comfortable. Furthermore most hallal establishments are identifiable as either “Malay” or “Indian” which means that non-Muslims find themselves in ethnically as well as religiously “other” space when eating with Muslims. The American fast food chains McDonalds and Burger King are “neutral” because they can not be identified with any of Singapore’s ethnic or religious communities and they are hallal. There are no bacon double cheese burgers or sausage biscuits in Singapore.

³⁶ Shari’ah allows Muslim men to marry non-Muslim women, but many feel that conversion is a better option because it promotes family harmony.

³⁷ When I asked why she felt it necessary to take off the tudung, she responded: “How can I show myself as Muslim and eat pig at same time?” Clearly eating pork and wearing the tudung are symbols of conflicting personal and collective identities.

³⁸ See J. Herman, *Trauma and Recovery: The aftermath of Violence from Domestic Abuse to Political Terror* New York Basic Books, 1997.

³⁹ M. Juergensmeyer, *Terror in the Mind of God. The Global Rise of Religious Violence*. Berkeley: University of California Press 2003. It is entirely understandable that Singapore and other Burmese understand the Burma government in terms of archetypes of evil and that this leads them to understand the only visible opposition as its polar opposite. Unfortunately this is mythological thinking and contributes little to efforts to change the regime’s behavior or remove it from power. The demonization of rouge regime’s such as the Burma Government involves, symbolic processes similar to those used to motivate or justify ethno-religious violence in that opponents are portrayed in terms of archetypes of evil. This correspondence does not in any way absolve murderous regimes; it does render engagement with those that can not be removed more difficult, because any conversation with them comes to be understood as betrayal of their victims. On these symbolic processes see M. Woodward, “Religious Conflict and the Globalization of Knowledge: Indonesia 1978-2004,” in L. Cady and S. Simon (eds.) *Religion and Conflict in South and Southeast Asia. Disruption Violence* London: Routledge 2006

⁴⁰ I did not want to watch it but at the insistence of Burmese friends in Singapore I did. It is a genuinely terrible film. The fact that so many Singapore and I expect other expatriate, Burmese love it is revealing. It is not at all surprising that it is banned in Burma.

⁴¹ On the 2007 “Saffron Revolution” see M. Woodward, “On Monks and Mayhem: Dark Days in Buddhist Burma,” Arizona State University, Center for the Study of Religion and Conflict, 2007 http://www.asu.edu/csarc/documents/Burma_Paper_Woodward.pdf

⁴² On the Burma Government’s response to the crisis see M. Woodward. *op.cit.*

⁴³ This is but one example of the type of social engineering that the Singapore Government has employed in attempts to promote social and religious harmony, See, K. Pearce Khun Eng, *State Society and Religious Engineering. Towards a Reformist Buddhism in Singapore*. Singapore: Eastern Universities Press, 2003, pp. 167-188.

ESTIMATING THE PSYCHOLOGICAL IMPACTS OF EARTHQUAKE FROM DATA OF MORTALITY, INJURY AND PHYSICAL DESTRUCTION

Rahmat Hidayat

Introduction

Earthquake often results in damages and destructions of buildings and structures in a massive scale. In the process it causes body injuries and even mortalities to people. The psychological consequences are potentially enormous. Immediately following the tremor are acute responses such as panic attacks, anxieties and fears. In the long run the distress related to an earthquake may result in various forms of mental health problem, such as post-traumatic stress disorders (e.g., Rice, 1999; Saxena, Van Ommeren & Saraceno, 2006; Rehman, Ali, Khan & Hussian, 2007).

The principle of dealing with the psychological consequences of a disaster is providing psychosocial and mental health supports (Van Ommeren, Saxena, & Saraceno, 2005). This calls for rapid psychosocial and mental health assessment of the disaster. The most comprehensive method is surveillance. However, this method has some limitations. It requires significant numbers of surveyors. This may imply diverting human resources which otherwise could be used on the more urgent aid programs. Also, interviewing people in an immediate post-disaster circumstance can be considered unsympathetic to the survivors. Therefore an alternative method that does not require interviewing processes can be useful.

A part of the rapid assessment concerns impact assessment. It concerns the effects of exposure to the traumatic events, the consequences of the disaster, and the resulting post-disaster environment on the psychosocial and mental health states of the population. The objective is to ascertain the magnitude of destruction in terms of the size of population that bears the impact of the disaster, the dispersion of the affected population, and the severity of the psychosocial and mental health states of the population. This paper introduces a method for rapid assessment of psychosocial and mental health consequences of earthquake. Fundamental to the method is that there are three major factors of distress in a disaster, namely traumatic event, losses, and post-disaster stressors. The main assertion of the method is that these factors are intrinsic in the data concerning mortality, injury, and physical damage. Therefore data or reports concerning these aspects can be used as a proxy for a formal or protocol-based psychosocial and mental health assessment. Because these data are always reported relatively quickly by the authorities, a rapid assessment of the psychosocial and mental health of the affected population can be made rapidly.

Factors of Psychological Problems

Previous studies suggest that psychological problems of a disaster emanate in the event of disaster itself, the direct consequences on the individual and community, and on the post-disaster environments where the individual stay (e.g., Bolton et al., 2004; Chadda, et al., 2007). The event of earthquake disaster is characterized by traumatic experiences often leave deep scare in the mental state of the individual. The direct consequences concern the losses that people inadvertently have to sustain. Meanwhile, post-disaster environment often confront individual with daily stressors that make the natural recovery may be hindered. Thus we can identify traumatic events, damages, and post-disaster stressors as the three factors of psychological problems from disaster.

Traumatic event: Terrifying experiences are stories that survivors often tell, and that the observers can easily imagine, of an earthquake. Being inside a shaken building, with a prospect of being buried or crushed under tons of concrete, is certainly a terrifying experience. Exposure to secondary disasters such as fire, landslide, tsunami, and the aftershocks also contribute to the traumatic experiences of the survivors (*ref*). Studies also revealed that exposures to the injured survivors and dead bodies, most of it with horrible wounds, are also traumatic to the survivors (*ref*). Even sights and sounds of cracking ground and crumbling houses are quite terrifying for those who happened at the location the moment disaster struck. In short, a strong earthquake exposes people to diverse types of traumatic event.

That people demonstrate acute stress responses in the immediate moments of earthquake is normal, considering the beyond normal situation. Disaster studies reveal a typical sequence of reaction to disaster. It consists of three stages, namely impact period, followed by recoil period, and the post-trauma period (Leach, 1995). Following the impact and recoil period is a stage when victims feel exhausted (Rice, 1999).

It is generally expected that people will naturally recover from these traumatic experience. However, some might experience the long-term impact of the traumatic event, such as post-traumatic stress disorder (e.g., Rice, 1999), although some experts found counter argument (e.g., Bolton et al., 2004). Among others, the symptoms include recurrent of the traumatic event, nightmare and other sleep disorder, panic attack, and feeling of helplessness (American Psychiatric Association, 1994).

Losses: Losing something valuable is always distressing, much more so when it concerns highly valuable things. Earthquake disaster often leads to various losses. Death is the most dreadful of all, as experienced by the family, relatives, and friends. Also highly distressing is injuries that lead to permanent disability. Even temporary disability due to injuries is a hard to deal experience. It crease additional burden to the family to take care of the injured person, for example due to restricted mobility. It becomes serious hassle when the person and the family have to live in a

temporary shelter. Therefore mortality and injuries from an earthquake present significant stressors to the surviving communities.

Stress also emerges from material losses. Houses are built from years of saving, or from mortgages that still many years before it is settled. The thought of costs for rebuilding or restoration certainly creates significant burden in the mind of the survivor. Workers may face the dire possibility of lost earnings because the workplaces are damaged. Business people had to deal with lost capital due to damages and destructions. Overall, the psychological consequences of material losses from the earthquake are significant.

Secondary to the material and physical detriments are the secondary. People may feel losing of hopes. For example children might feel unsure that their parent will be able to afford the tuition fee at universities, due to the financial decline of the parents. People might have to shelve plans, such as getting married or celebrating certain life-cycle event. As a result, victims may think that they lost their future, due to the earthquake. This is likely to contribute adversely to the mental health of the victims.

Post-disaster stressors: Full recovery from a natural disaster may take months or even years. During this period, survivors may have to live in temporary shelters. Even if facilities and environment are restored partially or completely, people may still feel uncomfortable with the temporary residence. It can be predicted that the post-disaster environment exposes the survivors to a variety of stressors. The more the physical damages in the environment, the higher is the likely of post-disaster stressors.

The most common complains are concerned with the lack of privacy and comfort at the barrack. Survivors also often mention security as a concern. Other complains include inadequate health and sanitation, crowding, and rest areas. Food and other basic necessities are often the major sources of post-disaster stressors, especially at the earlier stages. Social environment may become stressor in the periods following the disaster. Conflicts between groups of a community may arise, for example because of the

perceived unfairness in the distribution of aids. Instead of providing social support, the social network may simply turn against the survivors themselves.

Modeling The Impact of Earthquake

Rationale: The three factors can be viewed as external events that represent the adverse impacts of earthquake. As such it can be conceived as stressors (Rice, 1999). The acute stress disorders exhibited by the survivors immediately following the earthquake (e.g., Chadda et al., 2005) can be attributed to these stressors. Mental health disorders which arise long after the disaster, such as post-traumatic stress disorder, can be explained from the traumatic events (Kendall & Hammen, 1998). The amount of stressors that people experience in a certain period predicts the susceptibility to illnesses (Rice, 1999). The subjective responses and body's physical reactions to stressors are often referred to as stress.

According to Lazarus and Folkman (1984), stress occurs when an imbalance exists between external demands and the ability to meet those demands, as both perceived by the individual. That is, stress occurs when individual perceive environmental problems, such as during the disaster, are exceeding his or her ability to cope with. The task of modeling the impact of earthquake on the mental well-being of the survivors can be started by estimating the amount of stressors that the survivors are exposed to. In relation to this, the Social Readjustment Rating Scale (SRRS) proposed by Holmes and Rahe (1967) offer a framework for quantifying the amount of the stressors.

SRRS includes 43 life events, each of which is associated with certain numbers indicating the amount deviations from normal pattern life. These life events require readjustment on the life of the individual. The larger the amount of the changes required by the event, the higher the stress level that is experienced by the individual. For example, death of spouse represents the highest amount of readjustment on the list, which equal to arbitrary number of 100. By comparing different types of life events, they

assigned certain life change unit (LCU), basically measuring the weight of the stressor, to each of the life event. Apart from the death of spouse, other life events from the SRRS that are relevant to earthquake disasters are death of close family member (63 LCU), personal injury or illness (53), change in health of family member (44), change in financial state (38), death of close friend (37), change in living conditions (25), change in residence (20), and change in sleeping habits (16). Table 1 summarizes the part of SRRS that is relevant to the disaster.

The official report of the disaster always mentions numbers of mortality, injury, and physical damages. It is important that every mortality number signify losses to the family members, relatives, and the friends. Further, every case of injury can be associated with the traumatic event, losses, and difficulties in post-disaster environment as experienced by the injured person and the caring family. The number of damages indicate the traumatic event, losses, and post-disaster stressors that the owners and everyone living under the roof. It is argued that using the SRRS, these data can be used to make an estimation of the stress level of the survivors.

The computational model: Based on these rationales, the level of stress can be estimated using data on mortality, injury, and physical damage. Considering that physical damages on building can be specified into destruction, major damage and minor damage, level of stress is the function of the following expression:

$$SL = [f(A) + f(B) + f(C) + f(D) + f(E)] / P,$$

where SL represents the average level of stress of the population, A represents number mortalities, B represents number of injured persons, C represents number complete destruction on houses, D represents major damage on houses, E represents minor damage on houses, and P represents the size of population.

The significance of the effect of mortality on the psychological distress can be specified in two components. First, as explained in the previous section, the level of distress should be different according to the degree of relationship, namely family members, relative, and close friend. Second, for every mortality case, it is

assumed that there are five members of the closest family, five members of close relative, and five close friends to the deceased figure. Thus, the function of mortality number, a , can be specified as follow

$$f(A) = [(5a \cdot 100) + (5a \cdot 63) + (5a \cdot 37)] / P$$

The second function, $f(B)$ is concerned with reported number of injuries. Physical trauma is the most dominant type of injuries from an earthquake disaster. Using RSS, the relevant stressors are concerned with injury or illness (53), distresses felt by other members of the family members due to the injury (44), change in financial situation as felt by the whole family members (38), change in live condition (25) and residence (20) as felt by the injured person. As in the earlier function, the assumed average size of family is five. Thus the complete function, where b represents reported injuries, is expressed as follow:

$$f(B) = (53b + [44b \cdot 5] + [38b \cdot 5] + 25b + 20b) / P$$

The significance impact of complete destruction of a house on the psychological distress of the survivors is assumed as three times higher than that of minor damage. Further, the relevant RSS factors are injuries associated with the damage (53), changes in health condition (44), changes in financial situation (38), changes in the general conditions of live (25), changes of residence (20), and changes in sleep habit (16). The complete function of house destruction, $f(C)$, where c represents the reported number, is as follow:

$$f(C) = [(3c \cdot 53) + (3c \cdot 44) + (3c \cdot 38) + (3c \cdot 25) + (3c \cdot 20) + (3c \cdot 16)] / P,$$

The significance of major damage on houses is assumed to be two times as heavier than minor damage. The relevant RSS factors is assumed as the same as the house destruction. Therefore the complete function is as follow:

$$f(D) = [(2d \cdot 53) + (2d \cdot 44) + (2d \cdot 38) + (2d \cdot 25) + (2d \cdot 20) + (2d \cdot 16)] / P.$$

Finally, minor damage on house is assumed to results in psychological distress through the consequences in terms of changes in financial situation, changes in live condition, changes in residence, and changes in sleep habit. The complete expression

of $f(E)$, where e represents numbers of minor damage on houses, is as follow:

$$f(E) = [(38e) + (25e) + (20e) + (16e)] / P.$$

Finally, an earthquake might be felt by much wider population that those who felt significantly distressed by the tremor. The total number of damage on houses, or H , can be used to estimate the impacted population. Given every house is occupied by five members, the size population significantly affected by the earthquake is $5H$.

Table 1
Stress level per District/Municipality in Yogyakarta

No	District / Municipality	Stress level	Category*
1	Bantul	114	Extreme
2	Sleman	24	Moderate
3	Yogyakarta	28	Moderate
4	Kulon Progo	18	Normal
5	Gunung Kidul	22	Moderate
6	Klaten	49	Rather high

Illustration

Two cases of earthquake disasters will be used to illustrate the application of the model, namely the 27th May, 2006 earthquake in Yogyakarta and the 30th September, 2009 earthquake in West Sumatra. Parts of this illustration are taken from the rapid assessment reports of the Gadjah Mada University, Faculty of Psychology.

Yogyakarta Earthquake: The earthquake struck at the early hour of Saturday, at 05.55 a.m.

The level of stress experienced by the population of 6 districts can be computed using the formula discussed above (five districts

of the Central Java Province were omitted, due to insignificant numbers). The result is summarized in Table 3, and visualized in Figure 1. As apparent from the table, the District of Bantul demonstrate the highest level of stress (114 on SRRS), followed by Klaten (49). On the more specific level, seven of 17 sub-districts (Kecamatan) in this area measured higher than 100 on the SRRS, with Sub-District Pundong scored highest (181), followed closely by Pleret (174) and Jetis (172). Other four sub-districts are Piyungan (158), Imogiri (127), Bambanglipuro (124), and Sub-District Bantul (109). No one of the sub-districts measured normal. The lightest stress level was measured in two sub-districts, namely Sanden (32) and Sewon (34).

District of Klaten demonstrates a unique case. The average amount of stress at the district level is fairly low (49). However, three sub-districts were measured at the extreme level, namely Gantiwarno (158), Prambanan (133), and Wedi (107). However, 11 of the 16 sub-districts demonstrated at normal level at the SRRS. This case highlights the necessity for region-specific assessment, rather than broad-based assessment such as the district or even provincial levels. Whenever availability of data permits, assessments at specific locations are more useful.

West Sumatra Earthquake: The disaster struck at 17.16 pm, measuring 7.6 on the Richter Scale. The epicentrum, at 71 km deep, was located at 0.84 South, 99.65 East, or approximately 57 km southwest of the City of Pariaman. barat daya Pariaman, Sumatra Barat dengan kedalaman 71 km. The tremors were felt as far away as Aceh in the west, Liwa (Province of Lampung) in the east, and Kuala Lumpur and Singapore in the north. The significant impact of the quake were reported from 12 districts of the Province of West Sumatra. Data on casualties and physical damages are summarized in Table 4.

Table 2
Statistics of mortality, injury and physical damage per district of
the Sumatra Barat earthquake

District/ Municipality	Human		House		
	Dead	Injured	d	dmg.	dmg.
Kt. Padang	314	596	33.256	30.587	32.695
Kt. Pariaman	37	352	8.619	1.633	2.073
Bukittinggi	-	4	180	-	50
Padang Pariaman	572	951	61.765	12.047	3.503
Pesisir Selatan	9	27	1.740	3.775	9.295
Kt. Solok	3	0	-	-	-
Padang Panjang	-	0	183	617	2.142
Pasaman	-	23	192	7	740
Pasaman Barat	3	30	3.021	2.976	2.747
Solok	-	2	65	63	128
Agam	97	137	12.634	3.457	3.719
Tanah Datar	-	0	24	44	418
Total	1.035	2122	121.679	55.206	57.510

Source: Badan Nasional Penanggulangan Bencana, 8 Oktober 2009

Table 3
Stress level per District/Municipality in Sumatra

No	District / Municipality	Stress level	Category*
1	Kota Padang	36	Moderate
2	Kota Pariaman	59	Rather high
3	Kota Bukit Tinggi	1	Normal
5	Padang Pariaman	85	Very high
6	Pesisir Selatan	7	Normal
7	Padang Panjang	12	Normal
9	Pasaman Barat	9	Normal
11	Agam	16	Normal

*Categories are determined arbitrary following this rule: 0-20 = normal, 21-40 = moderate, 41-60 = rather high, 61-80 = high, 81-100 = very high, > 100 = extreme.

Applying the model, approximately 1,2 million individuals living in the earthquake affected regions experienced significant level of psychological distress. Table 5 summarizes the results of calculation, and Figure 2 demonstrate the map of stress level. At 85 on RSS, Padang Pariaman is the district with the highest level of stress. This number is considerably lower than the District of Bantul that scored highest among other districts in the Yogyakarta earthquake. However, the distribution of stress level is likely not equal among the sub-districts. For example, it is suspected that the stress levels of two sub-districts, namely Lima Koto Timur and Patamanan, are much higher. Similar issue arises concerning the District of Agam. On the calculation using the model this stress level of this district is normal. However, there are particularly high number of casualties from certain areas around Lake Maninjau. Although most of other regions in this district were not badly damaged by the recent earthquake, the level of destruction in these regions are extremely high. This again calls for more specific assessment using region-specific data, which unfortunately not present at the time of this analysis.

Interpreting the results: The results of the 3-factors model of assessment can be interpreted in two ways. First, the stress level captures the average affective states of the population in the respective regions. In other words, it can be argued as capturing the general mood of the population in the immediate moment following the disaster. As an approximate, the temporal aspect of this measure corresponds with the emergency stage of the disaster response. Thus, for the case of West Sumatra earthquake, it reflects the general affective states of the population up to one month after the disaster.

The significance of the mood or affective state can be compared to the life events of the SRRS. For example, the Sub-District of Pundong was scored 184 according to the model. The affective significance might be compared to the death of two members of a family. Similarly, the scores of the District of Padang Pariaman (85) resemble the general mood close to the situation when one is losing a family member.

The second way of interpreting the results is by considering the numbers as a measure of stress level. This way strictly applies the interpretation of SRRS at the individual level. Therefore prediction on the future health can also be made, based on the original uses of SRRS. From this, regions that are scored higher than 150 should be the focus of attention. From various sources, Rice (1999) concludes that the LCUs score between 150 to 199 can be categorized as a mild crisis. This is associated with the susceptibility to illness in the immediate future. Thus has to be put at the four sub-districts of Bantul (Piyungan, Jetis, Pleret, and Pundong), and one in the District of Klaten (Gantiwarno). However, validity of this interpretation is subject to empirical examination. At the moment the author of this paper is conducting this empirical examination at the District of Bantul.

Benefits and Limitations of The Model

As apparent from the results presented above, the 3-factors model provides a general assessment of the psychological problems in areas affected by an earthquake disaster. The

assessment can be done relatively easily and quickly. The result may provide a prediction on the future psychological and medical problems, although this still need empirical examination. Nevertheless, the results of the assessment can be used in determining the distribution of psychosocial and mental health support programs in the disaster-affected areas.

Some limitations need to be addressed. First of all, there are social and cultural factors that are important in the manifestation of psychological problems which are not included in this method. Further, this method cannot be used for assessing specific psychosocial and mental health problems in the community. For both aspects, empirical assessment is the most reliable method. Finally, the result of the computation is highly sensitive to the accuracy of the data. It is a common secret that quality of data in such a chaotic environment is highly questionable. In addition, government assistance programs such as funds for house reconstruction may inflate the reported numbers of physical damages. This will affect the accuracy of assessment regarding the stress level of the community.

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DENTIST PARTICIPATION IN THE IDENTIFICATION OF MASS DISASTER VICTIM IN YOGYAKARTA

Sudibyo¹

Introduction

Islands in Indonesia lined from Sabang to Merauke, lengthwise along the Sumatra Island, passing Java, Bali, West Nusa Tenggara, East Nusa Tenggara, turn to Sulawesi Island, and spread to the local area around. Indonesia is an archipelagic island country and the population is very dense. Indonesia is geographically located in the area that prone to natural disasters, i.e. landslides, earthquakes, volcanoes, tsunamis, and flood. The variety of ethnic and tribal religions and the unstable condition of social economy could trigger the horizontal conflict among its people. If this is not handled properly, this conflict would risk a disturbance that becomes a disaster.

From the disasters, there is a potential cause of human casualties. The last disasters that happened were caused by earthquake, like the ones in Padang, West Sumatra, and Ujung Kulon, West Java. The other disasters were caused by human mistakes for religion issues, i.e. the Bali bombing (ca. 2002 and 2005), the bomb explosion in JW Marriott Hotel (ca.2003) and Australia

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Embassy (ca. 2004), or the misuse of transportation equipments, such as plane crash, train accidents, etc.

According to Depkes No. 1653/Menkes/SK/XII/2005 cit. Riri, dkk; a disaster could be defined as an incident which suddenly happened and unplanned; or a slow but continuing and may lead to effect for the daily pattern of life or damaged ecosystem, so that the emergency measure is necessary, esp. saving the casualties and their circles. Every disaster has its casualties, death or alive, and both need to be helped immediately. All victims, whether death or alive, are need to be identified for the importance of their families; inheritances and insurance issues, and for revealing the cause of death.

As had been in practice, a dentist is required to make a medical record, called Ante Mortem data in the importance of the identification. Valid standard forms that used to identify the victims are; the yellow tags and written "*Victim identification form for missing*" are Ante Mortem, for those who are alive, and red tags and written "*Victim identification dead body*" are Post Mortem, for those who are death. From those data, the dentists who are in charge to identify could fill the data from the victim's teeth and oral cavity.

If there are mass victims and the dead, including the unexpected death, it may result in delays in the discovery of the victim and usually the dead bodies are damaged, which resulted in difficulties in the identification process. According to Atmadja (2004) there are 9 methods to identify the victims; visually, jewelries, clothes, documents, medical identification, forensic serology, fingerprints, exclusion and forensic odontology. If the victim cannot be recognized, then the teeth are the primary data, in addition to fingerprints and DNA, and the primary data is not likely to change, to be changed, or falsified.

According Atmadja (2004) a forensic dentist must have a minimum of 3 eligible, among other things:

1. He/she has a dental background or specialist colleagues as a specialist consultation.

2. He/she in the task must have the qualifications and areas of forensic expertise.
3. He/she is charged with knowledge of the forensic aspects of forensic odontologi law.

Qualifications of the forensic dentist is intended for forensic dentist who is sensitive and can answer the question then arises of the identification, such as legal issues, insurance, claims in court, other than the identification itself.

In identification process, whether the victims were still alive or dead is to compare different data, both primary data and secondary data from the individual. Secondary data obtained by looking directly at the victim in connection with the data from the jewelry, the property (clothing), when the victim's identity card was found with when he was still alive. Is the primary data, the DNA fingerprints and dental data (deoxyrebose nucleic acids), where data is used to identify whether the body was badly damaged, burn victims, or the victims that cut into parts (mutilation). Data odontogram teeth usually called, which can be classified into two odontogram, namely 'dental records, "which contains notes from beginning to end data and patient care' dental cast" / mold dental patients. Dental x-ray record generally equipped with photographic images, both individually photos and a panoramic view. The victims tested positively identified and valid if one or more primary data have been found, or at least two secondary data can be proved if it is difficult to prove the primary data (Summy Hastry, 2007).

In Indonesia, especially in DIY, we can say there is no expert or a scholar graduate of Forensic Dentistry. Besides that, Forensic Dentistry is still new, but along the demands of the forensic dentist circumstances arise, they must be able to appear. In addition, the dental society in Indonesia, especially in Yogyakarta, dental examinations are still relatively limited, the public dental health behavior is relatively less. Until now the number of dentists in Yogyakarta recorded around 713 people, was at the national level by the number of dentists registered KKI 2007 until the new year 17,783 people, 89,090 dentists in Indonesia (Dentamedia 2007).

Seen from the interests of disaster prevention and management, this is the dentist's time in Yogyakarta to participate to pioneer the establishment of forensic odontologi. Besides there is a large hospital such as Panti Rapih, Bethesda, PKU, and Dr. Sardjito Hospital, in this region there are also lecturers and students of UGM and Dental UMY. Dentist will be able to help or can identify the optimum. As an illustration of the victims of Bali bombings identified through dental 56%, Accident Situbondo =60% (Riri, dkk2008), and identification of victims of Garuda plane crash in Yogyakarta can be identified through the teeth to 100%. (Sudiby 2007)

The existence of victims of natural disasters or disasters caused by humans often happens, i.e. the eruption of Mount Merapi, an earthquake in Bantul, fall and burn the Garuda plane, the burning bus students Yapenda, Berbah, Bantul, in Paiton East Java. Mount Merapi is one of the active volcanoes in Indonesia. This mountain erupted the first time in the year 1006. Until February 2001, noted that Mount Merapi has erupted 82 times. -Flat, Mount Merapi erupted in a short cycle between 2 - 5 years and secondary cycles between 5 - 7 years. The most tremendous eruption of Mount Merapi was in 1672. At that time, came hot clouds and cold lava flood that 300 dead. Years 1930-1931, 1.369 the eruption claimed people died. Another eruption occurred in 1954, 1961, 1969, and 1972-1973. On November, 22 1994, Merapi produced black cloud to the direction of Boyong River, and 67 dead, because of that, the author interested in odontoforensic. There were so many scorched dead bodies and it was hard to be evacuated and identified. In February 2001, was reissued miscarriage lava dome mountain Plunyon south toward the village, and claimed Kaliurang, two people burnt to death because of getting trapped in an underground bunker. All the victims were evacuated Mount Merapi and the identification of Dr Sardjito Hospital.

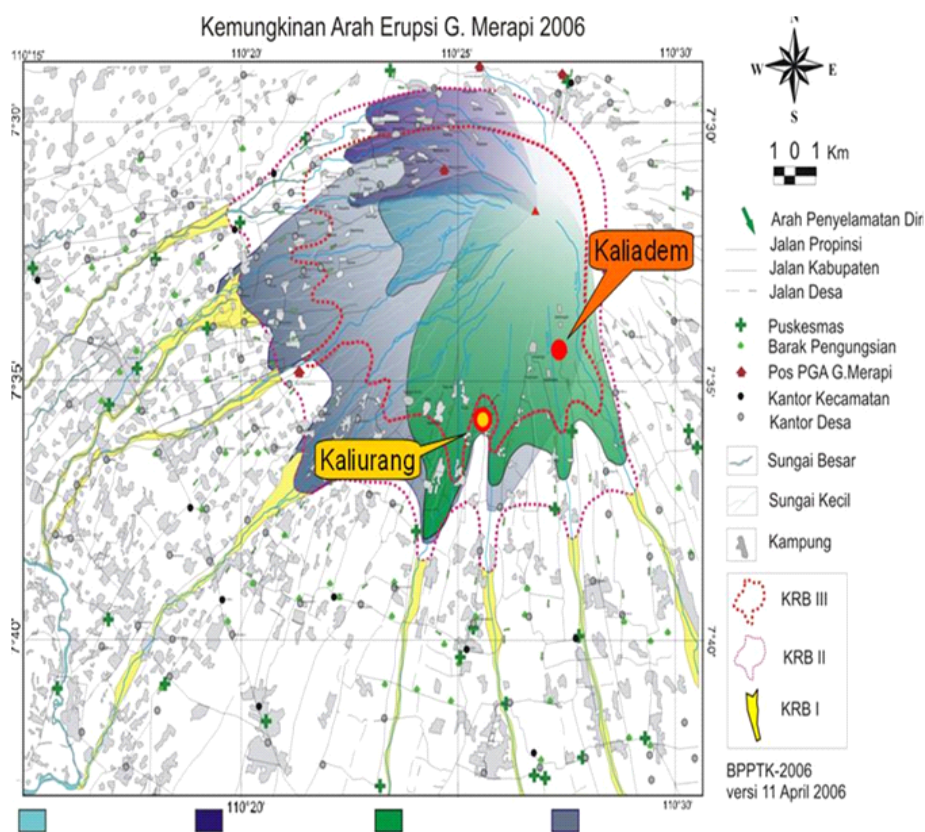


Figure 1 Hazard prone area in Merapi, Yogyakarta

51 victims of the burning bus carrying a group of students SMK Yapenda, Bantul, Yogyakarta which occurred Thursday, 9 October 2003, in which all the victims died in a state of the charred and unrecognizable, a separate record for a mass disaster that had befallen the people of Yogyakarta. In preparation for the identification of victims, the identification of Dr. Sardjito has been coordinating the preparation of identification, but found the victim received directly by the families of the victims in Berbah, Sleman and many victims who have not been identified yet part of the family has received such a situation.

6.3 Yogyakarta earthquake in the Richter scale occurred on May 26, 2006, as many as 5749 died. Earthquake victims in Bantul recorded no identified 17 victims, but as time passes, the number

of unidentified victims of life 3. Another earthquake occurred in Indonesia is very common. Earthquakes began on January 20, 1917 with 1,500 deaths, until the last earthquake on September 30, 2009, which claimed as many as 770 people, has occurred as many as 48 times, with a total of 245,939 deaths of people.



Figure 2 Impact of disaster in Yogyakarta

An earthquake has just happened and has not handled completely, both physical-social- economically and identification of victims of the earthquake in Padang is what happened on September 30, 2009 and the earthquake Ujung Kulon that had just happened.



Figure 3 Per disaster event

Teeth as the primary data in identifying victims

Teeth not only have a very important meaning when a person is still alive. Teeth also play a role in identification the death ones. Since Roman times, the identification of people through his teeth have often done, especially the teeth is part of the body which has a unique composition and form. Identification of the simplest is to study the records or a history of one's dental health. In the course of human life, each tooth has a different history. There's a tooth with a hole, then patched; or revoked; or left without treatment. That is why; the records of dental treatment and conditions can be used as a tool to identify someone.

In addition, the teeth are very important organs as a mean of identification, especially when the identification of faces and body shapes cannot be done because the damage is severe. Why is it important? teeth are very powerful organs. The structure consists of an outer layer of tooth enamel and the hard dentine (bone tooth), cementum (covering the root tissue of teeth), and the pulp or the tooth cavity containing blood vessels, nerves, and lymphatic. Pulp hard tissue shielded so as not to damage even at 150-450 degrees Celsius warming. These dental benefits when compared other body tissues. Teeth can also be used to determine the age of the body through the three signs. They are; phase formation, clothing, and histological examination. Of the three signs, the most accurate is histological examination. Error rate can be reduced to about 2-3 years. When the victim is 45 years of age, histological examination of allegations ranges from 43-47 years. Thanks to the power structure, teeth can be used as a means of identification, such as fingerprints. The study identifies a person through the tooth structure is generally known as forensic odontology.



Figure 4 Dental technique

Odontologi forensic is one way of determining the identity of individuals who have been known since the time of BC. Reliability of this identification technique is not only because of the high precision that is almost equal to the accuracy of fingerprinting techniques, but due to the fact that the teeth and bone is a biological material most resistant to change and protected environment. Teeth is an equipment of identification that can be trusted if the recording was made with good data and correctly. Several reasons can be advanced why the tooth can be used as a means of identification is as follows, first because the teeth of the most difficult parts of human body composition of organic materials and very little water and is composed largely of inorganic materials that are not easily damaged, is located at protected mouth. Second, humans have 32 teeth with a clear form and each has five surfaces.

Remarks

From the story above, so this is the dentist's time in Yogyakarta, mainly driven by the dentist education center, Faculty of Dentistry, University of Gadjah Mada and FK UMY Dentistry, which (thank to God) already entered forensic dentistry in the curriculum. The curriculum is expected to prospective dentists can use the knowledge in the field of forensic medicine. The existing health centers and hospitals should socialize forensic dentistry in the ranks of administration and services. Liabilities are expected to write medical records with the teeth can be done fully and properly stored. So, the record has become so well-written medical liability in accordance with the UUPK in 2004, is a duty and responsibility in disaster prevention in the identification, and handling of mass casualties in Yogyakarta. This was confirmed also by the government and coordination with the Yogyakarta police, hospitals and related institutions have been the establishment of victim identification team in Yogyakarta.

To further intensify the Disaster Victims Identification (DVI) programs in Yogyakarta, especially forensic odontologi to wake up and always responsive and alert in the face of disaster, badly needed government support DIY, a related agency programs, including funding and activities should involve all stakeholders including the community. Amen.

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PRELIMINARY SURVEY TO BUILD DISASTER INFORMATION SYSTEM IN YOGYAKARTA SPECIAL PROVINCE

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Introduction

Geographic information system (GIS) based information system is essential tools in the disaster risk reduction program. Hydro-meteorological, geological and biological hazard is spatially and temporally unprecedented event which often cause destruction called disaster. The tool is compatible to forecast where or when the event may occur and how the event is described, respectively. It is also fit for simulation of the events' characteristics, such as the magnitude, frequency, location and impact. To work with the GIS based information system there are need compile

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varied types of data, applications, and services (Kohler et.al, 2006). Through the GIS based information system, the likely data such as relief, roads, utilities, bathymetry, elevation, soil, geology, land cover, landmarks, hydrology, administrative boundaries, tidal datum, population density, and other geo-sphere phenomena are drawn and analyzed into new information in the format of thematic map (ESRI, 2006). In the wider scope, Skidmore (2002) added that there are three fundamental aspects to maintain the environmental management, such as policy, participation and information. Therefore, information is fundamental in order to support the policy making process and it should be accessible to improve the participation. There are various methods to produce information system which are less complicated and less costly than GIS based however, the result of the information is applicable for varied sectors on the development program, either in the environmental protection, structural development to the social empowerment. Thus, GIS based information system is worthwhile tool to exercise the reduction of disaster impact.

There are various limitations to attain the development of GIS Based disaster information system. The analyses are not simple, it comprise from at least four orderly analyses: 1) hazard analysis; 2) exposure analysis; 3) vulnerability analysis and 4) risk analysis (Chen et.al, 2004). Other than that, to develop it, there are some elements need to be ensured, such as (ESRI, 2006):

1. GIS Data Organization
 - o Critical infrastructure data
 - o Up-to-date image data base
 - o Metadata
 - o Interoperability data
 - o Predefined emergency response database model
 - o Sharing data with media
2. Coordination in various aspects
 - o Resource allocation
 - o Prevent any duplication data
 - o Shared information with any ongoing international/national GIS projects
3. Up grading the technology
 - o Real time monitoring

o Mobile mapping capability

Therefore, some may suggest the importance of conducting preliminary survey to develop the GIS based disaster information system. Preliminary survey aimed at ensuring that the design of the information system is fit to the users' need, and at the same time it also provide the overview of the available resources. By mapping the resources, it is assumed that we know "*what we have*" and "*what we don't*", therefore we will not make any design which is not fit with the need and available resources. Resources referred to the human resource, infrastructure resources and financial resources. Human resources referred as user, need particular skill to access data, operate services and conduct the analysis (Bucher, 2006). Some declared that information system can also be approached from the internet based, which requires more infrastructure system, respectively, such as server, internet connection and computer system (Figure 1). It may also add some tools if it comes to early warning system. Since disaster system information requires good input as noted above, thus scholar should carefully design it to avoid redundancy and conflict of interest.

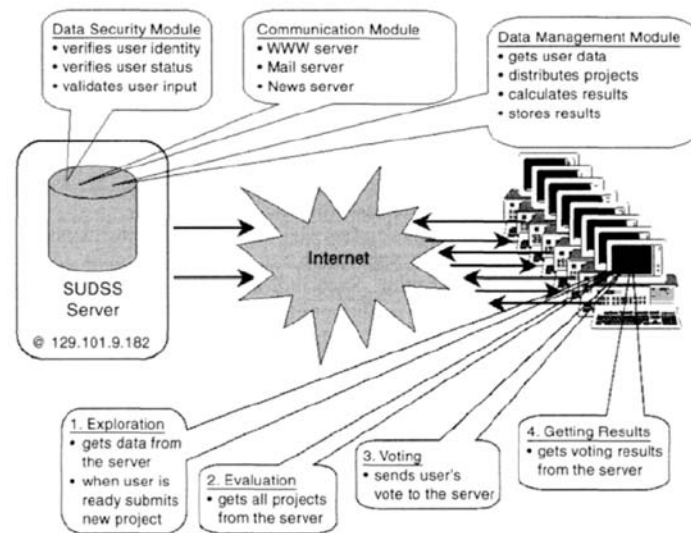


Figure 1
infrastructure support for internet based information system
(Jankowski & Nyerges, 2001)

The following sub chapter shall elaborate the aim of the article. It consecutively followed with an introductory of the research area and brief summary of the activity program. Thereafter, the result and discussion is presented.

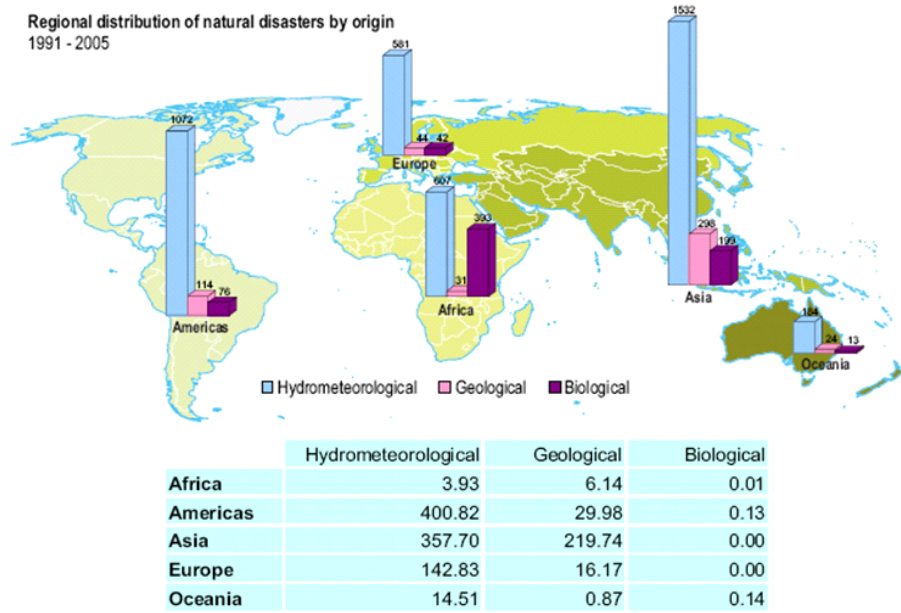
Research Objective

The article is mainly discussed "*what has been done*" during the preliminary survey of Geo-Risk Activity Program and the elaborate the finding. The Geo-Risk Activity Program is an activity program jointly conducted by three layers of parties in Indonesia, which are BAKOSURTANAL (National Agency for Mapping and Survey) – Gadjah Mada University and Government of Yogyakarta Province. The activity program aimed at the development of GIS Based disaster information system, using Yogyakarta Special Province as the pilot project. The detail of the activity program will be elaborated further in the following sub chapter.

Research Setting

Indonesia is multi hazard prone areas, it has massive disaster event. The data revealed, that Asia, the continent where Indonesia is located, was accounted for 40% out of the worlds' total disaster event occurred during 1991 to 2005 (EM-DAT, OFDA/CRED, & ISDR, 2006). The area is mostly suffered from hydro-meteorological hazard, which caused 357.70 billion USD\$ losses. Specifically in Indonesia, during the period of 2003 – 2005 there were 1429 disaster incidences (BNPB, 2006). Flood accounted for 34% out of the total incidents, landslide up to 16% incidents, and other geological hazard (earthquake, tsunami and volcanic eruptions) up to 6.4% of the incidents. Although the percentage is the least, the geological hazard caused tremendous loss and fatalities, such as tsunami (Aceh case, 2004) and earthquake (Yogyakarta and Central Java case, 2006, Tasikmalaya and Padang 2009). Overall, the geological disaster in Asia estimated to caused 219.74 USD\$ losses, ten times from the American. Geographically, Indonesia is situated in the juncture of four tectonic plates (Asian, Australian, Indian Ocean, and Pacific Ocean Plates). The geographic condition caused Indonesia susceptible towards certain hazard. Other than that, the archipelagic

area also notorious for the diverse biological condition, thus it triggered other type of hazard. Some scholar considered disaster management was not prior in the development plan, however, without proper disaster risk reduction program, the current investment is put into risky situation and the community is place in vulnerable state.



Source: (EM-DAT, OFDA/CRED, & ISDR, 2006)

Figure 2
The regional distribution of natural disaster by origin and amount of economic losses (billion US\$)

The Indonesian government currently conducted disaster risk reduction programs. The National Government published several Acts related to it. The Act Nr. 24/2007 on Disaster Management, Act Nr. 26/2007 on Spatial Plan and Act Nr. 27/2007 on Coastal Zone Management and Small Island amalgamated the importance of disaster risk reduction into the sector of development. Since the Act has promulgated the importance of the disaster risk reduction, accordingly, each National Department added the activity program with mainstreaming the disaster risk reduction.

Counter to the current trend, the financial sector claimed that huge amount of investment is needed to conduct the disaster risk reduction. However, it is much better to spend some amount of investment now, rather than loose bigger amount of investment in the future.

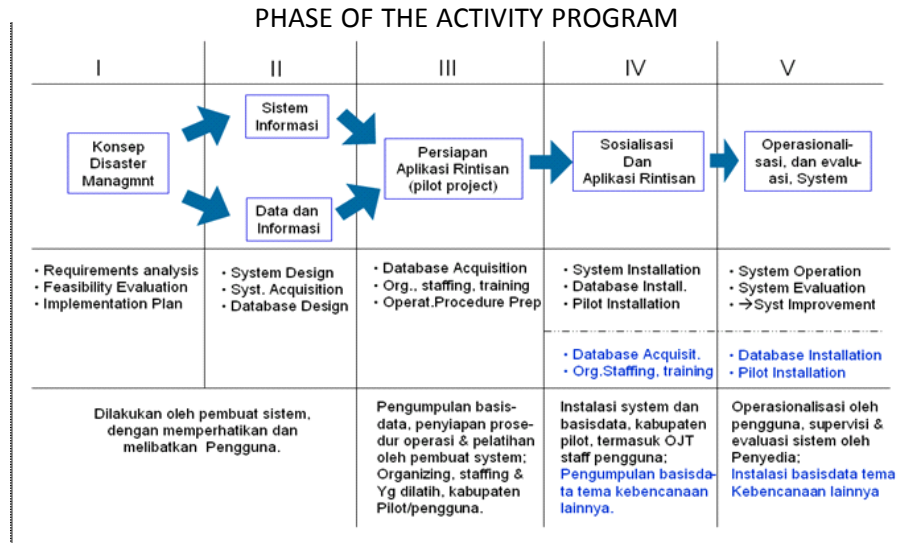


Figure 3
Phase of the Activity Program

Limitation to achieve the disaster risk reduction program can be minimized with joint corporation program among stakeholder in multi discipline and multi sectoral. An example can be derived from the “Geo-Risk Identification in Coastal Area” activity program conducted by the BAKOSURTANAL - Gadjah Mada University - Provincial Government of Yogyakarta Special Region. The cooperation is essential to Indonesian case, due to lack of coordination, consultation and cooperation praxis in the field of decision making process. Through this activity program, there are increasing awareness that the national level contribute support to the local level by involving varied stakeholder, such as academic institutions and government institutions. Other than that, the activity program also offer cooperation in the research and development of science and technology, education and training, implementation and utilization of geographic information system, survey and mapping also community empowerment.

The Geo-Risk Activity is an essential part in the process of disaster risk reduction. It was intended to provide integrated information system to support disaster mitigation effectively. The activity is planned to be implemented within several years (see the following figure). The output of the activity program is a Disaster Information System (DMIS), where data will be systematically organized. At the beginning of the program, it was intensively focus on the coastal area, however, the demand over better information system in disaster management had urged the team to broaden the scope of the activity not only dealing with coastal environment. Yogyakarta had been selected as the pilot project since the area is located in the prone area of disaster, the community has huge potency and capacity to survive from the disaster and there are abundance of scholars involve in the study of Yogyakarta case, which beneficial to the activity program.

Research Method

Preliminary survey to build the GIS Based Disaster Information System was conducted using three methods. The following activities were orderly carried out:

- 1) Requirement analysis via the desk study and identification of the available resources.
- 2) Feasibility evaluation, via the identification of data needed for decision making in order to mitigate disaster and;
- 3) Implementation plan, via series of discussion among stakeholder to gain consensus on the findings and compare it to the theoretical and planning base.

The following figure shows the flow chart of the research method:

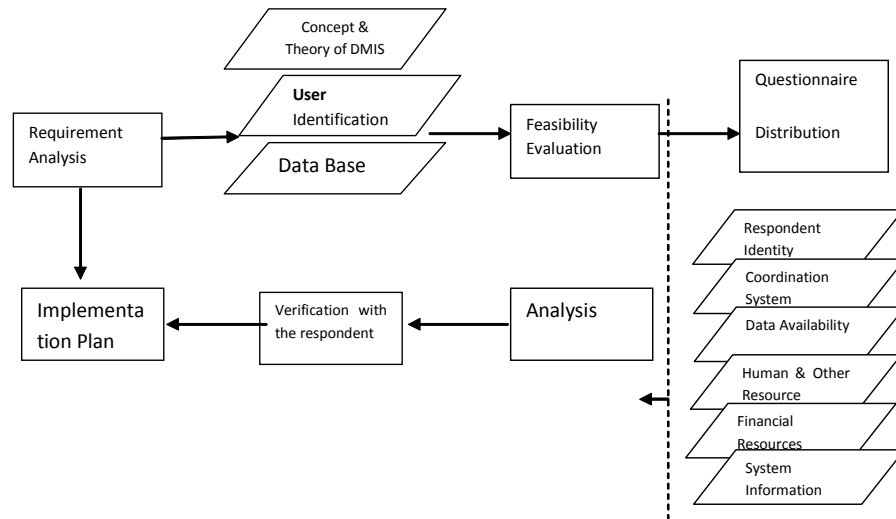


Figure 4
Research Methods Flowchart

The idea of the preliminary survey was gain more information from varied concept and theory about the design of the disaster information system, identify the users and get more knowledge about the user necessity. In the other hand, it was also analyze the gap between the normative findings with the real condition. The contrasting idea was carried out via questionnaire and interview with selected stakeholder involved. Afterwards the results were analyzed using simple statistic method. Overall, the idea was framed in the mix qualitative and quantitative method, which essential to avoid any redundancy of the research finding.

The questionnaires were design for the decision makers and technical staff. There are assumption that decision maker poses different necessity to use the information system, while the technical administrator also poses different need and particular access. The respondents were selected using simple random statistics out of the total institutions working in the related issue of disaster. Some suggestions were made by the respondent to involve the Non Government Organization that actively involved in the disaster risk reduction activity. Although the questionnaire

went to different respondent representation, the content of the questionnaire was similar. It comprised from six sections, as follow: 1) respondent identity; 2) general information; 3) data availability; 4) human resources & infrastructure; 5) financial state and 6) disaster information system.

Result & Discussion

Respondent Identity

There were 32 institutions in Yogyakarta Province, which related to disaster response/activities, interviewed using questionnaire, both government institutions and NGOs (see Table 1). The institution are health department, data and electronic institution, regional planning board, agriculture sector, forestry sector, volcanic hazard mitigation unit, environment management unit, marine and fisheries department, firefighter unit, meteorological and geophysics unit, social protection unit and some nongovernmental organization such as UNDP, IOM, OXFAM and GTZ. Since the respondent were varied in the hierarchical level, thus the questionnaire involved institution either in the provincial level and regency/municipality level (Kabupaten/Kota) such as Yogyakarta, Bantul, Gunungkidul, Sleman and Kulonprogo.

General

The general information aimed at elaboration of the condition within the institution, institution mechanism to coordinate either to collect, analyze or work with the data collection on disaster issue. Here are the results:

Most of the respondent conducts data collection. During the data collection the institution rarely coordinate with other institutions. From the respondent, 34% coordinated with 1 or 2 other institutions in order to analyze the data; whilst 12.5% of the respondents coordinated with more than 4 other institutions to analyze the data; 34% of the respondents did not coordinate with any other institutions. At the verification meeting, all respondent claimed that the coordination about data collection were not

priority for their daily task. Although, out of the 24 institutions (75% of the respondents) notified that it had particular division to manage disaster data inventory. Other than that, 75% of the respondent had standard of operating system to store, compile and manage the disaster related data.

The finding explained the condition, that among abundance of disaster related data in Yogyakarta, there were not much analysis. It causes the ignorance towards the importance of “*what the data can say*”. Without any awareness towards data analysis, there was not much information about future prediction on disaster issue, which eventually cause bigger amount of investment to pay the negative impact.

Table 1 List of Respondent

Institution	Institution
1. P3BA Sleman (Disaster management authority of Sleman District)	2. Kantor Pelayanan Data dan Elektronik Kab. Kulon Progo (Office for Data and Electronic Affairs)
3. Dinas Kesehatan Kab. Sleman (Health Service of Sleman District)	4. Kantor Kesatuan Bangsa dan Perlindungan Masyarakat (Office for Civil Protection)
5. Dinas Kesehatan Kab. Kulon Progo (Health Service of Kulon Progo District)	6. Kantor Informasi dan Komunikasi Gunung Kidul (Office for Data and Electronic Affairs)
7. Kantor Kesbanglinmas Kab. Kulon Progo (Office for Civil Protection of Kulon Progo District)	8. Kantor Kesatuan Bangsa dan Perlindungan Masyarakat Kab. Gunung Kidul (Office for Civil Protection)
9. Bapeda Kota Yogyakarta (Agency for Regional Development)	10. Bapeda Kab. Gunung Kidul (Agency for Regional Development)
11. Dinas Pertanian Yogyakarta (Office for Agricultural Sector)	12. Dinas Kesehatan Propinsi DIY (Health Service of Yogyakarta Province)
13. Dinas Perhutanan dan Perkebunan Yogyakarta (Office for Forestry and Estate)	14. IOM Yogyakarta (International of Migration, NGO)
15. Dinas Kelautan dan Perikanan (Office for Marine and Fisheries)	16. Dinas Kimpraswil DIY (Office for Public Works)
17. Badan Informasi Daerah Kota Yogyakarta (Regional Office for Information)	18. UNDP (United Nations Development Program)
19. BPPTK - PLG, Badan Geologi Yogyakarta	20. OXFAM DIY (NGO)
21. Sekretariat Daerah - Bag. Kesra Kab. Kulon Progo (Regional Office for Administration)	22. Bapedalda DIY (Agency for Environmental Management)
23. Kantor Linmas dan Pemadam Kebakaran Yogyakarta (Office for Civil Protection and Fire Brigade)	24. Balai SABO (Training Center for SABO, Department of Public Works)
25. Badan Informasi Daerah Province Yogyakarta (Regional Office for Information)	26. Dinas Pertanian dan Kehutanan Sleman (Office for Agricultural and Forestry)
27. PMI DIY (Indonesia Red Cross)	28. BMG (Agency for Meteorology and Geophycis)
29. Dinas Pertanian dan Kelautan Kab. Kulon Progo (Office for Marine and Fisheries)	30. GTZ (NGO)
31. Dinas Sosial Yogyakarta (Office for Social Affairs)	32. BAPEDA DIY (Agency for Regional Development Planning)

Data Availability

This section aimed to examine the availability of data and the management of the data. Here are the results:

Almost 84.4% respondent posited as user, whilst the non-governmental organization preferred to come up with new information from the raw data. Meanwhile, 71% revealed that the institution deal with disaster data inventory, respectively. Minimum analysis carried out by the respondent was assumed as the impact from the task and duty. The institution generally possess general task forces, and not specifically appointed as the institution that should provide standardized data. There were 62.5% respondent claimed that their responsibility is limited to the coordination & policy direction; whilst in smaller unit the respondent able to have 59.4% work specifically in data processing. Although, the task and duty did not specifically directed to data and information management, there are 62.5% institutions participate actively in preparedness & mitigation; emergency response plan (53.1%); contingency plan (40.6%); and early warning system plan (34.1%). The respondent also provides access to the community (74%) and nearly all respondent obliged to inform or socialize the result of the data analysis to the community via participatory approach. However, the data and information shared to the community not yet favorable in the disaster related issue.

The collected data were mostly the location of the hazard (78.1%), quantification of loss/damage assessment (62.8%), and frequency of the hazards (62.5%). Other data available in the respondent were hardcopy maps (75%), publications of disaster/reports (68.8%), point data samples from surveys (46.9%), remote sensing imagery (25%), and aerial photographs (18.8%). Remote sensing imageries available in among stakeholder were Landsat, Ikonos, and Quickbird.

Some institutions mainly focus on particular hazard (Table 2). The table revealed that the earthquake related data is prominent compared to other type of natural hazards. The opportunity of volcanic hazard to occur were quite rare, it can happen in the next 100 year periods however it caused enormous losses to the human

civilization. As Yogyakarta Special Province was once hit by the 5.9 SR Earthquake at the end of 2006, the stakeholder involved were psychologically involved and quite interested to compile more information about it. On the other hand, the demand towards statistical data from the government was increasing; therefore compilation about hazard related data is essential to some point.

Table 2
Qualitative Perception towards the importance of natural hazard type

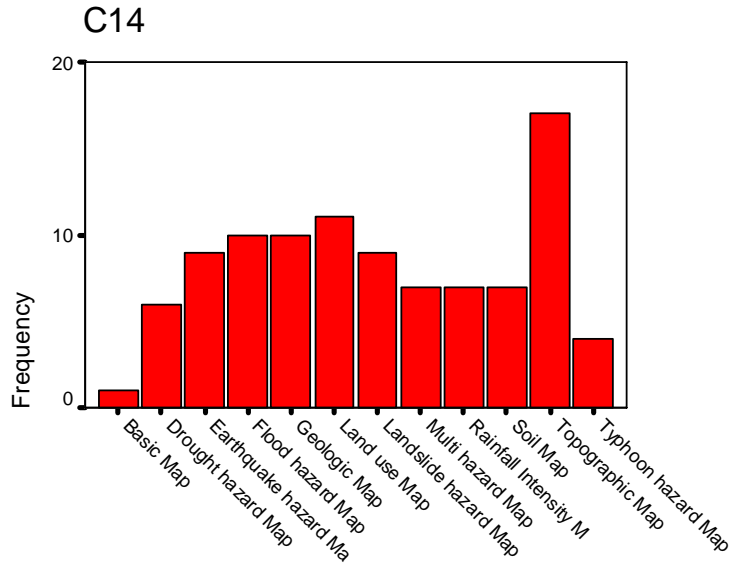
No.	Type of hazard	Score of Urgency
	Earthquake	11
	Typhoon	5
	Flood	5
	Tidal wave	4
	Volcanic eruption	4
	Tsunami	3
	Landslide	2
	Drought	1
	Pest	1
	Fire	1
	Mass movement	1
	Debris	1

Among those institutions that provide analysis, some produced hazard map (50%), *desa* (village) in figure, risk assessment and vulnerability map.

Table 3
Frequency Table for Map Availability

C14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Basic Map	1	1.0	1.0	1.0
	Drought hazard Map	6	6.1	6.1	7.1
	Earthquake hazard Map	9	9.2	9.2	16.3
	Flood hazard Map	10	10.2	10.2	26.5
	Geologic Map	10	10.2	10.2	36.7
	Land use Map	11	11.2	11.2	48.0
	Landslide hazard Map	9	9.2	9.2	57.1
	Multi hazard Map	7	7.1	7.1	64.3
	Rainfall Intensity Map	7	7.1	7.1	71.4
	Soil Map	7	7.1	7.1	78.6
	Topographic Map	17	17.3	17.3	95.9
	Typhoon hazard Map	4	4.1	4.1	100.0
	Total	98	100.0	100.0	



C14

Figure 5 Map available in Yogyakarta

According to the Table 3, most of the institution poses the topographic map and geologic map. Institutions analyze land use map, and related to hazard, the institution produced earthquake, landslide, flood and drought hazard map. The institution stored data digitally, whilst basic map such as topography map and geologic map were stored in hardcopy format. Out of 98% of the respondents claimed that they already perform spatial approach in analyzing the data related to disaster. Although almost all the respondent who conduct analysis aware of the spatial approach, only 31% of the respondent aware to the application and services of RS/GIS (Remote Sensing/Geographic Information System/Remote Sensing). The favorable software were ArcView, ArcGIS and MapInfo. Nonetheless, the concept of mapping and the idea towards spatial approach manually applied via cadastral technical survey. More than 50% of respondents applied the technique of cadastral survey and include the disaster management into their works; whilst more than 70% of respondents have familiar with the information system.

In summary, Yogyakarta Special Province had enough data collection, lack in the analysis and socialization of the finding. In order to develop the disaster information system, there are need to construct the metadata. In other words most of data/information is still in different format. There should be a guideline to develop hazard map, vulnerability, and risk maps in the same format.

Human Resource, Financial Resources and Infrastructure

The section of the questionnaire revealed the availability of human resources and supporting infrastructure. Based on interviews, halve of the respondents had enough human resource that capable of input, compile and analyze data (56.3%). Unlike the skill to entry data, each respondent claimed that the institution generally lack of RS/GIS operator, therefore the analysis cannot effectively up dated. There were proximately 2 - 4 persons in charge for the spatial data in each institution. At the same time there were not enough hardware and software, since the limitation of budget. Differ from the condition, non government organization

posed better human resource condition and supporting infrastructure.

Local and regional level noted that there were not much supports from the national level in terms of the availability of information system facilities. Halve of the respondent claimed to have private budgeting in terms of providing the information system facilities.

At the valuation stage, the finding was assured by several stakeholders. Some demand over the increasing amount of investment to conduct capacity building for their staff. Additional support was offered by the non-governmental organization that provide with more data and access to technology.

Table 4
Distribution of human resource familiar with RS/GIS

D1a

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	1	3.1	3.1	3.1
1	18	56.3	56.3	59.4
2	13	40.6	40.6	100.0
Total	32	100.0	100.0	

Overall the need to improve the capacity of the operator were facilitated, however the decision making process were not yet facilitated. After the new information produced, there are need to compile the information as an input for planning formulation. Thus, at the strategic level, there are urgent necessity to improve the knowledge and understanding on the importance of disaster risk reduction. The data also revealed that there are need to conduct training of trainers in order to enhance the capacity of human resource in each institution.

Disaster Information System

New disaster information system always draws attention from various stakeholders. At the preparation stage the idea is depicted in very perfect manner and sometime turn out to be “wishful thinking” project. That condition was occurred in Yogyakarta Special Province. Varied disaster information system were developed, however not much that easily up dated since there were not enough real time data and operator. Other case mentioned that the information system were not accessible, thus there are not much new information for the community. At the verification stage, some mentioned that the disaster information system were eventually built, but it had to stop at the beginning of the construction because inadequacies of budget and lack of commitment in the maintenance. Halve of the respondent revealed that had receive training on the disaster information system operation. However, not much of the program conduct follows up to give access to the institution.

Remarks

Derived from the research, it is clearly seen that the condition in Yogyakarta Special Province not yet sufficient to support the disaster information system development. Conceptually the disaster information system should at least support by adequate data management, good coordination among stakeholder and ample technology and services (ESRI, 2006). Research revealed that they did not manage the data properly (less standardized data), not sufficient coordination among stakeholder and less support on technology and services. Although the area did not manage their resources properly, the input for the disaster information system is available, such as abundant data collection, favorable support from the Non Government Organizations, and also strong commitment from the national and provincial level to provide facilitation in development of the disaster information system.

Considering the condition and availability of the resources, the design of the disaster information system should have been:

1. Simple and not complicated for different user
2. Provide different level of access for different user, to avoid conflict interest.
3. Supported by average hardware and free access software, therefore the amount of financial investment will no longer a problem.
4. Store data in particular standardized meta-data. In order to construct the disaster information system, design towards data base system is essential beforehand. Human resources in each local area should convert the data into particular format which is standardized nationally. Thus, each level of government had possible access to conduct analysis.
5. Provide dynamic modeling, since the hazard, vulnerability and risk assessment is dynamically changing through time.
6. Able to analyze temporal data record, since there are too many bulk data which need to be analyze further.
7. Conduct forecasting to add more insight towards the importance of the hazard, vulnerability and risk for future sake.

Acknowledgement

This research had been presented in the workshop of Need Assessment on Coastal Geo-Risk Management, Yogyakarta, 4th September, 2008. At other event, a part this research also had been presented in the Map Asia Conference, Singapore, 18 - 21st August, 2009.

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THE TRANSFER METHOD OF EARTHQUAKE RESISTANT HOUSE CONCEPT: PRACTICE IN TRANSFER OF KNOWLEDGE AND TRAINING OF EARTHQUAKE RESISTANT MASONRY HOUSES TO MANDORS (FOREMAN, FIELD CONSTRUCTION APPLICATORS)

Sarwidi

Introduction

Based on seismic history and analyzing the geologic condition, most of the Indonesian territory is earthquake shaking prone areas (Erickson, 1988; Fauzi, 2001; Kertapati, 2000; Naryanto and Tejakusuma, 1999; Irsyam et. al., 2007; Natawidjaja, 2007). This condition should need special attention, since parts of those areas are densely populated. In the islands of Java and Sumatera, even, are found to have extremely populated areas.

Structures may be classified in three groups that are engineered, semi-engineered, and non-engineered ones. The engineered structures are the structures designed, built, and supervised using engineering approach by participation of professional engineers. Vice-a-versa, non-engineered structures are structures that are built by local builders and/or structure owners using traditional approach for centuries. In the range of the two extreme groups, apparent in Indonesia, there are structures that can be classified as semi-engineered ones. Most of the last two groups of structures apply local technology.

The Islamic University of Indonesia (UII) Yogyakarta with its CEEDEDS (Center for Earthquake Engineering, Dynamic Effect,

and Disaster Studies), in collaboration with other parties such as and CEVEDS International (Center for Earthquake and Volcano Engineering and Disaster Studies), formed field investigation teams to visit several areas damaged by strong earthquake shaking shortly after the jolts. Those investigated areas were strongly shaken by the 1998 Blitar, 2000 Banggai, 2000 Bengkulu, 2000 Sukabumi, 2000 Banjarnegara, 2000 Pandeglang, 2001 Yogyakarta, 2001 Majalengka, 2003 Pacitan, 2004 Bali-Lombok, 2004 Aceh, 2005 Garut, 2006 Yogyakarta, 2007 Bengkulu – Padang, 2009 West Java, 2009 West Sumatra, and 2009 Jambi earthquakes (Adenan and Sarwidi, 2007; CEEDEDS, 2007b, CEVEDS International, 2009). Close looking to those investigation results, semi-engineered houses using masonry walls (**SEHMW**) were popular, but always suffered most, although there were different portion in each damaged areas. In general, SEHMW has caused most loss of life and loss of properties due to those damaging earthquakes.

For many reasons, the popularity of SEHMW is going to rise. If they are not constructed appropriately (Boen, 1978; IAEE, 1986; Sarwidi, 2006, 2007; Tular, 1981), they are potential to become terrible killers whenever a strong earthquake occurs (Carter, 1991; Erickson, 1988). This leads to focus this paper on this kind of structure. According to interviewed local people in the damaged areas, low-engineering-knowledge local builders, called foremen or *mandors*, mostly lead the construction process of most of the failure structures. The *mandors* were the construction applicators of all construction concepts in the fields. During the construction process, the builders were usually strongly influenced by the owner ideas due to limited budget of the owners. Therefore, effective efforts in reducing casualties due to collapse semi-engineered structures should involve both builders and owners.

This paper briefly describes the experience in a series of the transfer of the concept and theory of earthquake resistant houses using masonry walls (SEHMW) to the mandors as direct field construction applicators and common society that has been coordinated by the author since 2003 (CEEDEDS, 2003, 2004a, 2004b, 2005a, 2005b, 2006a, 2006b, 2007a, 2007b; CEVEDS International, 2007, 2008a, 2008b, Sarwidi, 2009).

Method of the Transfer

Based on the author experiences in coordination a series of the dissemination of earthquake resistant house (CEEDEDS, 2003, 2004a, 2004b, 2005a, 2005b, 2006a, 2006b, 2007a, 2007b; CEVEDS International, 2007, 2008a, 2008b; Sarwidi, 2009), three steps in the transfer process of the concept to the construction worker supervisors (*mandors*) and to common society are:

1. Preparation,
2. Dissemination, and
3. Evaluation.

Preparation

The preparation of the dissemination consists of these following activities.

1. Conducting Reconnaissance activities
2. Performing Survey about *mandors*
3. Doing Research in material characteristics
4. Writing Manual Books
5. Making demonstration tools that consist of photo panels, small scaled house models, shaking tables, detail components of structures (**Figure as follow**)

It is not easy to accurately evaluate the dynamic performance of semi-engineered structures, including SEHMMW, using mathematical approach because of the difficulties in precisely modeling the real structural element properties and arrangement. However, gathering photos during reconnaissance activities in earthquake damaged areas is affordable and beneficial to show the dynamic performance of structures.

Most of semi-engineered houses using masonry walls (SEHMMW) were built with strong role of low engineering knowledge construction worker supervisors or foremen, called *mandor* or *kepala tukang*. Performing a series of survey activities to obtain data of many aspects of *mandors* is very essential to know the level of knowledge and capability as well as their real demand and habit. This survey results is going to use in mandor recruitment for the dissemination.

The concerns of research are mostly on sophisticated-engineered public buildings instead of humble structures, although non-engineered and semi-engineered humble structures still dominate for residential housing and other types of public buildings in Indonesia. The results of the research in construction materials portray the real condition in the field.

Producing manual book of earthquake resistant semi-engineered houses (BARRATAGA) is meant to have a brief guidance in the knowledge of earthquake, the results of survey and research, the concept and theory of such structures as well the detail of structures for the house construction in the field. Arranging panels of photos of earthquake-damaged and resistant structures from the results of reconnaissance activity are intended to raise the earthquake disaster awareness for the *mandors* as well as for the common society. Making large figures, detail components, and mocked-ups is intended to better explain the manual books.

Earthquake shaking simulations of small-scaled house models with created simple shaking tables is aimed to create simple representation of dynamic behavior of structures during strong earthquake shaking. The combination of close observing the gathered photos during field investigation in earthquake damaged areas and performing the demonstration of structural models shaken by using simple shaking tables are beneficial in showing the dynamic behaviour of structures (failure and withstand structures) due to strong earthquakes. These combination activities show that any structure will better withstand to earthquake shaking if the structure is as light, ductile, strong, and simple as possible. The phenomena comply with many studies (CEEDEDS, 2004; CEEDEDS, 2007; Chopra, 1995; Sarwidi, 2006, 2007, 2008; Wiegel, 1970).

Dissemination

These following activities are conducted during the dissemination step:

1. Pre-test
2. In Class lecturing and discussion
3. Earthquake simulation to small-scaled house models (**Figure 2**)
4. Training and practicing in the field

5. Post-test

Pre-test and post-test for the *mandors* are used to measure their knowledge before and after participating in the dissemination. In class lecturing refers to the manual book that include the knowledge in brief construction law, basic theory of houses, basic knowledge of disaster and earthquake, reconnaissance reports about the dynamic behavior of structures in the fields either damaged or resisted structures, the results of survey and research, the concept and details of earthquake resistant semi-engineered houses, and the way to handle the situation during earthquake.

The discussion sessions are very important in their knowledge and experience sharing as well as in giving them the opportunity to expand the basic concept of the structure to many variations as demanded by house owners. Training and practicing in the fields are aimed to practice the reinforcement setting of structures and in constructing an earthquake resistant house in the field.

Evaluation

To sustain their commitment in the practice of earthquake resistant houses, the *mandors* are directed to:

1. Establish the organization and
2. Conduct internal regular meetings.

The mandors that have participated in the dissemination are more than 400. Some of the trained mandors have already applied the BARRATAGA concept in Bantul before the 2006 Yogyakarta Earthquake. Their work can be seen in following figure. Some of the trained mandors who reside around Yogyakarta area has established an organization called PAMAN BATAGA (Paguyuban Mandor Bangunan Tahan Gempa - The Informal Group of Mandors of Earthquake Resistant Structures). They themselves regularly carry out gatherings to evaluate and share their practice and knowledge (as following figure).

To increase the earthquake disaster awareness of common society as recent and future house owners, the author and collaborated parties conduct campaign in related issues by means of mass media and direct gatherings (**figure below**).



Figure 1: The demonstration tools for the dissemination of earthquake resistant structures



Figure 2: Training mandors (foremen) are watching the different dynamic behavior of non earthquake resistant SEHWM and earthquake resistant SEHWM using various simple demonstration tools, such as small scaled houses on SIMULITAGA SWD-1RM (a simple shaking table)



Figure 3 (left) and Figure 4 (right): Two examples of the application of BARRATAGA concept by trained mandors. The two houses have stood completely with very light cracks surrounded by heavy damaged and collapsed regular houses due to the 2006 Yogyakarta-Central Java earthquake



Figure 5: A group of PAMAN BATAGA members who have capability to apply BARRATAGA



Figure 5: Dissemination of earthquake resistant house to common society as recent and future house owners

Remarks

The following closure is drawn from the experience in the dissemination of earthquake resistant house.

1. SEHMMW (semi-engineered houses using masonry walls), becoming more popular, because such buildings increase the social status of the building owners. However, major cause of casualties and damage to property in the investigated areas was the failure of such structures. In order to become earthquake resistant structures, such building should be properly constructed.
2. In the construction of an SEHMMW, a mandor usually play important role, since a mandor has loyal construction workers under his coordination, and a mandor usually has full authorization from the house owner in manage the design and construction. Therefore, a target group of *mandors* should be prioritized to obtain dissemination with brief theory and practice. The dissemination shall use various demonstration tools that make them easier to grasp the training content.
3. The dissemination of the earthquake resistant semi-engineered houses to the grassroots construction worker supervisors (*mandors*) should be intensive and extensive, because the target group is one of the key roles in constructing SEHMMW in Indonesia. The need in innovation in the means of dissemination including in better tools for demonstrations is urgent. Without that innovation, the concept and theory of earthquake resistant structure are sluggish to be implemented in the field (Bappenas, 2006; Carter, 1991; CEEDEDS, 2007; Musyafa, 2000; Sarwidi, 2006, 2007, 2008, 2009). The dissemination frequency to *mandors* should be accelerated to cover more areas in Indonesia as well.
4. To get optimum result, increasing mandor commitment should be in parallel with increasing the earthquake disaster awareness of common society as recent and future house owners by means of mass media and direct gatherings.

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GOTONG ROYONG AS LOCAL WISDOM: RECOVERY PROGRAM AFTER EARTHQUAKE IN YOGYAKARTA

M. Baiquni

Introduction

Today, daily life of the victims of earthquake disaster back to normal. Even some of them are getting better condition due to improving capability to solve the problems and to cope with the challenges. During last three years, the efforts have been effective in the reconstruction of housing and in repairing the public infrastructure. Despite this success, the recovery of the livelihood has slow due to the damage and losses suffered by businesses in the productive sector. This paper examines two case studies (housing and livelihood recovery) in order to understand social network and solidarity stimulate these efforts.

According to Government of Indonesia, recovery efforts have been relatively swift. As of December 2007, approximately 279,000 houses were reconstructed and 97.3 % of the people resettled. The two provinces have taken different approaches to permanent housing recovery: Central Java evenly distributed its shelter grant among affected households, while Yogyakarta provided a government grant to community groups that prioritized funding distribution among members of the community. By March 2008, beneficiaries in Yogyakarta and Central Java had each received on average Rp. 25 million or equal with US\$ 25,000 (JRF. 2008).

The Preliminary Damage and Loss Assessment estimated the damage in productive sectors to be US\$ 1 billion, affecting 650,000 workers. It also concluded that 30,000 enterprises, mainly micro and small and medium size businesses, were directly affected. It is estimated that approximately 116,000 livelihoods were affected. Different with housing reconstruction, livelihood recovery take longer to be back to normal. UNDP indicated that 95 percent of affected entrepreneurs' business activities have resumed, but only 47 percent of these have reached the same level as pre-earthquake capacities as business survey conducted on April 2007.

Research Question and Method

Some questions have emerged, i.e. "Why recovery after disaster in Yogyakarta was relatively quick? What kind of social affairs, i.e. solidarity can support the recovery and in what way the social network has worked properly?"

The methods applied in this study are: (1) micro study level using observation and in-depth interview methods by live in a hamlet of Kembang; and (2) macro study level using secondary data from government, NGOs and university reports on the disaster in Yogyakarta and Central Java.

Gotong royong as Local Wisdom

Gotong royong is rooted in rural Javanese culture as mutual help among neighbors in a community. *Gotong royong* imbedded some values such as respect, responsible redistribution (3R) solidarity, sharing, strengthening (3S) and also *teposeliro* (tolerance) as manifestation of the motto *Bhinika Tunggal Ika* (Unity in Diversity).

Gotong royong is basically a voluntary work in sharing ideas, organizing the event, collecting materials, contributing finance and mobilizing manpower in order to implement social and cultural activities. *Gotong royong* often applied in two levels i.e. at household and community activities. Many activities at household level such as reconstruction of house and family ceremonies (give birth,

married and funeral) need help from neighbors. *Gotong royong* also be implemented in community level such as rehabilitation of public infrastructures (road, irrigation, public facilities) (Bintarto, 1983).

Since capitalist mode of production and modernization of development introduced, *Gotong royong* was decline and seems to be neglected as a mode of development. Especially during top down approach of development in 1970s to 1990s, many government projects and business activities are using different principles and practice which are not suitable to promote *Gotong royong* as local wisdom.

Recent disasters 2006 in Yogyakarta and Central Java, i.e. volcanic eruption of Mount Merapi and earthquake shocked the government and people. Then we are aware that *Gotong royong* as local wisdom can be applied to recover the problems related to evacuation and emergency, rehabilitation and reconstruction, and recovery efforts. These efforts needs solidarity and mutual help that actually exist in the traditional system and wisdom which more appropriate in this situation and such condition. This paper try to expose two practical case studies which may we can learn on *Gotong royong*.

Case 1. Social Solidarity in Housing Reconstruction

The recovery of housing and settlements to seismic resistant standards is one of three pillars of the post-earthquake recovery policy formulated in the directives of the President of the Republic of Indonesia dated June 2006. Initial Damage and Loss Assessment conducted weeks after the earthquake estimated that a total of 358,693 houses were damaged or destroyed. Subsequently provincial government confirmed that more than 280,000 of these houses were uninhabitable, of which 177,469 were located in Yogyakarta and 104,084 were in Central Java (JRF.2008).

The population density in Yogyakarta Province is around 1,018.04 per km² with a growth rate of less than 1%, while in Central Java, it was 959 per km² and 0.9% respectively. Most of the households typically consist of parents and two children. Sometimes,

grandparents may live in the same house. Male headed households are dominant – the existence of female-headed households is due to either divorce or to the death of the husband (FAO, 2007). In some cases extended family can be found traditional rural Javanese household. This household consists of more than a family or called extended family stay in a house and share one kitchen. Since their house broken down, they tend to rebuild house separately for each family.

Housing reconstruction were not provided by contractor and not totally build from new materials such as in Aceh (tsunami) and Ambon (social conflict). Housing reconstruction in Yogyakarta mostly constructed by the owner using combination between new materials and ruin materials such as bricks, wooden windows and doors, wood structures, roofs, etc. Some of these materials are strong and fit which can be used to rebuild their house. During the recovery process, the demand for bamboo greatly increased in DIY and Central Java, which forced the project to procure bamboo from other districts.

A community based approach to housing reconstruction has proven to be effective in the reconstruction process. The community participation planning process has made it possible to effectively target beneficiaries and distribute resources to most vulnerable members of communities. It is also *Gotong royong* in mobilization of resources enabled speedy delivery of housing reconstruction. Satisfaction levels are high as communities take ownership of the process and make consensual decisions regarding their needs.

In Kembang hamlet for example, community organized themselves to access supports from outside and redistributed to their members. Housing reconstructions also implemented by *Gotong royong*, to help their neighbors who are most suffer from disaster and among them are poor families.

During the process of assessment of the damaged houses, some of the owners want to be prioritized to get access to government supports. Competition and social friction were emerged in chaotic situation during early stages. But then they created

meeting and consensus building which in local wisdom called *Musyawarah Mufakat*. In this process the leader share information to the community then open critical debate and discussion to reach a consensus among them.

Case 2: Social Network in Livelihood Recovery

Related to livelihood recovery, an assessment estimated the damage in productive sectors to be US\$ 1 billion, affecting 650,000 workers. It also concluded that 30,000 enterprises, mainly micro and small and medium size businesses, were directly affected. It is estimated that approximately 116,000 livelihoods were affected.

The proposed recovery of the regional and community economies is slower than anticipated. A survey conducted by the UNDP in April 2007 indicated that 95 percent of affected entrepreneurs' business activities have been resumed; however, 53 percent of affected enterprises are still struggling to reach pre-earthquake capacities. The mid-term evaluation conducted by the Bappenas concludes that the funding gap in the productive sector recovery amounts to Rp. 1.0 trillion (US\$ 106 million) and that the estimated total funding required in this sector is Rp. 1.3 trillion (US\$ 138 million). Two livelihoods support projects were prepared and will commence soon. These projects focus on the rehabilitation of micro, small and medium sized enterprises affected by the earthquake.

A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, and provide net benefits to other livelihoods locally and more widely, both now and in the future, while not undermining the natural resource base (FAO). The Sustainable Livelihood approach works in a holistic and integrated way to build on, strengthen or increase access to community-based assets such as human resources (skills and knowledge), physical assets (tools, equipment, infrastructure such as roads, schools and health centers), social capital (formal and informal networks), financial assets (credit) and natural resources (fish, cattle, paddy field).

It is why livelihood recovery takes longer than reconstruction house and repair public infrastructure. On macro level the government has worked on policy to facilitate credits via banks, market rehabilitation, and provide exhibition and training. Business also takes part to support micro and small entrepreneurs via CSR programs and market access. BGO also worked to assist household to recover their capitals to run their livelihood. Related to micro-macro linkages, the rehabilitation strategy calls for supportive government policy to facilitate the best response to the needs of different community groups, especially those of the most vulnerable groups.

Gotong royong in livelihood recovery seems can be found in certain linkage of commodity. For example handicraft industries in Bantul District get some support from the buyers from Bali. They can give supports to the producers who were loss their productive assets. Such helps can be many supports such as soft loans, raw materials, and equipments.

Leadership, Motivation and Media

We noted that *Gotong royong* is one among others approach and practice to achieve recovery program. *Gotong royong* as a social movement require leaders who have strong power to organize and motivate the community to do mutual helps in recovery after disaster. Strong leadership, enlighten motivation and widespread of media are very important to steering movement and empowering community to weak up and work from the ruins.

“Yogya Bangkit!” is not only slogan, but also spirit to develop from within. The community and the leaders agree to refuse all kind of foreign debt to recovery their home and infrastructure. They don’t want to make burdens to others which may get foreign debts create another earthquake to Indonesia economy.

Social solidarity to the Yogya Bangkit comes from individuals and organization during recovery. Many of them come from activists and professionals who got education in this student city. So when Yogya suffered from disasters, many of them who worked in many parts of Indonesia eager to help and to support

humanitarian programs. They feel debt of honor when they were young as student in schools, academy, institutes and universities, even debt of honor to community of Yogyakarta.

Many trainers support the cadres who work in community voluntarily. Hundreds of trainings were followed by thousands of cadres create a huge social capital and energy to implements many programs.

Lessons Learned

1. *Gotong royong* get its momentum to revitalize as local wisdom in recovery program. This local wisdom can be a restored as an approach in community development especially for post disaster recovery.
2. Strengthening existing local institution and community groups play a key role in recovery. *Musyawaharah Mufakat* among the community groups is very important to create mutual understanding and consensus to develop *Gotong royong* be implemented.
3. House reconstruction should comply with seismic standards. This needs technical assistant and proper control in the implementation. Social preparation is needed to introduce the design which may contribute to the quality of the construction.
4. Livelihood recovery should expand social network to get solidarity and partnership to ensure that assets and capitals back to be in place and to be in work properly.
5. Recovery in Yogyakarta has been achieved fast and effective results, even though some constrains and conflict among community groups also emerged during process of recovery.. We believed that *Gotong royong* and *Musyawaharah Mufakat* as local wisdom contributed to this achievement.

Satisfaction of the recovery program in Yogyakarta have been expressed many donor agencies, like their statement in a report that "The community-based development approach has certainly been the right choice to build ownership and motivation for the reconstruction efforts among community members. It is very meaningful to see beneficiaries now living in their homes and returning to normal life and work".

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CULTURAL RECOVERY IN DISASTER

Timbul Haryono

The term 'cultural recovery' means an action to help the people from psychological trauma in the form of cultural activities. It is especially based on the experiences obtained from the big earthquake in Yogyakarta and some places at Klaten district (Central Java).

In 2007 there was a big earthquake in Yogyakarta area and Klaten district (Central Java) that made many houses and public building were collapse. Many people died and injured. Most of the actions conducted were especially focusing on physical rather than psychological. Many buildings such houses or public and government buildings were rebuilt. Based on the experiences in Yogyakarta recovery, actions based on cultural activities were so important as another part of traumatic healing since people as victims of disaster are usually have similar feeling and sense of togetherness. In the villages people are bound in traditional cultural norms. Togetherness will be expressed by the people whenever disaster happened or when member of the society is in sadness situation. Togetherness termed as '*gotong royong*' would then appear to help the people. It should be kept that in such situation sense of '*gotong royong*' have to be awaked because it is a kind of cultural norm.

Natural disaster maybe makes some changes on physical environment and cultural environment as well. In traditional

viewpoint nature and space are not abstract concepts in traditional Javanese eyes. All space is filled with life-giving and life-taking energies that need to be ordered and managed to maximize benefit and avoid harm. Here, geography, cosmology, nature and power combine to give meaning to space, and to provide spaces with symbolic meaning. Space is then so important which has symbolic significance. In this case, space which has been destroyed by any disaster then considered to be no sacred anymore. To some degree cultural ritual activities might be needed to re-strengthen the strength of sacredness that maybe lost.

Culture is a mean for adaptation. In some cases, victims have to be moved into other places that the environment might be physically different. Before, their cultural ecology was already established. So they have to adapt to the new environment culturally and physically. Cultural pre-adaptation is characteristic within a culture which allows the group to survive in a different environment. They also to built new social group for man is eminently a social animal and his existence is bounded to the group. In order to maintain the group kind of cultural norms or cultural action has to be established.

Among the cultural actions for recovering from psychological trauma is through performing art such as *wayang kulit* (shadow play), *ketoprak* (traditional theatre), and others. Performing art to the Javanese is not just as entertainment but it has symbolic and religious meaning. To entertain the victims is off course important. But, more just an entertainment, in some villages the *wayang kulit* performance is conducted as a ritual ceremony. Natural disaster is believed principally as an imbalance between nature and man. In order to maintain the harmony some villages did perform *wayang kulit*. Ritual performing art termed as '*ruwat bumi*' is then conducted to clean the negative elements of the earth. The *lakon* (story) of *wayang kulit* is selected according to what kind of ritual to be conducted because some *lakon* are supposed to be sacred such as *lakon* from Bharatayudha and Ramayana episodes.

The Japanese people organized by Prof. Shin Nakagawa from Osaka were participating in performing art together with local artists in Yogyakarta. Many collaboration on performing arts were

composed in some villages. This cultural action at least helps the local people to recovery. Other example of cultural recovery was done by friend from Japanese who concerned to the earthquake organized by Prof. Fumiko from Kyoto who collected funding to help the people in Klaten district. They rehabilitated the Javanese gamelan which was destroyed by the earthquake by giving the donation to people who owned gamelan or *wayang kulit*. When it was finished then people performing the gamelan orchestra or *wayang kulit* and gathering the neighbors to entertain themselves. It is also mean to pay homage to the God for safeness of the people.

In closing remarks it is to be stressed that the recovery from disaster is not only physical actions but also cultural actions to avoid a psychological trauma as impact of disaster. Performing art or other cultural actions are needed for cultural recovery since it has double functions: entertainment as well as ritual.

SUMMARY

Theoretically, there are **paradigm shift** in the Disaster Management into Disaster Risk Reduction Framework. This shifting paradigm demanded for major adaptation in every sector. International experience were framed and ratified into particular framework. However, geographically speaking, each space promotes different uniqueness. Therefore, to evaluate Indonesian case, **national character** should be another consideration in translating the DRR theory.

Researches were conducted rigorously to analyze the current fact and future prediction. The research activity is **the backbone** of information production. Data from the research transformed into information. This information were aimed to be disseminated to other stakeholder, thus research activity should not be done carelessly. Disaster researches were flourishing in Indonesia, since it has multi disciplinary approach. Each discipline contributes knowledge. All stakeholder and community has the right to know. However, the nature of disaster research is sensitive, at the stage of dissemination; the community cannot easily take the information. Dilemma on panicking, and effort to reduce risk is classical issue. Therefore, law is needed to regulate the regional problem.

At some point, decision making process need comprehensive knowledge and information. Policy on Disaster Risk Reduction has been formulated. However, lesson learns from the events showed that during the emergency phase, chaos happen. Thus, the implementation of policy should not restrain to emergency

phase, but also comprehensively started from preparedness to post disaster event. All stakeholders, such as government in all level especially local level and all the community should increase the understanding about the disaster policy; therefore the awareness can be increased.

All efforts consequently need budget. Some mention that the amount for DRR is enormous; however this is the investment for future condition. The government allocate budget along with the policy direction. Availability of budget is sometime argued as the root cause of decelerate (slow) action. However, the availability of social capital (national character, local wisdom) can be another way out to reduce risk.

Theory

- From theoretical side: disaster can be viewed from different aspects with integrating from physical, social, medical, psychological, engineering, and biological perspectives
- The new paradigm shift from Disaster Management to Disaster Risk Reduction (DRR) concept had became the based for further research and policy implementation
- Goals of the DRR is to enhanced the community resilience and minimized the vulnerability of the society

Research

- Integrated research are needed as academic justification for the policy implementation
- Further research integrating multi-trans discipline should bridge the gap from the level of theoretical concept into the level of praxis (including policy implementation)
- All kind of research that involved inter institution, among institution, external (international organization) should be collected in one source of data based that can be shared among them.
- University as agent of Disaster Risk Reduction (DRR) and Indonesia as "Disaster Laboratory"

Policy

- Policy implementation should involved all stakeholders with an integrated approach and good coordination, good consultation, good cooperation, good communication (4C) among them
- Mainstreaming DRR into overall National & Local Development Planning with: Long-term Development Plan (RPJP), National Spatial Plan, Medium-term Development Plan (RPJM), Annual Government Work Plan (RKP), Poverty development strategies
- Policy management consist of Capacity building for local government, system building, and implementation of Disaster Management

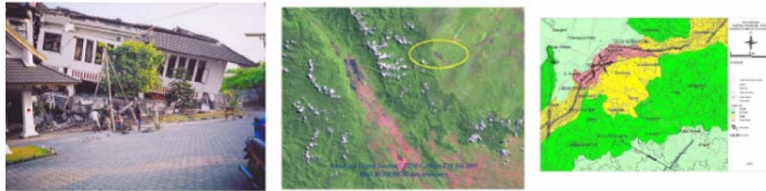
APPENDIXES:

- 1. Power Point Presentation**
- 2. Seminar Notes: Question and Answer**
- 3. National Law on Disaster Management (UU no 24 Tahun 2007)**
- 4. Related Resources**
- 5. Contact of the Participant and Speakers**
- 6. Organizing Committee**
- 7. Documentary Photos**

APPENDIX 1:
POWER POINT PRESENTATION

Hazard and Risk Analysis: towards enhancement of Disaster Risk Reduction Law

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Disaster

(National Act no 24/2007
on Disaster Management)

- Event (series of events) threatening and disturbing the life of civil society, due to the natural and/or un natural as well as human (manmade) factors, which result in socio/psycho-economical and environmental loss

Risk

- Potential socio-psycho economical and environmental loss, such as :
 - Numbers of casualties and deaths
 - Numbers of damages (houses, engineered structure, infrastructure, life lines)
 - Intensity of socio & psychological impacts
 - Severity of economical impacts
 - Severity of enviromental degradation
- Risk can be estimated and anticipated/ reduced BEFORE the disaster event, thus the loss due to disaster can be reduced.

How to estimate and reduce
the risk ?

$$\text{Risk} = \frac{\text{hazard} \times \text{vulnerability}}{\text{resilience}}$$

Hazard or Susceptibility = probability or potential occurrence of disaster which mostly controlled by natural / environmental conditions.

Vulnerability = potential fatality of disaster impact which controlled by socio-psycho economical conditions.

Resilience = capacity of the society to resist and recover from disaster.

Strategy for disaster risk reduction

*Improvement of
society resilience*

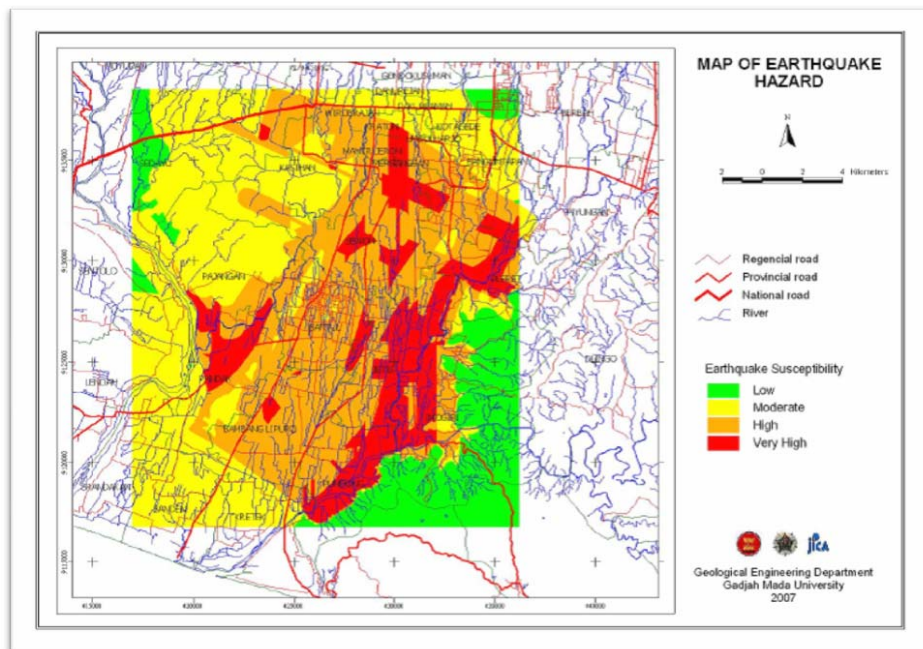


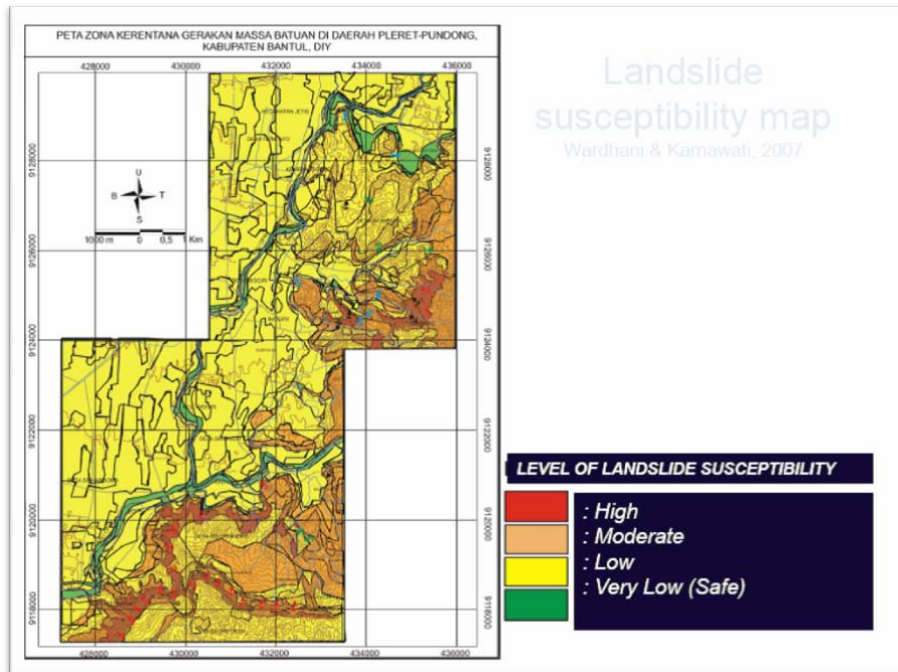
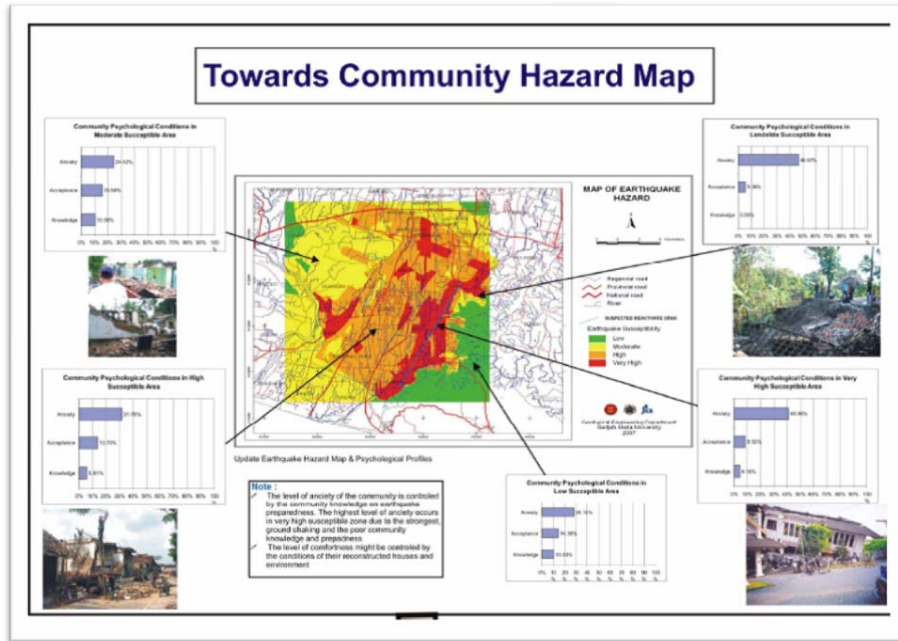
**Provision of appropriate
INFORMATON (hazard & risk map,
risk management) & technology
(countermeasure & EWS)**



**EDUCATION & TRAINING
(research-based, practical)**

Hazard mapping & risk analysis







Policy and Implementation of Disaster Risk Reduction in Indonesia

Dr. Suprayoga Hadi (suprayoga@bappenas.go.id)
Director for Special Area and Disadvantaged Region,
BAPPENAS

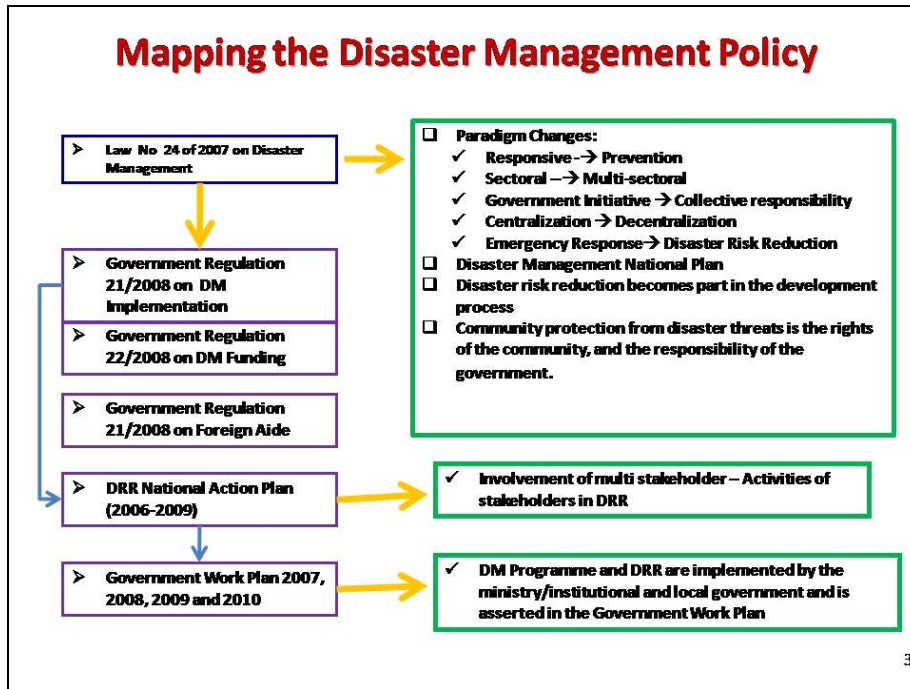
International Seminar on Disaster: Theory, Research and Policy
The Graduate School, University of Gadjah Mada
Yogyakarta, 20-22 October 2009

The importance of mainstreaming DRR in the National Development Planning System

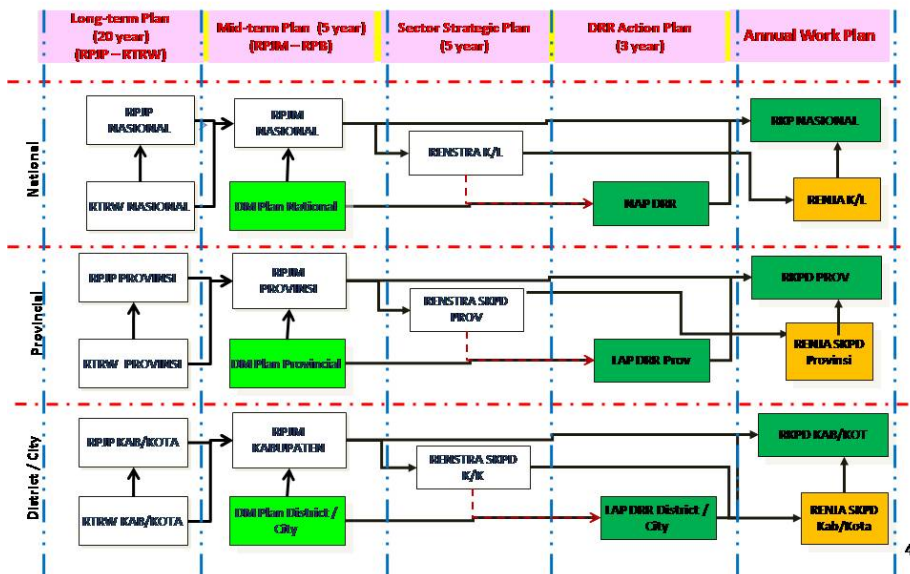
- Government's commitment to implement DRR in the development priority
- The programmes are executed through coordination and systematically by the Ministry/Institutional
- The implementation of the programmes are supported by clear budget and is agreed upon, with sources from the government, Foreign loan, Foreign grant, private sector as well as other authorized sources
- The outputs and outcomes are measureable with accordance to its objectives through clear monitoring and evaluation system and systematic, initiating from central to local level.



DRR mainstreaming in the process of development planning, is with accordance to Law Nr. 25/2004 on National Development Planning System and Law Nr. 24/2007 on Disaster Management, as well as DRR relations with Law Nr. 26/2007 on Spatial Planning and Law Nr. 27/2007 on Coastal Areas and Small Islands Management



National Development Planning System Coordination Framework with DM Plan and NAP/LAP on DRR

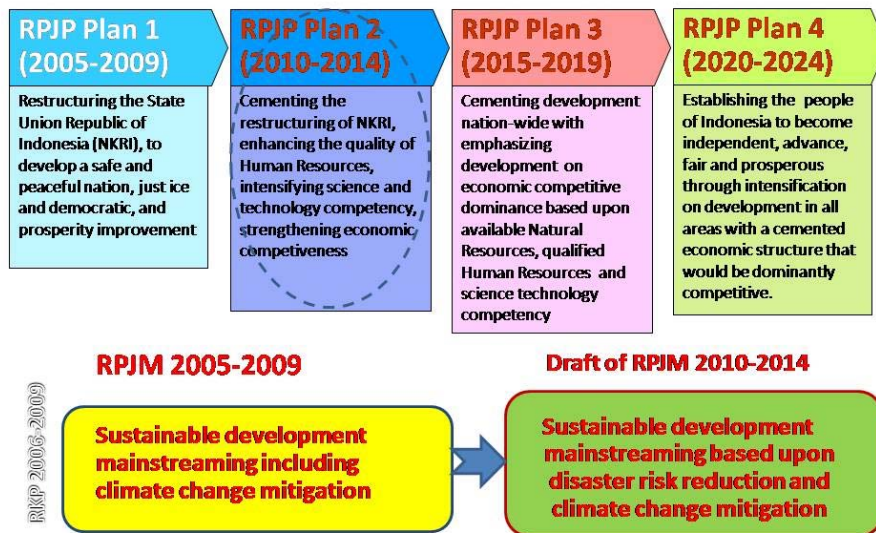


National Action Plan on DRR 2006 - 2009

- Formulated before the issuance of DM Law No 24 of 2007
- With accordance to the global agreement – Hyogo Framework for Action (HFA) 2005 – 2015
- Formulated through the collaboration between the National Development Planning Agency with the National Disaster Management Agency
- Elaborates the interest and responsibility of stakeholders through the participation and coordination process concurrent with HFA
- Emphasizes the significance of platforms, priorities, action plans and relevant mechanism with the implementation of DM and the institutional basis framework in DM in Indonesia.
- Provides guidance/references and information that facilitates decision makers in delivering their commitment with their sectors respectively and priorities on the basis of strong and systematic fundaments.

5

National Long-term Development Plan (RPJPN) 2005-2025 and Disaster Prone Area Mainstreaming in Draft of RPJMN 2010-2014



6

Priority Focus in relation with DRR in the Preliminary Draft of RPJMN 2010-2014

1. Completion of post-disaster area restoration through rehabilitation and reconstruction with integrating aspects of disaster risk reduction in the local development plan and the spatial plan.
2. Defining disaster risk reduction national action plan (DRR-NAP) at Central and Local level.
3. Institutional and human resources capacity building in early detection and disaster mitigation system
4. Enforcement of national and local spatial plan through spatial utilization control enhancement in the event of disaster risk reduction
5. Integration towards global climate change and disaster risk reduction adaptation

7

DRR Mainstreaming in the Government Annual Work Plan (RKP) 2007-2010

Policy	National Priority	Focus Activity
Presidential Regulation 19/2006 on RKP 2007	Priority VII: Mitigation and Disaster Management	Focus 3: Strengthening Institution for Prevention and DM at the national and local level Focus 4: Prevention and Disaster Risk Reduction Focus 5: DRR and Disaster Management
Presidential Regulation 18/2007 on RKP 2008	Priority VIII: DM, DRR and Disease Treatment	Focus 2: Defining DRR NAP Focus 3: Institutional Development and Capacity Building on Human Resources in disaster mitigation and early warning system Focus 4: National and local spatial plan based on disaster mitigation
Presidential Regulation 38/2008 on RKP 2009	Priority II: Acceleration on Economic Growth through Economic Strength supported by Agriculture Development	Focus 5: Capacity strengthening in Mitigation Climate Change Adaptation. <i>(note: in RKP 2009 the DRR mainstreaming are activities under Focus)</i>
Presidential Regulation 21/2009 on RKP 2010	Priority V: Natural Resources Management and Environmental Escalation	Focus 1: Capacity building on climate change adaptation and mitigation Focus 2: Quality Building on Spatial Plan and Land Management Focus 3: Strengthening Natural Disaster Mitigation

8

RKP 2007 -2009 on NAP DRR and Proposed budget from Line ministries for NAP DRR 2010-2012

Year	National Priority and Focus of Activity	Budget (Million Rp)
RKP 2007	Priority VII: Mitigation & DM (Fokus 3, 4 dan 5)	221.80
RKP 2008	Priority VIII: DM, DRR and Endemic (Focus 2, 3 dan 4)	1,433.00
RKP 2009	Priority II: Economic development acceleration through agriculture development (Focus 5)	1,736.40
Draft NAP DRR 2010 – 2012 (7 main programs) – up to 12 Oct 2009		
2010	1. Regulation and Institutional Strengthening Programme	10,170,154
2011	2. Disaster Management Planning	10,281,057
	3. Research, Education and Training Programme	
2012	4. Mitigation and Preparedness Programme	11,271,928
	5. Early Warning System Programme	
	6. Community Participation and Capacity Strengthening Programme for DRR	
	7. Preparedness Programme	

9

Challenges for NAP DRR 2010-2012

1. **RPJMN 2010-2014 as the umbrella for NAP DRR 2010-2012 has not been enacted**
2. **National DM Plan 2010 – 2014 as the umbrella for NAP DRR 2010 – 2012 has not been issued**
3. **Effort on the issuance of Nomenclature Program for DM (restructure fiscal year program) vs NAP DRR Program (refer to UU 24/2009 and HFA) in order to develop monev tools for the NAP DRR implementation**
4. **To raise the commitment from all stakeholders for supporting the preparation of NAP DRR as the guidance for the implementation of DRR**
5. **To raise the understanding the DRR is an ‘investment’ not ‘expenses’**
4. **Effort on the implementation of global commitment (ref. to Global Platform in Geneva – June 2009) to allocate budget for DRR:**
 - **minimum 10% from disaster recovery budget**
 - **Minimum 1% from development budget**
 - **30% from budget from Climate Change Adaptation**

10

Non-government Contribution on DRR

Multilateral and Bilateral Loans/Grants on DRR in supporting:

1. Institutional and Regulatory development at national and local levels;
2. Revitalization of Agriculture, Forestry and Rural Areas
3. Conservation critical upstream watershed areas
3. Poverty reduction programs
4. Community Development Programs (livelihoods, settlement infrastructure program)
5. Development and strengthening on Early Warning System (including strengthening multi sector and multi stakeholder coordination and cooperation within early warning chain)
6. Infrastructure development (incl. regulation and building standards)
7. Strengthening BMG on Climate and Weather Services Capacity
8. DRR Education and Training Program
9. Raising Public Awareness

11

Thank You

Coordination and collaboration amongst stakeholders (government and non-government) is required in formulating and implementing NAP-DRR in Indonesia

**For further information, please visit:
<http://bencana.bappenas.go.id> or
<http://www.sc-drr.org>**

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APPENDIX 2

SEMINAR NOTES & QUESTIONS ANSWER

SEMINAR NOTES & QUESTIONS ANSWER

Day 1

08.30 Welcome address by Prof. Dr. Ir. Edhi Martono, M.Sc

08.45 Welcome address by Prof. Ir. Atyanto Dharoko, M.Phil, Ph.D

09.00 Keynote Speech by Prof. Dr. Irwan Abdullah

Aceh, Padang, Jambi experience. Sumatra is risky place, Kalimantan is the safest?! Limited study on disaster, try to formulate good policy. Disaster still a new experience, how are the characteristics.

- Earthquake in Padang , UGM lecturer and student go there to get involved for emergency response after lesson learn from Bantul earthquake.
- Practice the policy and theory
- The gap between theory and practice, there is no inside generosity to formulate good policy and good intervention
- Emergency response and recovery in Indonesia, we learn a lot
- In every disaster, we learn a lot how to deal with because each disaster has their own characteristic

Tsunami in Bulukumba, two villages disappear two years before tsunami in Aceh and no record

- We still learn how to handle the future disaster
In Padang, in the district level found many difficulties to manage the donation
- Our academic competence is very poor to deal with disaster
Samuel Find, Columbia University conduct research about the explosion in 1920

Our research is by accident, not by intension

Three different perspectives:

- Technocratic approach
Relation between human and nature/environment
People really depend on the environment and different kind of disaster
The intellectual discussion that human being very depend on the environmental condition
The whole social order mostly define by physical order

Mutual power between human and nature → the society capable to manipulating, harvesting, constructing the environment, man making the disaster them self, they don't really consider the long term impact of exploitation

- Spiritual context/ approach
 - Interaction/ the way people/ institution response to the disaster
 - Religion organization for example church, mosque
 - The important of technology
 - Role of government to response the disaster
 - Differences of geographical condition
 - For example: people in Yogyakarta making society network in the reconstruction process
 - Public health center built after the earthquake
- Structural/ political economy approach
 - People didn't find the recent phenomena as natural disaster
 - Disaster has to do with poverty and vulnerability of the society
 - Event in US such as Katrina in New Orleans: how people cope with disaster is different between the society level (poor and rich)
 - Poor people: longer time to recover because they don't have enough money and skill, different capacity to response the disaster

Notice:

- Disaster is something can be avoid, not necessarily became natural disaster if we have good design and knowledge how to response and avoid the disaster (preparedness phase). We have to know the characteristic of the environment.
 - Example: local wisdom by Mbah Maridjan to deal with volcanic activity in Merapi volcano
 - Japan people teach the children how to raise awareness about the disaster
- The victims are also the active actor because they have their own capacity to recover and this should elaborate through different research to find what kind of capacity and strength do the people have

- West Sumatra: the Padang people who live outside Padang (out migrant), they are the one to start help their family there (they know exactly the condition of the area and also the people). They are very functional in the recovery phase
- Bantul: bad impact because of the quality of the houses, they change *Joglo* house into the modern house without knowing the future impact in the material and structural chosen.

Every disaster will come, and you will find out who the next victims, because our environment is hazard prone area.

Research: predict the condition of the area, how about the risk there

Strength of the research: give more possibility to formulate the next victims, which kind of group of people and which area will hit by the disaster (especially annual disaster). So many researchers convince that disaster ore momentum of the better live and make the better human kind.

09.50 Panel session 1

Moderator: Dr. Wening Udasmoro

1st Presenter: Dewi Haryani Susilastuti, Ph.D

Gender and disaster: from theory to practice

Disaster not talking with victims only

Disaster: man and woman versus human being, strategy to cope with disaster, equality. Women are vulnerable, experiencing disaster in different manner, gender relation and political relation in disaster. Unequal gender manner reflected when disaster occurs. Head of household is man, what about woman?!

- Explanation on Sex and Gender; Gender is learned, socially determined behavior
- The problem with gender; its abstract nature, its relational nature.
- Practical Vs strategic gender needs; SGNs are the needs.
- Gender mainstreaming; Policy can't be gender mutual.

- Why gender consideration is often lost in the disaster.
- Gender blind policy.
- Tyranny of the urgent.

Case study of Aceh

- Sources of gender discrimination in the context of disaster
Socio cultural and policy induces discrimination, identities and household
- Sex and gender can increase social vulnerability
- Bodies
- Identities
- Social relationship
- Gender based inequalities
- Gender can reduce vulnerability
- Woman and men change
- What does gender mainstreaming then mean in disaster, preparedness, relief, and construction?
- Other gender specific policies
Gender audit, gender focal point
- In Indonesia gender identical with women

2nd Presenter: Dr. Ratna Noviani

Spectacles of Innocent Suffering: Media Images of Children during disaster (the case of Padang Earthquake)

Media can play a significant role to provide the factual information about the disaster

Children become frequently captured by the media for example certain pictures obtain from www.bild.de; and www.washingtonpost.com

Children are the most ideal victims for the media

To what purpose media use images of innocent suffering?

Media capture children victims, expose suffering people. Children frequently use as objects. Media usually disregarded humanize side of victims. Media intensively use image dramatically.

Children are the most ideal victims to be exposed to draw the footage, generate rating the media. Media overexpose the looking sad and crying children. Vulnerable side of the children overexposed.

To what purpose media use images of innocent suffering. People have the right to know information about disaster, how far?! Indonesian can remember about the disaster?!

Media as public relation to gain good image, donation target to physical not the children needs.

Do the media have the right?

3rd Presenter: Prof. Dr. Sunyoto Usman

Organizational adaptation and coordination in Disaster Management

How do local organization response to disaster?!

Many discussions on disaster: natural disaster, human disaster, recently on terrorism (disaster management). Terrorism always encourage organization to participate and collaborative their activities, develop networking and coordination.

Classification of disaster: natural and human made disaster (including terrorism)

Developing of terrorism disaster management?

Human made disasters always encourage the organization to participate and develop networking in collaborative activities. The organization play significant role to put back the situation to normal.

National Technical Team (TTN): facilitate rehabilitation and reconstruction process in DIY and East Java

There are 4 role/categories of the organizational:

- Established
- Expanding: Indonesian Red Cross
- Extending

- Emergent: POKMAS (group of people) to accommodate activities in the local level

It is difficult to identify the role of each organization because some of them do not have clear task (domain).

Numbers of POKMAS, tend to organize the money they get from the government under the equity system (*bagi adil*). But sometimes, they also develop another way to distribute the money.

It is very difficult to develop disaster management.

Discussion

1. Pusat Studi Konservasi, STTL

Q: What is Gender perspective?

A: Goal of the gender mainstreaming to make sure that the voice and the need of man of women can be elaborate into the cycle of planning, policy or another government regulation.

Example: access of food, in same places father have to eat first and mother last to eat.

Man and women have different need, women have right too.

Q: The media overexploitation, is it can be criminalized?

A: construction of crime and criminal, we need law to be broken, in this media case this can be call as not ethical

2. Surya Kusuma, UNDP

Q: What do you expect about the gender issues in developing country for example in Indonesia especially when disasters happen?

A: when tsunami struck, women don't have sanitary napkins (case in Aceh)

Q: How should media expose the suffering of children and in the same time gain attraction of the other people around the world?

A: don't take advantage from the people who already disadvantage, just give the information and don't over expose

3. Nurul Febriana Setyawati, Psychology UGM

Q: What is the effect of the media to the victims in the disaster response area?

How about the psychological effect for the children?

A: disaster is really hard for the child, but the media tend to ignore this. Media can use their program to discuss with psychological expert how to reduce the suffering children after the disaster

4. Richard Silitonga

Q: Until what limits media can expose suffer of the victims? Ethicalities are very hard to find in this circumstance

A: difficult to control the media, ethic has no judicative law. They have media ethic code, so they have to recognize and stick with that code. Media have to understand what their real role in community is.

5. Tyas, Psychology UI

To: Dewi Haryani Susilastuti, Ph.D

Q: how to raise awareness to the community from the gender equality perspective without leave the local wisdom?

A: Indonesia has many cultures include local wisdom. The challenge is to maintain local wisdom without crystallizing the gender equality. It is difficult to bring something new to the certain societies which have strong believed in their culture.

6. Anthropology, FIB UGM

To: Dr. Ratna Noviani

Q: media, what's the indicator, how unethical media will be when overexposing suffering images? Judging the media for their own respective?

A: Ethical is grey area, hard to control media. No judicative rules use the good of conduct (ethical code of the media). Using images 3 times is unethical? Overexposed?

7. Hendy, Disaster Insurance

Q: Do you think there will be policy from government about gender issues in disaster response phase? Cigalontang case, sexual harassment still occurs in emergency.

Media taking advantages donation, how's the policy?!
Controlling the media in donation and distributing

A: there is a "tabu" about the sexual harassment. There is law about the protection for women and men in the households.

Q: There is no policy from the government about the role of the donation from the media

A: media or political party success raising donation, media try to expose the title of the donation for example "Bakrie for the Indonesia". There is no regulation about how to distribute donation from the media. NGO and media can control each other's and community also can control them both.

8. Johnny

Q: Gender theory is solid, how we use our research result to inform government as input for the next policy?

A: research result can be as lesson learn and best practices from each disaster, and theory give us the basic knowledge about how to cope with this situation

Q: How to control the role of media? Is the policy enough to protect the suffer children during the disaster?

A: same with number 7

9. Q: how this organization will bring the changing from local wisdom/value to international value?

A: there are 3 categories of people: people who think charity and help, people who think about the grand plan (university expert), and people who think about something to do with local knowledge of local wisdom. Three of them believed that we don't really need participation of international NGO. This is much related with the need and dignity.

How to develop model to accommodate the various categories of people?

The models which should be developed are really relevant and suitable and have a contact of all people categories.

Q: do you think in this changing, the serenity of the people who have the money will change the value of the local people?

A: There are two disaster management model, top down policy and bottom up policy (encourage local people to participate in reconstruction and rehabilitation process) because there is opportunity to corruption to take place. Additional answer: there is nothing wrong with respective the man, but respect should go both way between men and women (mutual respect). Every right has their obligation.

10.Suyatno,

Q: How is the relationship between theory, research and policies?

A: same with number 8

We can find there are gap between theory and practices in the field during the research. There is much local wisdom in Indonesia. The challenge is about low enforcement and socialization about existing law related to the disaster management

Q: How to manage to choose which local wisdom is suitable with the disaster management.

A: same with number 9

Comprehend Answer

Grand Plan to manage disaster victims is not available.

What we next is to develop model that able to accommodate various concern. What's the plan to accommodate many activities? The model should be developed more than one, should really relevant to victims and suitable of the disaster the local condition.

Dewi Haryani Susilastuti, Ph.D

Sexual harassment or violence quite common in disaster events, coz everyone busy with "important" things

Women don't talk much on sexual harassment or Taboo, policy UU KDRT is exist but won't run very well when the people feel do not comfortable. People not cohesive, can't apply the law.

Vulnerability à capacity building

There's nothing wrong to respect elderly and men, respect should go both side. Vulnerability intercepts many aspects. Rights come with obligations.

Not all local are bad neither good.

Dr. Ratna Noviani

Donation in media, not all people take advantages. How media can take advantage or play instrument to distribute donation though there's no regulation yet. NGO and media can control each other, what we've done to control media, criticize or doing something? Conduct research, sometimes discrepancy occurs, different local wisdom. Give pressure to the government. Law enforcement is still low.

Pak Sunyoto

Indonesia has 2 DM, top down policy (Aceh case) and bottom up policy (DIY). Both open corruption opportunity.

13.00 Panel session 2

Moderator: Ratna Noviani, Ph.D.

1st Presenter: Bonnie K. Carenen, M.Div

A theory of disastrous Suffering: Disasters, culture and Zeitgeist (spirit of the age)

The experience of a disaster creates unique categories of suffering for individuals and communities.

What is a disaster?

What is profound suffering?

How does it affect people?

All disaster are political both natural and moral

2nd Presenter: Kwartarini Wahyu Yuniarti, Ph.D

Local mechanism and the understanding for appropriate intervention (Psychological perspective)

Why do we need local understanding?

Meaning local assessment?

Resiliency coping smiling giggling

Resiliency coping: struggle from getting rid of distrust relationship

Coping in Pangandaran: fishing, hotels

Padang: family bond coping

3rd Presenter: Kusuma Adi Nugroho

Brief Analysis of conflict situation

General causes of conflict occurrence in Indonesia mostly by social and economic inequality

General conflict

Empirical conflict cases in Indonesia

Key elements on conflict Sensitive planning framework

Policy issues

Disclosure issues for conflict

Disaster all types is too big for anyone entity

Discussion

1. Nick, NGO Salatiga

To: Kusuma Adi Nugroho

Q: What is the element of political actor (not come from local actor)?

To both presenters:

Q: How to capture the idea as part of the effort and strengthen to the local institution?

A: local wisdom hoped can reduce the potential conflict from outside

Three underlying background are books, perspective and scheme of thought.

The books come from low contact communication style from the community

Why people believe in Mbah Maridjan rather than the scientific research result? Because they still believe in the ancient culture within their tribes and environment instead of the new technology and research.

2. Widodo, PSL UII

To: Kwartarini Wahyu Yuniarti, Ph.D

Q: What kind of positive behavior to educate us to be faster towards disaster management?

A: government has to provide assistance to the community especially who lived in the disaster prone area to reduce the vulnerable when disaster occurs

Q: About local wisdom versus theory/knowledge, how your opinion?

A: there is retaining wall along the river side to protect the community from flood

3. Kusumo

To: Bonnie K. Carenen, M.Div

Q: Tzsupah (in Jewish) and zeitgeist;

A: to be able to get a word from the people who already experience suffer in the disaster. We can anticipate the disaster which will happen in the future. We know disaster will

happen someday but we don't know when and where the disaster will occur.

Q: How is the role of international NGO or institution to help from psychological aspect or religion aspect?

A: national government decide about the role of donation distribution to the victims, the government already implement this policy since 2002

4. Beni Baskara, CRCS student

To: Bonnie K. Carenen, M.Div

Q: How in deep suffering we can convince the people?

A: we have to consider the local culture and their religion before we convinced the community

Entering community from affect domain/ believe rather than technology aspect, balance between local cultural and improve technology

Can religion be affecter to make people believe?

Comprehend Answers:

Kusuma Adi Nugroho

Democratization in "pemekaran wilayah" the policy, lots of tension between GAM, PETA, and government in example. What advantages of so many provinces and regencies, we should ask the government and criticized.

Building codes in Japan as good policy example where government also act as facilitator.

Trauma healing, post disaster effort suggested to government, funding is not reflecting good political will.

The government spending much money but does not answer the problems.

Bonnie K. Carenen, M.Div :

Theoretical view, not judging. Zeitgeist is aim to give name of disaster suffering. Culture is crucial, also allow collaboration. The impact 9/11 lead to zeitgeist, American response to look outward with the world. Expected on expected, people with spiritual life.

When we see suffering, it's zeitgeist. Suffering that would lead to new realization and meaning.

Kwartarini Wahyu Yuniarti, Ph.D:

Happy face when disaster occurs in Bantul, the fact is the Bantul people are the fastest in the world to revive in 3-6 days. Smile indicate the highly acceptance of the disaster and the smile helps them to get them revival fast.

How we could implement local wisdom, different perspectives. Item presented based on experience, not only academic. Not cognitive (scientific) but affection approach (beliefs), thus we would be more sensitive in program/projects particularly building awareness, preparedness. Talk to children with their languages, in example.

Instead of building *talud*, build *bronjong* in landslide prone area, at river bank. Smile coping, high context communication, high acceptance to stimulate energy to bounce back (revival) instead of rejecting.

Disaster lack of beliefs, entering community with the gate of affection (beliefs). Get your life harmonies to the local culture and get your technology well acquainted with the local communities. Scientist from experience, not by text book.

Day 2

09.30 Panel session 1

Moderator: Dewi Haryani Susilastuti, Ph.D

1st Presenter: Rahmat Hidayat M.Sc

Critical issues:

Quality of data and accuracy of assessment

Inclusions versus exclusion on distress factors

Linear versus non linear function of psychological disaster

2nd Presenter: Dr. drg. Sudiby, SU, SP. Perio

The Role of dentistry in Forensic Identification on disaster victim

Teeth is very important to identified the victim of certain disaster, especially if the body is damaged

There are 9 identification method to identified the victim

Damaged and ruin on 538-649 Celcius

3rd Presenter: Dr. Mark Woodward

Everyone knew the typhoon will going to happen

All of the negative prediction turn out to be exactly true, very devastating

How the Burmish government and international community include Singaporean people to help the victims of the Nargis Cyclone in Burma (they are the only one who has the capacity to help those victims)

Cyclone event is good example of international aid response.

Different than earthquake when everybody can 'predict'

Typhoon is devastating and dead victims can't be identified. Government of Burma does not the capacity to cope and tackle the disaster as expected in standard way. Religion is one of issue to against one another, especially when disaster occurs. Religious context is major issue post disaster, related to death people.

International aid can't be distributed in the condition of internal issue that they will interfere the country affair. i.e. supply in US ships which can be distributed within 12 hours but not allowed to.

Singapore

Diverse economy, religion, services. Some of the community Burmish. Country does not talk political and religion relation (discourage). Social program in religious some works and supported. People collecting donation before typhoon hits, all religion involved no discrimination on who will get the aid/help.

Sometimes people have to buy aid which supposed to be distributed freely, how's this?

Disaster shows bad and good side of people, save lives or not. Natural inclination to do the right things in disaster events. Renew our humanity side?

Instant donation burnt out when Chinese disaster strike.

Good intention isn't good enough to help victims, political will. International community could have done something in Burma when the government did not let them help.

Discussion

1. Yuni

Q: What method/instrument use to assess

A: Rapid assessment of mental health, for example in depth interview but the researcher has to seek the appropriate time. Comprehensive assessment, administrating

Q: How to manage psychological stress after the disaster happen?

A: In Aceh, after 3 month still shocked, psychological first aid needed, letting the people expresses their feeling and the traumatic response. Psychological distress will recover naturally, when life getting back to the routine (post traumatic psychological disorder)

To: Dr. Sudibyo

Q: What institution should have ordotogram in order to recognize the victims when the disaster happens?

A: Every dentist has the note from medical record; ante mortem is same with medical record. Medical record stored in the hospital between 5-7 years, and then will demolish.

Q: How to identify the bomb victim?

A: This is very confused to identified, the victim divided into 2 groups (local and international). The victim must very special identification analysis.

To: Mark Woodward

Q: What are your suggestion, what is the lesson learn from Burma?

A: This is very serious problem related to the international community. There need to be a movement.

2. Praba, Universitas Sebelas Maret Surakarta

To: Rahmat Hidayat M.Sc

Q: Scale of the research, district or regency? Set criteria are needed so the international community can do intervention to help the victim.

3. Nick, Percik salatiga

To: Rahmat Hidayat M.Sc

Q: what is the difference between psychological problem and distress

A: distress is temporary feeling (sad, terrified) gone through the time, but psychological problem is more complicated and need long time recovery

Q: What of the contribution of the distress mapping in disaster management?

A: capacity to cope with the disaster is admirably high in Bantul,

To: Mark Woodward

Q: Indonesia, Malaysia, Singapore still difficult to grass because the memories of the Japanese war are still very powerful. Japan called their capacity as Self defenses forces. Japan has the capacity and they have good relation with west European countries.

4. To: Mark Woodward

Q: Supporting community empowerment not only for the third world countries, only can work in the government with quite open political will (Burma and North Korea is difficult government)

Comprehend Answer

Rahmat Hidayat M.Sc

Instrument utilized in the assessment, distinguish them Rapid assessment (ethical) and psychological. People might be reluctant to be asked about their problem.

District

Distress is temporary feeling within times will be disappear. When this situation becomes nightmare and more permanent, it's called psychological problem.

Assessment in Bantul distress is high, psychological problem arrives when coping mechanism/capacity decrease. Bantul community capacity is high post disaster due to other community help.

Dr. Sudibyo

Every doctor dentist should have the med record, ante mortem patient. Victims teeth is special, the record should be kept within 5 years after that demolished. Data is important, particularly when disaster strike, case of Garuda crash. Data and med record is clustered. Bom blasting and plane crash identification is grouping.

Mark Woodward

The system of non interference foreign has failed. Not easily result in any way. Need flexible movement in international community aid. World community effort in Dafur, Rwanda, there's a commitment when international will act if there's action triggered. Japan is uniquely position in humanitarian aid. Malaysia and Indonesia still difficulties. Japan has high military budget, national disaster plan, they the capacity.

*12.30 Panel session 2***Moderator: Dr. M. Baiquni**

1st Presenter: Dr. Sudibyakto

Preliminary Survey to build disaster information system in Yogyakarta Province

Cooperation with Bakosurtanal and several institution/universities

“Triple A” concept: *Agenda, Aturan main, and Atlas*

Disaster information system is needed for Indonesian within DM / DRR framework.

Most issued is how to deliver aid recently, not to spatially map the victims location. Data is shattered and unstructured, thus need to conduct good analysis and coordination to meet desirable aim.

Hazard map isn't good enough, better risk map (elements at risk).

Recommendation for the next activities

2nd Presenter: Prof. Ir. Dwikorita Karnawati

Hazard and Risk Analysis for enhancement for disaster reduction law

We have to dedicated our research to reduce the disaster risk

How to estimate and reduce the risk?

$R = (h * v) / \text{resilience}$

Hazards assessment and risk analysis à risk management and reduction

Hazards mapping and risk analysis

Towards community resilience improvement à community empowerment to apply appropriate technology and capacity building

Calendar as media to raise community awareness

3rd Presenter: Prof. Dr. Sarwidi

The transfer method of earthquake resistant house concept to the construction applicators

Transfer Process: preparation-dissemination-preparation

Many people found theory, concept, regulation, etc but not yet implemented until the lowest level of community.

Earthquake → severe ground shaking catastrophic landslide
devastated tsunami volcanic activity, then what to do?

Prediction, increasing awareness and a lot of simulation, building structural engineering

Structural types: engineered, none engineered, and semi engineered

Why people tend to choose permanent wall? More save for crime, protect from fire and strong wind, but not friendly for the earthquake. Barrataga (Bangunan Rumah Rakyat Tahan Gempa)

→

Discussion

1. Dewi Sukma, BPK

Q: The law related to disaster is adequate for the disaster management?

What is your suggestion to improve the implementation of this law?

Is it for the government necessary to have single database disaster information?

2. Richard Silitonga, Qatar Petroleum

Q: we have the law, but the weak implemented à the law is not yet adequate, because the law only concern about the natural disaster, how about the other disaster (man-made)

3. Surya Kusuma, UNDP

Let's do something, let's act after this seminar, and please distribute this research to entire Indonesia not only in Gadjah Mada University

To: Dr. Sudibyakto

Classic problem in Indonesia about the disaster management database

To: Prof. Sarwidi

Have you ever disseminated this BARRATAGA to West Sumatra?

4. Nancy, Local Government of Jakarta

Q: Recommendation for the micro zonation about Jakarta City regarding to the Perda Tata Ruang of Jakarta city

Q: Is it possible to apply BARRATAGA to the existing house and also public health facilities?

Comprehensive answer

Dr. Sudibyakto

How to integrate into single database always become common problem, every institutions have their task and responsibility.

Different hazard need specific information and if we can use the hazard map for any disaster, we have to select base on their different scale (province, regency, village, etc)

DKI Jakarta should be use appropriate scale for example 1: 10.000 related to flood hazard

There is no coordination between the institutions; by the law 24 about the disaster thus every institution should be aware to manage the database

Prof. Sarwidi

BARRATAGA already disseminate in Banten to Banyuwangi, West Nusa Tenggara

Needs much "*mandor*" to build this kind of house

The simulation of BARRATAGA needs also the supporting stakeholder or funding because needs much money to disseminate

Many people was not happy at the first time because of this resistant house, but now they already support

BARRATAGA can use for the existing building

Contact: 0274 7017584

Prof. Ir. Dwikorita Karnawati

We need to produce different scale of map and there are various responsibility of the stakeholders regarding to legality and must be approved before disseminate to the people

In Indonesia, there are several regency not yet have the map (hazard, vulnerability, risk)

BAPPEDA have the authority to disseminate and approve the appropriate map, so researcher can support government to provide the needed maps

In other hand, we can ask permission to BAPPEDA to disseminate the map

National act for disaster management, there are positive part but also some limitation, the cycle of management system which really concern in mitigation phase must be changed first

The law have to mentioned about the man made and also another kind of disaster

The law is OK, but the most difficult is to implement the law

The local regulation at the provincial and regency level must be more detailed compared than the national level

How to improve the situation? Each individual need to support the risk reduction in this country

14.30 Panel session 3

Moderator: Suhadi, MA

1st Presenter: Prof. Dr. Masatomo Umitsu

Impacts of disaster are different in each micro landform

Hierarchy of landforms

Macro: mountains, hills, plateau, basin, plain

Meso: terrace, alluvial plain (fluvial and coastal plains)

Mini: alluvial plan, floodplain, delta

Micro: natural levee, back marsh/back swamp (flood basin), channel, abandoned channel

There is good relationship between micro landforms and floods

In case flood, micro landforms cause the difference in inundation

Micro landform can be seen on the: Old topography sheet, aerial photo

There are buried micro landforms and some of them are found in archeological sites (such as buried channel)

Location of the liquefaction is related to the location of the natural levee, paleo channel, etc

Case study: Hat Yai, Thailand, field work related to flood: inundation depths were measured from the watermark on the house wall

Severe flood occurred in and around Nagoya due to the Ise Bay Typhoon

Japanese government decided to publish the detail land conditions maps of several plain

Use of digital data and geo-informatics for example #D diagram by 50 m DEM

Mapping the world in 3D with Shuttle Radar Topographic Mission (SRTM), or satellite image data from GLCF (Global Land Cover Facility)

In Aceh: the plain is characterized by the beach ridges in the eastern and lower deltaic area

GRASS: open source GIS software

2nd Presenter: Dr. M. Baiquni, MA

Tourism recovery post Tsunami and earthquake (The case of Aceh and DIY)

Case study in Bangkok, Thailand: The hotels try to raising awareness for the rich people who stay in the hotel to make donation to revitalize the community in surrounding area

Case study in DIY: *gotong royong* as the local wisdom thus the reconstruction phase can be finished soon

Conclusion:

Disaster tourism phenomena

Tour as a way to reduce stress

Recovery of livelihood in tourism

Participatory process and learning by experience can improve social cohesively and strengthen their capacity

Gotong royong as social solidarity rooted in local wisdom can be reinvented for recovery program and disaster management

3rd Presenter: Prof. Dr. Timbul Haryono

Cultural Recovery in Natural Disaster Areas

Sense of togetherness, similar with *gotong royong* as social solidarity will raise when the disaster happens.

Natural disaster makes some changes in physical and cultural environment

Space is then so important which has symbolic significant

In many villages, they perform *wayang kulit* performance after the disaster occurs to entertain their self and the other people as the traumatic healing. The villagers perform *wayang kulit* as spiritual act to harmonize the situation after the disaster (for example *ruwat bumi, mertti desa*, etc)

Bad experience, when earthquake happen we cannot imagine what happen outside.

Cultural recovery is also important, so the government or committee must be focus also in culture action not only about the physical recovery

4th Presenter: *Dr. Ir. Suprayoga Hadi*

Policy and Implementation of DRR in Indonesia

DM plan document: 5 year

DM plan is complement to RPJM difficult challenge

Integrating climate change issues into DRR plan document

Policy and Implementation of DRR in Indonesia

- DRR need to be conducted to reduce loss of life and things, not only post disaster and recovery.
- DM paradigm shift need to be started and conducted.
- National Development Planning System Coordination Framework with DM Plan ...
- NAP DRR 2006-2009
- DRR is not spending, but investment!
- DM is everybody business.

Discussion

1. Toto, Journalist

To: Prof. Dr. Masatomo Umitsu

Q: What is the main different of DM system in Japan and Indonesia especially in the technical aspect?

Do we have to spend more money to do research and implement the technology for DM in Indonesia?

To: Dr. Ir. Suprayoga Hadi

Q: Indonesia has many scientists but why the research is still disaster?

2. Dedi Purwadi, LP3Y, journalism trainer

To: Prof. Dr. Timbul Haryono

Q: What happen in the field when the community when they hit by the earthquake, all activities are collapse. How to recover the culture, economic activity in women small scale enterprise

3. Guruh, Tahiya Foundation

To: Prof. Dr. Timbul Haryono

Q: The impact of human made disaster longer than natural disaster. What do you think about this?



4. Johnny, Jogja

To: Prof. Dr. Timbul Haryono

Q: Culture is not just art and performance, what is the culture improvement on the community knowledge of disaster

To: Dr. Ir. Suprayoga Hadi

Q: What the government estimation of how much money we need to reduce risk in Indonesia based on the actual risk

Q: How much money we need to reserve disaster risk reduction

Comprehend Answer

Prof. Dr. Timbul Haryono

We should not only focusing on physical action, but culture as well

Different environment would have different culture approach

Create your own culture environment in each area

The term culture is to broad, culture from academic aspect also very broad

Culture aspect based on academic knowledge: language, religion, system of economic

We should not debate about the definition of the culture

We can select other element of the culture to recover after the certain disaster

Prof. Dr. Masatomo Umitsu

Depend on each scientist, because they have their own perspectives

Recently, Japan people was thinking about the scientist work for social issues, started 3 years program (Indonesia-Japan supporting by JICA) the issues about disaster risk reduction earthquake, volcano, tsunami

Scientist discuss about the condition and how to develop method to conduct DRR

Japan counterpart: Tokyo

Indonesia: LIPI

Ir. Suprayoga Hadi

Planning implementation never been easy if we compare directly
Ideally we have to provide 10 triliun IDR for DRR, but we don't
have enough money

So when disaster occurs, we only just can avoid and stay alive

We have very limited resources on the DRR implementation

Government tries to estimate the budget for DRR in Indonesia
based on Hyogo Framework for Action

Infrastructure/physical recovery usually faster than the other
aspect

Preventive and preparedness issues, local wisdom is always good
to consider in the DRR and disaster management

How we try to dig the local wisdom is very challenging, so the
community resilience will improve

Dr. M. Baiquni



Leadership also important in the DM

What kind of leadership to implement and develop in the context
of DM and DRR

Japanese society has hi-tech approach

Day 3

09.00 Panel session 1

Moderator: Dr. Sudibyakto, M.S

1st Presenter: Prof. Dr. Sutaryo

Disaster: Local and International Response

Can disaster be predicted? No advance technology from Japan-
US-European can predicts the natural disaster

Phenomena: humanity disaster in modern society

In Aceh: new colonialism in each country, each flag, each area and difficult to coordinate them. The opinion appears that local doctors and nurses are under qualified

Our culture: Tourism at disaster area, hit and run (many organization come for 1-2 weeks and then they run away and don't have continuity program), AIDS and donation (not clear), no trust between the foreigners donation

Basic principles to go to disaster area:

- Sustainability
- Attached with establish system
- Inter-department
- Tri Darma: education, research and community services

A lot of data from the disaster area were collected, but only ended as data, there is limited analysis

Research publication about disaster in Indonesia (published in international journal) mostly writes by the foreigner researcher

→

- NKRI

Local, national and International coordination needed before the disaster happen

Post Traumatic Stress Disorder (PTSD) takes long term to recover

Conclusion:

Ethical research in disaster area

Not all promising aid is corrects. In fact, some aids were not well realized

2nd Presenter: Dr. Samsul Maarif

Policy on Disaster Management in Indonesia (Post Law no.24/2007)

BNPB have difficulties to deal with disaster management especially right after the disaster

Padang earthquake: during the first 3 hours BNPB didn't get any information about the situation in Padang

Mangkesi Mangkedu: the first important act is to get there on the disaster location

Dramatic situation after the quake

Until 3rd day, all kind of communication signal were lost this is very important

Community participation very welcome

BNPB consist of 80 person (lack of human resources)

BNPB facing difficulties when distribute the logistic

4 Million IDR à unexpected budget of Padang government

1,7 Triliun needed for the recovery phase in West Java Province (they only have 9 Million)

Most needed material: Tent (Padang), blanket (West Java), hardware

Indonesia is laboratory of disaster we have to produce high quality of human resources →

The first responder when disaster happen, 80 % must be from local government

Capacity Building:

Singapore has research center for disaster (NTU) à even they didn't have any natural hazard

University as agent for DRR

Panic period after the disaster

Autonomy of the local government à related to local budget which must be allocated depend on the potential hazard in each area

15 Province has established BPBD

Human resources in the BPBD à important and have to be improved

3rd Presenter: Jend (Purn) Ryiamizard Riacudu

Menembus isolasi transportasi Banda Aceh-Meulaboh pasca tsunami

Indonesia is hazard prone area of earthquake

Communities have to raising awareness and used to deal with this quake (living side by side with disaster)

Socialization on tsunami hazard, but the earthquake comes (didn't match)

Socialization and education mainly on EQ, self rescue need to be educated to kids and also implemented in school education.

TNI asset to give assistance in disaster, resources utilization

Truth: get laughed, confronted, oh right.

Foreign aid and military might interfere whilst giving donation.

Correct evaluation post disaster.

Earthquake Japan

→

Flood Dutch

Discussion

1. To: Dr. Samsul Maarif

Q: Lesson learn from Padang; communities awareness and participation in disaster management

Government state that they ready when disaster happen, but the fact is not

Evacuation path in public facilities for example in Hotel Ambacang and Gama building in Padang

To Jend (Purn) Ryiamizard Riacudu

Q: System based not person based to manage the disaster

2. To: Dr. Samsul Maarif

Q: There is rescue unit in social department, agree with improvement capacity building

Master Geo-information must be more socialized

3. Surya, UNDP

The experience was great, but public don't know about this experience when the disaster happen, role of the media to inform community about what already done by TNI, doctor, and also BNPB thus there will be no negative news about what happen in the disaster management

Maximize the role of the media in the DM and DRR

Comprehend Answer

Prof. Sutaryo:

This meeting is very important

Ethical journalism: have to implement and improve

Dr. Samsul Maarif:

Padang community very pro active during 1st - 3rd day

4th day: reverse phenomena (people seek for donation in the main road)

Media center: 10am - 4 pm

→

There is a criterion for emergency response period:

- basic need
- rescue unit

Majelis Adat Nagari strong local organization

Evacuation plan still weak, building permission also still need to controlled

How to make training for each regency/sub district

Synchronize local and central government

Weakness point is to handle media

Jend (Purn) Ryiamizard Ryacudu

Role of the media in DM and DRR need to improve a lot

TNI versus GAM: they can work together during reconstruction period

APPENDIX 3

NATIONAL LAW ON DISASTER MANAGEMENT (UU NO 24 TAHUN 2007)

INFORMAL TRANSLATION

LAW OF THE REPUBLIC OF INDONESIA

NUMBER 24 OF 2007

CONCERNING

DISASTER MANAGEMENT

BY THE GRACE OF GOD ALMIGHTY

PRESIDENT OF THE REPUBLIC OF INDONESIA,

- Considering:
- a. that the State of the Republic of Indonesia has responsibility of protecting all people of Indonesia and their entire native land in order to protect life and livelihoods, including from disaster, to create public welfare that is based on Pancasila as mandated in the 1945 Constitution of the Republic of Indonesia;
 - b. that geography, geology, hydrology and demography of Unitary State of the Republic of Indonesia potentially give rise to natural, non-natural and man-made disasters that claim toll, environmental damage, loss of assets, and psychological impacts that, in certain contexts, may hamper national development;
 - c. that existing provisions of regulations of law concerning disaster management is not sufficient yet to serve as a strong and overarching legal base and is ill-suited to emerging context of the people and needs of Indonesia's nation and therefore hampers planned, coordinated and cohesive disaster management efforts;
 - d. that based on considerations described in letter [a], letter [b], and letter [c] there is a need for a Disaster Management Law;

In view of: Article 20 and Article 21 of 1945 Constitution of the Republic of Indonesia;

With Joint Consent of

**HOUSE OF PEOPLE'S REPRESENTATIVES OF THE
REPUBLIC OF INDONESIA**

AND

PRESIDENT OF THE REPUBLIC OF INDONESIA

RESOLVED:

Enacted: **DISASTER MANAGEMENT LAW**

SECTION I

GENERAL PROVISIONS

Article 1

The following definitions apply herein:

- 1 Disaster is event or series of events that threatens and disrupts lives and livelihoods caused either by natural and/or non-natural and man-made factors to claim toll, environmental damage, loss of assets, and psychological impact.
- 2 Natural disaster is disaster set off by natural event or series of events and includes earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, and landslides.
- 3 Non-natural disaster is disaster set off by non-natural event or series of events and includes technological disasters, modernization disasters, epidemics, and outbreaks.
- 4 Social disaster is disaster set off by man-made event or series of events and includes social conflict among groups or among communities, and terrorization.
- 5 Organization of disaster management is series of efforts comprising disaster sensitive development policymaking, disaster prevention activities, emergency response, and rehabilitation.
- 6 Disaster prevention activity is series of activities implemented in an effort to eliminate and/or reduce hazard.
- 7 Preparedness is series of activities implemented to anticipate disaster through

- organizational arrangement and through efficient and effective steps.
- 8 Early warning is series of activities warning the public at a most immediate stage on possibility of disaster at specific location by authorized agency.
 - 9 Mitigation is series of efforts to reduce disaster risks through both built development and awareness rising on, and capacity building for, addressing hazard.
 - 10 Emergency response is series of activities implemented immediately upon occurrence of disaster to address resulting negative impacts, which comprises rescue and evacuation of victims, assets, delivery of basic needs, protection, IDP management, rescue, and recovery of facilities and infrastructure.
 - 11 Rehabilitation is repairing and recovering all public or community services up to a degree that suffices geographical post-disaster area with the main goal being to normalize or bring to normality all governance and community life aspects in geographical post-disaster area.
 - 12 Reconstruction is rebuilding all infrastructure and facilities, institutions in geographical post-disaster area, at both government and community level with the main goal being to initiate and grow economic, social and cultural activities, uphold law and order, and promote public participation in all aspects of community life in geographical post-disaster area.
 - 13 Hazard is occurrence or event that may lead to disaster.
 - 14 Disaster vulnerability is geological, biological, hydrological, climatic, geographical, social, cultural, political, economic and technological condition or characteristic in a geographical area for a given period of time that reduces capacity for preventing, mitigating, achieving preparedness, and that reduces capacity for addressing negative impact of specific danger.
 - 15 Recovery is series of activities to recover condition of disaster impacted community and living environment by re-functioning institutions, infrastructure, and facilities through rehabilitation effort.
 - 16 Disaster prevention is series of activities implemented to reduce or eliminate disaster risk through both reduction of hazard and reduction of disaster vulnerable parties.
 - 17 Disaster risk is potential loss arising out of disaster within a specific geographical area for a specific period of time that may comprise death, injury, illness, life-threatening circumstances, loss of sense of security, displacement, damage or loss of assets, and disrupted social activities.
 - 18 Emergency relief is effort to provide assistance to meet basic needs during emergency.
 - 19 State of disaster emergency is state proclaimed by Government for a specific period of time on recommendation of Agency assigned to manage disaster.
 - 20 Internally displaced person(s) is individual or group of individuals whom voluntarily or otherwise have to relocate from their place of origin for an unspecified period of time as result of negative impact of disaster.
 - 21 Every person is individual, group of individuals, and/ or legal entity.
 - 22 Disaster victim(s) is individual or group of individuals that suffer or died because of disaster.

- 23 National Government, hereinafter Government, is President of the Republic of Indonesia exercising power of government over the Republic of Indonesia as described in 1945 Constitution of the Republic of Indonesia.
- 24 Regional government is governor, district head/ mayor, or regional instrument as regional government administrator element.
- 25 Business organization is every legal entity that may comprise state owned enterprise, regional state owned enterprise, cooperative, or private enterprise established in accordance with provisions of regulations of law that performs fixed and continual field of business that works and is domiciled in territory of the Unitary State of the Republic of Indonesia.
- 26 International agency is organization within organizational structure of the United Nations or that performs duty representing the United Nations or other international agency and foreign nongovernmental agencies from other countries outside the United Nations.

SECTION II BASE, PRINCIPLE, AND PURPOSE

Article 2

Disaster management is based on Pancasila and 1945 Constitution of the Republic of Indonesia.

Article 3

1. Principles of disaster management as mentioned in Article 2 are:
 - a. humanity;
 - b. justice;
 - c. equality before the law and government;
 - d. balance, harmony, and synchrony;
 - e. order and legal certainty;
 - f. sense of community;
 - g. environmental conservation; and
 - h. science and technology.
2. Principles of disaster management as mentioned in Article 2 are:
 - a. rapidness and targetedness;
 - b. prioritization;
 - c. coordination and cohesiveness;
 - d. efficiency and effectiveness;
 - e. transparency and accountability;
 - f. partnership;
 - g. empowerment;
 - h. non-discrimination; and
 - i. non-proselytization.

Article 4

Purposes of disaster management are:

- a. protecting the public from hazard;
- b. aligning existing regulations of law;
- c. guaranteeing organization of planned, cohesive, coordinated, and inclusive disaster management;
- d. respecting local culture;
- e. promoting participation and partnership between the public and the private;
- f. encouraging spirit of mutual participation, solidarity, and charity; and
- g. creating peace in community life, nationhood, and statehood.

SECTION III RESPONSIBILITIES AND POWER

Article 5

Government and regional government are responsible for organization of disaster management.

Article 6

Disaster management responsibilities of Government are:

- a. reducing disaster risk and incorporating disaster risk into development programming;
- b. protecting the public from disaster impact;
- c. guaranteeing justly fulfilment of rights of impacted communities and IDPs in accordance with minimum service standards;
- d. recovering condition from disaster impact;
- e. earmarking sufficient disaster management budget in state budget;
- f. earmarking on-call funding for disaster management; and
- g. maintaining authentic and credible archives/ documentation from hazard and disaster impact.

Article 7

(1) Power of Government in organizing disaster management:

- a. stipulating disaster management policies that are aligned with national development policies;
- b. preparing development plans that incorporate disaster management policy element;
- c. proclaiming status and level of national and regional disaster;
- d. making disaster management cooperation policies with other countries, agencies, or other international parties;
- e. formulating policies on use of technology posing potential threat or hazard;

- f. formulating policies preventing the controlling and exploitation of natural resources in ways making natural recharge impossible; and
 - g. curbing the amassing of national wealth.
- (2) Proclamation of status and level of national and regional disaster as mentioned in clause [1][c] indicates:
- a. toll;
 - b. loss of assets;
 - c. damage of infrastructure and facilities;
 - d. area of geography impacted; and
 - e. social economic impact.
- (3) Further provisions on stipulation of disaster status and level as mentioned in clause [2] are regulated by presidential regulation.

Article 8

Disaster management responsibilities of regional government are:

- a. guaranteeing fulfilment of rights of impacted communities and IDPs in accordance with minimum service standards;
- b. protecting the public from disaster impact;
- c. reducing disaster risk and incorporating disaster risk reduction into development programming; and
- d. earmarking sufficient disaster management budget in regional budget.

Article 9

Power of regional government in organizing disaster management:

- a. stipulating disaster management policies in its territory that are aligned with regional development policies;
- b. development planning that incorporates disaster management policy elements;
- c. making disaster management cooperation policies with other provinces and/or other districts/ cities;
- d. regulating use of technology posing potential source of threat or hazard in its territory;
- e. formulating policies preventing the controlling and exploitation of natural resources in ways making natural recharge impossible; and
- f. curbing the amassing of wealth in its territory.

**SECTION IV
INSTITUTIONAL**

**Part One
National Disaster Management Agency**

Article 10

- (1) Government as mentioned in Article 5 establishes National Disaster Management Agency.
- (2) National Disaster Management Agency as mentioned in clause [1] is a nondepartmental body equal to ministry.

Article 11

National Disaster Management Agency as mentioned in Article 10 [1] comprises:

- a. steering committee; and
- b. executive body.

Article 12

Duties of National Disaster Management Agency are:

- a. providing guidelines and directives on disaster management effort addressing fair and impartial disaster prevention, emergency response, rehabilitation, and reconstruction;
- b. stipulating disaster management organization standardization and needs based on regulations of law;
- c. informing the public on activities;
- d. reporting progress achieved in disaster management organization to President on a monthly basis during normal times and at all times during state of disaster emergency;
- e. using and accounting for national and international donations/ assistance;
- f. accounting for use of funds sourced from state budget;
- g. implementing other obligations in accordance with to regulations of law; and
- h. preparing guidelines on establishment of regional disaster management agency.

Article 13

Functions of National Disaster Management Agency are:

- a. formulating and stipulating disaster and IDP management policies by acting rapid and targeted and effectively and efficiently; and
- b. coordinating implementation of planned, coordinated, and comprehensive disaster management activity.

Article 14

- (1) Functions of steering committee element as mentioned in Article 11 [a] are:
 - a. formulating national disaster management policy concept;

- b. monitoring; and
 - c. evaluating organization of disaster management.
- (2) Membership of steering committee element as mentioned in clause [1] comprises:
- a. relevant government officials; and
 - b. professional community members.
- (3) Membership of steering committee element as mentioned in clause [2][b] is selected subject to fit and proper test by House of People's Representatives of the Republic of Indonesia.

Article 15

- (1) Power to establish executive body as mentioned in Article 11 [b] lies with Government.
- (2) Executive body as mentioned in clause [1] functions to coordinate, command, and implement organization of disaster management.
- (3) Membership of executive body element as mentioned in clause [1] comprises professionals and specialists.

Article 16

To carry out functions as mentioned in Article 13 [b], executive body element has an integrated duty that comprises:

- a. pre-disaster;
- b. emergency response; and
- c. post-disaster.

Article 17

Further provisions on establishment, functions, duties, organizational structure, and working procedures of National Disaster Management Agency are regulated by presidential regulation.

Part Two Regional Disaster Management Agency

Article 18

- (1) Regional government as mentioned in Article 5 establishes regional disaster management agency.
- (2) Regional disaster management agency as mentioned in clause [1] comprises:
- a. agency at provincial level led by official one level below governor or equal to echelon Ib rank; and
 - b. agency at district/ city level led by official one level below district head/ mayor or equal to echelon IIa rank.

Article 19

- (1) Regional disaster management agency comprises elements of:

- a. steering committee; and
 - b. executive body.
- (2) Establishment of regional disaster management agency as mentioned in clause [1] is carried out through coordination with National Disaster Management Agency.

Article 20

Functions of regional disaster management agency are:

- a. formulating and stipulating disaster and IDP management policies by acting rapid and targeted and effectively and efficiently; and
- b. coordinating implementation of planned, coordinated, and comprehensive disaster management activity.

Article 21

Duties of regional disaster management agency are:

- a. stipulating guidelines and directives in accordance with local government policy and National Disaster Management Agency on disaster management effort addressing fair and impartial disaster prevention, emergency response, rehabilitation, and reconstruction;
- b. stipulating disaster management organization standardization and needs based on regulations of law;
- c. preparing, stipulating, and informing disaster prone area map;
- d. preparing and stipulating standing operating procedure for disaster management;
- e. implementing organization of disaster management in its territory;
- f. reporting progress achieved in disaster management to regional head on a monthly basis during normal times and at all times during state of disaster emergency;
- g. curbing the amassing and distribution of wealth;
- h. accounting for use of funds sourced from regional budget; and
- i. implementing other obligations in accordance with to regulations of law.

Article 22

- (1) Functions of regional steering committee element as mentioned in Article 19 [1] [a] are:
- a. formulating regional disaster management policy concept;
 - b. monitoring; and
 - c. evaluating organization of regional disaster management.
- (2) Membership of steering committee element as mentioned in clause [1] comprises:
- a. relevant regional government officials; and
 - b. professional community members.

- (3) Membership of steering committee element as mentioned in clause [2][b] is selected subject to fit and proper test by Regional House of People's Representatives.

Article 23

- (1) Power to establish regional executive body as mentioned in Article 19 [1][b] lies with regional government.
- (2) Executive body element as mentioned in clause [1] functions to:
 - a. coordinate;
 - b. command; and
 - c. implement organization of disaster management in its territory.
- (3) Membership of regional executive body element as mentioned in clause [1] comprises professionals and specialists.

Article 24

To carry out functions as mentioned in Article 23 [2], regional executive body element has an integrated duty that comprises:

- a. pre-disaster;
- b. emergency response; and
- c. post-disaster.

Article 25

Further provisions on establishment, functions, duties, organizational structure, and working procedures of regional disaster management agency are regulated by bylaw.

SECTION V SOCIAL RIGHTS AND OBLIGATIONS

Part One Social Rights

Article 26

- (1) Every person is entitled to:
 - a. social protection and sense of security, in particular disaster vulnerable community groups;
 - b. education, training, and skills in organization of disaster management;
 - c. access written and/ or verbal information on disaster management policies;
 - d. participate in planning, operating, and maintaining health service assistance delivery programme, which includes psychosocial support;

- e. participate in decision making on disaster management activities, especially when having relevance on self and his/ her community; and
 - f. conduct monitoring in accordance with mechanism regulated over implementation of disaster management.
- (2) Every person impacted by disaster is entitled to assistance fulfilling basic needs.
- (3) Every person is entitled to compensation for disaster caused by construction failure.

Part Two
Social Obligations

Article 27

Every person is obligated to:

- a. maintain harmony, balance, accord, and preservation of function of living environment;
- b. implement disaster management activity; and
- c. provide accountable information to the public concerning disaster management.

SECTION VI
ROLE OF BUSINESS ORGANIZATIONS,
AND INTERNATIONAL AGENCIES

Part One
Role of Business Organizations

Article 28

Business organizations obtain opportunity in organization of disaster management, either individually or in federation with other parties.

Article 29

- (1) Business organization adjusts its activities to disaster management organization policy.
- (2) Business organization is obligated to submit report to government and/ or agency assigned to manage disaster and to inform the public transparently.
- (3) Business organization is obligated to observe the principle of humanity in implementing its economic function in disaster management.

Part Two
Role of International Agencies

Article 30

- (1) International agencies and foreign nongovernmental agencies may participate in disaster management activity and obtain guarantee of protection from Government towards their employees.
- (2) International agencies and foreign nongovernmental agencies in implementing disaster management activity as mentioned in clause [1] may perform individually, in federation, and/ or in cooperation with working partner from Indonesia by heeding local social, cultural, and religious background.
- (3) Further provisions on implementation of disaster management by international agencies and foreign nongovernmental agencies are regulated by Government Regulation.

SECTION VII
ORGANIZATION OF DISASTER MANAGEMENT

Part One
General

Article 31

Organization of disaster management is implemented based on 4 (four) aspects comprising:

- a. social, economic, and culture of community;
- b. preservation of living environment;
- c. usability and effectiveness; and
- d. scope of geography.

Article 32

- (1) Government may in organizing disaster management:
 - a. stipulate disaster prone regions as prohibited for settlement; and/ or
 - b. revoke or reduce part or entire right to own of every person over a thing in accordance with regulations of law.
- (2) Every person of which right to own is revoked or reduced as mentioned in clause [1][b] is entitled to compensation in accordance with regulations of law.

**Part Two
Phasing**

Article 3

Organization of disaster management comprises 3 (three) phases:

- a. pre-disaster;
- b. emergency response; and
- c. post-disaster.

**First Paragraph
Pre-disaster**

Article 34

Organization of disaster management during pre-disaster phase as mentioned in Article 33 [a] comprises:

- a. situation during absence of disaster event; and
- b. situation during potential occurrence of disaster event.

Article 35

Organization of disaster management during absence of disaster event as mentioned in Article 34 [a] comprises:

- a. disaster management planning;
- b. disaster risk reduction;
- c. prevention;
- d. incorporation into development planning;
- e. disaster risk analysis requirement;
- f. spatial planning implementation and enforcement;
- g. education and training; and
- h. disaster management technical standard requirements.

Article 36

- (1) Disaster management planning as mentioned in Article 35 [a] is stipulated by Government and regional government in accordance with its power.
- (2) Drafting of disaster management plan as mentioned in clause [1] is coordinated by Agency.
- (3) Disaster management planning as mentioned in clause [1] entails the documenting of data on disaster risk in a given geographical area at a given period of time based on official document setting out programme for disaster management activity.
- (4) Disaster management planning as mentioned in clause [1] comprises:
 - a. identification and assessment of hazard;
 - b. understanding community vulnerability;
 - c. potential impact analysis;

- d. alternative actions for disaster risk reduction;
 - e. identification of preparedness and disaster mitigation mechanisms; and
 - f. allocation of duties, power, and resources on hand.
- (5) Government and regional government at a specific point in time reviews disaster management planning documents on a routine basis.
- (6) In effort to align disaster management planning Government and regional government may require disaster management actors to perform disaster management planning.

Article 37

- (1) Disaster risk reduction as mentioned in Article 35 [b] purposes to reducing potential negative disaster impact mainly takes place during absence of disaster event.
- (2) Activity as mentioned in clause [1] comprises:
- a. identification and monitoring disaster risk;
 - b. disaster management participatory planning;
 - c. promotion of a culture of disaster awareness;
 - d. strengthening commitment to disaster management actors; and
 - e. implementation of physical built, non-physical effort and regulation of disaster management.

Article 38

Prevention as mentioned in Article 35 [c] comprises:

- a. definite identification and recognition of sources of danger or hazard;
- b. curbing control and management of natural resources that may suddenly and/ or gradually become a potential source of hazard;
- c. monitoring use of technology that may suddenly and/ or gradually pose a potential source of hazard;
- d. spatial planning and living environment management; and
- e. strengthening of social resilience.

Article 39

Incorporation of disaster management into development planning as mentioned in Article 35 [d] entails the inclusion of disaster management planning elements in the national and regional development planning.

Article 40

- (1) Disaster management planning as mentioned in Article 36 [3] is reviewed on a routine basis.
- (2) Drafting of disaster management planning as mentioned in clause [1] is coordinated by Agency.
- (3) Every development activity involving high disaster risks is equipped with disaster risk analysis as part of disaster management effort in accordance with power vested.

Article 41

- (1) Disaster risk analysis requirements as mentioned in Article 35 [e] are prepared and stipulated by National Disaster Management Agency.
- (2) Compliance with disaster risk analysis requirements as mentioned in clause [1] is demonstrated by document certified by government official in accordance with regulations of law.
- (3) Disaster Management Agency monitors and evaluates implementation of disaster risk analysis as mentioned in clause [1].

Article 42

- (1) Implementation and enforcement of spatial planning as mentioned in Article 35 [f] purposes to reduce disaster risk and comprises enactment of spatial planning regulations, safety standards, and imposition of sanctions against violators.
- (2) Government on a routine basis monitors and evaluates implementation of spatial planning and compliance with safety standards.

Article 43

Disaster management education, training, and technical standard requirements as mentioned in Article 35 [g] and [h] are implemented and stipulated by Government in accordance with regulations of law.

Article 44

Organization of disaster management during potential occurrence of disaster event as mentioned in Article 34 [b] comprises:

- a. preparedness;
- b. early warning; and
- c. disaster mitigation.

Article 45

- (1) Preparedness as mentioned in Article 44 [a] purposes to ensure rapid and targeted effort in dealing with disaster.
- (2) Preparedness as mentioned in clause [1] is done through:
 - a. preparing and testing a disaster emergency mitigation plan;
 - b. organizing, installing, and testing an early warning system;
 - c. provisioning and preparing supplies to meet basic needs;
 - d. organizing, assisting in, training, and performing drills of emergency response mechanism;
 - e. preparing evacuation sites;
 - f. preparing accurate data, information, and updating standing operating procedure for emergency response; and
 - g. provisioning and preparing material, goods, and equipment to fulfil recovery of infrastructure and facilities.

Article 46

- (1) Early warning as mentioned in Article 44 [b] purposes to take rapid and targeted action to reduce disaster risk and to prepare emergency response.
- (2) Early warning as mentioned in clause [1] involves:
 - a. observing disaster indication;
 - b. analyzing observation results;
 - c. decision making by authorized party;
 - d. disseminating information on disaster warning; and
 - e. action taking by the public.

Article 47

- (1) Disaster Mitigation as mentioned in Article 44 [c] purposes to reduce disaster risk for communities residing in disaster prone regions.
- (2) Mitigation activity as mentioned in clause [1] is done through:
 - a. implementation of spatial planning;
 - b. regulation of development, construction of infrastructure, urban design;
 - c. organization of both conventional and modern education, assistance, and training;
 - d. identification of status of disaster emergency;
 - e. rescue and evacuation of impacted communities;
 - f. fulfilment of basic needs;
 - g. protection for vulnerable groups; and
 - h. immediate recovery of vital infrastructure and facilities.

**Second Paragraph
Emergency Response**

Article 48

Organization of disaster management during emergency response as mentioned in Article 33 [b] comprises:

- a. rapid and targeted assessment of location, damage, and resources;
- b. identification of status of emergency response;
- c. rescue and evacuation of impacted communities;
- d. fulfilment of basic needs;
- e. protection of vulnerable groups; and
- f. immediate recovery of vital infrastructure and facilities.

Article 49

Rapid and targeted assessment as mentioned in Article 48 [a] is done to identify:

- a. scope of impacted geography;
- b. toll;
- c. damage on infrastructure and facilities;
- d. disruption against function of public services and governance; and
- e. capacity of natural and man-made resources.

Article 50

- (1) In event status of disaster emergency is stipulated, National Disaster Management Agency and Regional Disaster Management Agency has facilitated access comprising:
 - a. mobilization of human resources;
 - b. mobilization of tools;
 - c. logistical mobilization;
 - d. immigration, customs, and quarantine;
 - e. clearances;
 - f. procurement of goods/ services;
 - g. management of and accountability for money and/ or goods;
 - i. rescue; and
 - h. command to order sectors/ agencies.
- (2) Further provisions on facilitated access as mentioned in clause [1] are regulated by government regulation.

Article 51

- (1) Government stipulates disaster emergency status in accordance with scale of disaster.
- (2) Stipulation as mentioned in clause [1] at national scale is done by President, at provincial scale is done by governor, and at district/ city scale is done by district head/ mayor.

Article 52

Rescue and evacuation of impacted communities as mentioned in Article 48 [c] is done by providing humanitarian services that arise from disaster befalling a region through efforts of:

- a. search and rescue of victims;
- b. emergency assistance; and/ or
- c. evacuation of victims.

Article 53

Fulfilment of basic needs as mentioned in Article 48 [d] comprises assistance to deliver:

- a. clean water and sanitation;
- b. food;
- c. clothing;
- d. health services;
- e. psychosocial assistance;
- f. and sheltering and housing.

Article 54

Management of impacted communities and IDPs is done by activity comprising data survey, placement in safe location, and fulfilment of basic needs.

Article 55

- (1) Protection of vulnerable groups as mentioned in Article 48 [e] is done by prioritizing vulnerable groups in terms of rescue, evacuation, security, health services, and psychosocial (services).
- (2) Vulnerable groups as mentioned in clause [1] comprise:
 - a. infants, under-five children, and children;
 - b. pregnant or lactating mothers;
 - c. disabled persons; and
 - d. elderly persons.

Article 56

Recovery of function of vital infrastructure and facilities as mentioned in Article 48 [f] is done by repairing and/ or replacing damage caused by disaster.

Third Paragraph Post-disaster

Article 57

Organization of disaster management during post-disaster phase as mentioned in Article 33 [c] comprises:

- a. rehabilitation; and
- b. reconstruction.

Article 58

- (1) Rehabilitation as mentioned in Article 57 [a] is done through activity of:
 - a. improvement of environment of disaster area;
 - b. improvement of public infrastructure and facilities;
 - c. delivery of community housing repair assistance;
 - d. psychosocial recovery;
 - e. health services;
 - f. conflict reconciliation and resolution;
 - g. cultural, socio-economic recovery;
 - h. restoration of security and order;
 - i. recovery of government function; and
 - j. recovery of function of public services.
- (2) Further provisions on rehabilitation as mentioned in clause [1] are regulated by government regulation.

Article 59

- (1) Reconstruction as mentioned in Article 57 [b] is done through improved development activity, comprising:
 - a. rebuilding of infrastructure and facilities;
 - b. rebuilding of community social facilities;

- c. reviving of community social cultural life;
 - d. application of proper design and engineering and use of better and disaster resistant tools;
 - e. participation and role of community-based institutions organizations, the business world, and community;
 - f. improvement of social, economic, and cultural condition;
 - g. improvement of function of public services; and
 - h. improvement of primary services in community. and
- (2) Further provisions on reconstruction as mentioned in clause [1] are regulated by government regulation.

SECTION VIII FUNDING AND MANAGEMENT OF DISASTER ASSISTANCE

Part One Funding

Article 60

- (1) Disaster management funding is the joint responsibility of Government and regional government.
- (2) Government and regional government encourage public participation in providing funds sourced from the public.

Article 61

- (1) Government and regional government allocate sufficient disaster management budget as mentioned in Article 6 [e] and [f] and Article 8 [d].
- (2) Use of sufficient disaster management budget as mentioned in clause [a] is done by Government, regional government, and national disaster management agency, and regional disaster management agency in accordance with principal duties and functions.

Article 62

- (1) During emergency response National Disaster Management Agency uses on-call funding as mentioned in Article 6 [f].
- (2) On-call funding as mentioned in clause [1] is made available by Government in National Disaster Management Agency budget.

Article 63

Further provisions on mechanism for disaster management fund management as mentioned in Article 60 to Article 62 are regulated by government regulation.

Article 64

Funds for disaster management arising from outer space activity that causes disaster are liability of launching state and/ or owner in accordance with international law and treaties.

Second Part
Management of Disaster Assistance

Article 65

Management of disaster assistance comprises planning, use, maintenance, monitoring, and evaluating of national and international goods, services and/or assistance monies.

Article 66

Government, regional government, and national disaster management agency and regional disaster management agency manage assistance resources as mentioned in Article 65 during all phases of disaster in accordance with regulations of law.

Article 67

During emergency response, national disaster management agency directs use of disaster assistance resources available at all related sectors.

Article 68

Procedure on utilization and accountability of use of disaster assistance resources during emergency response is specially implemented in accordance with emergency needs, situation, and condition.

Article 69

- (1) Government and regional government grants bereavement and disability compensations to disaster victims.
- (2) Disaster victims who lost livelihoods may be granted soft loans for productive activities.
- (3) Amount of bereavement and disability compensation as mentioned in clause [1] and soft loans for productive activity as mentioned in clause [2] is the responsibility of the government and regional government.
- (4) Delivery mechanism and amount of assistance as mentioned in clause [1] and clause [2] is further regulated by government regulation.
- (5) Community elements may participate in assistance provisioning.

Article 70

Management of disaster assistance resources as mentioned in Article 65 to Article 69 is implemented in accordance with regulations of law.

**SECTION IX
SUPERVISION**

Article 71

- (1) Government and regional government implement supervision over entire disaster management phase.
- (2) Supervision as mentioned in clause [1] comprises:
 - a. sources of danger or hazard;
 - b. development policy that may potentially lead to disaster;
 - c. exploitation activity that may potentially lead to disaster;
 - d. domestic use of goods, services, technology, and engineering and designing capacities;
 - e. environmental conservation activity;
 - f. spatial planning;
 - g. living environment management;
 - h. reclamation activity; and
 - i. financial management.

Article 72

- (1) In implementing supervision over fund-raising report, Government and regional government may request report on fund-raising results for purpose of audit.
- (2) Based on report as mentioned in clause [1] Government and the public may request audit.
- (3) In event audit as mentioned in clause [2] identifies misuse of funds raised, fund-raiser is subject to sanction in accordance with regulations of law.

Article 73

Supervision as mentioned in Article 71 to Article 72 is implemented in accordance with regulations of law.

**SECTION X
DISPUTE RESOLUTION**

Article 74

- (1) An amicable solution will be sought in the first instance of disaster management dispute.
- (2) In event no solution was attained by means as mentioned in clause [1] the parties may seek an out-of-court or in-court settlement.

SECTION XI PENAL PROVISIONS

Article 75

- (1) Every person who out of negligence implement high risk development, without disaster risk analysis as mentioned in Article 40 [3] that causes disaster, is subject to a minimum term of imprisonment of 3 (three) years or a maximum term of 6 (six) years and a minimum penalty of IDR 300,000,000 (three hundred million rupiah) or a maximum penalty of IDR 200,000,000 (two hundred million rupiah).
- (2) In even act of crime as mentioned in clause [1] causes loss of assets or goods, perpetrator is subject to a minimum term of imprisonment of 6 (six) years or a maximum term of 8 (eight) years and a minimum penalty of IDR 600,000,000 (six hundred million rupiah) or a maximum penalty of IDR 3,000,000,000 (three billion million rupiah).
- (3) In even act of crime as mentioned in clause [1] causes death of person, perpetrator is subject to a minimum term of imprisonment of 8 (eight) years or a maximum term of 10 (ten) years and a minimum penalty of IDR 3,000,000,000 (three billion rupiah) or a maximum penalty of IDR 6,000,000,000 (six billion million rupiah).

Article 76

- (1) In event act of crime as mentioned in Article 75 [1] is done with intent, perpetrator is subject to a minimum term of imprisonment of 5 (five) years or a maximum term of 8 (eight) years and a minimum penalty of IDR 2,000,000,000 (two billion rupiah) or a maximum penalty of IDR 4,000,000,000 (four billion rupiah).
- (2) In event act of crime as mentioned in Article 75 [2] is done with intent, perpetrator is subject to a minimum term of imprisonment of 8 (eight) years or a maximum term of 12 (twelve) years and a minimum penalty of IDR 3,000,000,000 (three billion rupiah) or a maximum penalty of IDR 6,000,000,000 (six billion rupiah).
- (3) In event act of crime as mentioned in Article 75 [3] is done with intent, perpetrator is subject to a minimum term of imprisonment of 12 (twelve) years or a maximum term of 15 (fifteen) years and a minimum penalty of IDR 6,000,000,000 (six billion rupiah) or a maximum penalty of IDR 12,000,000,000 (twelve billion rupiah).

Article 77

Every person that with intent obstructs facilitated access as mentioned in Article 50 [1] is subject to a minimum term of imprisonment of 3 (three) years or a maximum term of 6 (six) years and a minimum penalty of IDR 2,000,000,000 (two billion rupiah) or a maximum penalty of IDR 4,000,000,000 (four billion rupiah).

Article 78

Every person that with intent misuses disaster assistance resource management as mentioned in Article 65 is subject to life imprisonment or a minimum term of imprisonment of 4 (four) years or a maximum term of 20 (twenty) years and a minimum penalty of IDR 6,000,000,000 (six billion rupiah) or a maximum penalty of IDR 12,000,000,000 (twelve billion rupiah).

Article 79

- (1) In event act of crime as mentioned in Article 75 to Article 78 is done by corporation then, in addition to its board of management being subjected to imprisonment and penalty, corporation may be subjected to aggravated penalty to 3 (three) times of as mentioned in Article 75 to Article 78.
- (2) In addition to penalty as mentioned in clause [1], corporation may be subjected to:
 - a. revocation of business permit; or
 - b. revocation of legal entity status.

SECTION XII TEMPORARY PROVISIONS

Article 80

Upon enactment hereof any regulations of law pertaining to disaster management is declared to remain in effect for as long as it is not contradictory to or no new implementing regulation is issued based on this law.

Article 81

All disaster management programmes relating to disaster management that were stipulated before the enactment of this law is declared to remain in effect until their expiration, unless determined otherwise in regulations of law.

Article 82

- (1) Before establishment of National Disaster Management Agency, National Coordinating Agency for Disaster Management may continue implements its duties.
- (2) After establishment of National Disaster Management Agency, National Coordinating Agency for Disaster Management is declared dissolved.

**SECTION XIII
CLOSING PROVISIONS**

Article 83

National Disaster Management Agency is established within 6 (six) months and Regional Disaster Management Agency is established within 1 (one) year from the moment this law takes effect.

Article 84

Government regulation as implementing regulation to this law must be issued within 6 (six) months since the promulgation of this law.

Article 85

This law shall be effective as of the date of promulgation. So as to be recognized by all, ordered the promulgation hereof by its placement in State Gazette of the Republic of Indonesia.

Enacted in Jakarta

On the date of 26 April 2007

PRESIDENT OF THE REPUBLIC OF INDONESIA,
SUSILO BAMBANG YUDHOYONO

Promulgated in Jakarta

On the date of 26 April 2007

MINISTER OF JUSTICE AND HUMAN RIGHTS STATE OF THE REPUBLIC OF
INDONESIA,
HAMID AWALUDIN

STATE GAZETTE OF THE REPUBLIC OF INDONESIA NO. 2007 no. 66

The copy is in conformity with the original document

State Secretariat Republic of Indonesia

Head of Bureau for Legislation and Law

for Politic and People's Welfare

Wisnu Setiawan

**HOUSE OF PEOPLE'S REPRESENTATIVES
REPUBLIC OF INDONESIA**

ELUCIDATION OF

**LAW OF THE REPUBLIC OF INDONESIA
NUMBER OF**

CONCERNING

DISASTER MANAGEMENT

I. General

Paragraph IV of Preamble to the 1945 Constitution of the Republic of Indonesia mandates the Government of the State of the Republic of Indonesia to protect all the people of Indonesia and their entire native land, to improve public welfare, to advance intellectual life of the people, and to contribute to establishment of a world order based on freedom, abiding peace and social justice.

National development, heeding at all times the right to work and protection of every citizen in the framework of the Unitary State of the Republic of Indonesia, is carried out in implementation of the mandate with the purpose of creating a just and prosperous society.

But while the Unitary State of the Republic of Indonesia comprises a significant territory, is situated on the equator where it is intersected by two continents and two oceans, and enjoys a natural condition having a variety of benefits, its geography, geology, hydrology, and demography is highly vulnerable to disaster happening at frequent intervals, which calls for systematic, cohesive, and coordinated handling.

Potential disaster causes in territory of the Unitary State of Indonesia can be grouped into 3 (three) types, i.e. natural disaster, non-natural disaster, and social disaster.

Natural disaster includes amongst others earthquakes because of nature, volcanic eruption, hurricanes, landslides, droughts, forest/ land fires because of natural factors, plant pests and diseases, epidemics, outbreaks, extraordinary events, and outer space events/ outer space objects.

Non-natural disaster includes amongst others forest/ land fires caused by man, transport accidents, constructional/ technological failures, industrial impacts, nuclear explosions, environmental pollution, and outer space activities.

Social disaster comprises amongst others social unrest and social conflict in the society which have had frequently taken place.

Disaster Management is an element of national development, i.e. a series of Disaster Management activities implemented before, during and after occurrence of disaster. Flaws are noted in the implementation of Disaster Management and in matters related to its legal base. As no Law is in place yet dedicated to handling disaster.

In consideration of the abovementioned matters and in the framework of providing a strong legal base for operations of Disaster Management, the Disaster Management Law was drafted which in principle regulates phasing of disaster into pre-disaster, during disaster and post-disaster.

The content of this Law sets out the following principal provisions:

- 1 Operations of Disaster Management are the responsibility and authority of the Government and regional government, implemented in a planned, cohesive, coordinated, and inclusive manner.
- 2 Operations of Disaster Management during emergency response phase are fully carried out by the national disaster management agency and the regional disaster management agency. Aforementioned disaster management agencies comprise steering element and executive element. The national disaster management agency and the regional disaster management agency have functions and duties that comprise amongst others coordination of operations of disaster management in a planned and cohesive manner in accordance with their authority.
3. Operations of disaster management are carried out by heeding community rights which comprise amongst others (the right to) assistance to fulfil basic needs, social protection, education on and skills for operations of disaster management, participation in decision making.
- 4 Disaster management activity is carried out by making available broad opportunity to business organizations and international agencies.
- 5 Operations of disaster management are carried out at pre-disaster, during disaster, and at post-disaster phases, as each respective phase has different management characteristics.
- 6 During emergency response, disaster management activity other than be supported by state budget and regional budget (are supported by) on-call funds made available with accountability through special mechanism.
- 7 Supervision over disaster management activity in its entirety is carried out by the Government, regional government, and society during every disaster phase, so that no misuse takes place in use of disaster management funds.
- 8 To ensure conformity to this law and to at the same time effect deterrence against parties that either because of negligence or with intent cause disaster that brings about loss of either material property or life, obstructs facilitated access in disaster management activity, and (cause) misuse of disaster assistance resources management, (parties are) subject to criminal sanctions, either criminal imprisonment or fines, carrying minimum and maximum sentences.

With the content as described above, this Law is expected to serve as a strong legal base in operations of disaster management so that operations of disaster management can be carried out in a planned, coordinated, and cohesive manner.

II. ARTICLE BY ARTICLE

Article 1

Self-explanatory

Article 2

Self-explanatory Article 3 Clause [1]

Letter a

“Principle of humanity” is manifested in disaster management so that this law extends protection and respects human rights, value and dignity of every citizen and the Indonesian population in a proportional manner.

Letter b

By “principle of justice” is meant that each content of provisions in disaster management must reflect proportional justice for each citizen without exception.

Letter c

By “principle of equality before the law and government” is meant that content of provisions in disaster management cannot set out matters that differentiate against amongst others religious, ethnic, race, group, gender, or social status background.

Letter d

By “principle of balance” is meant that content of provisions in disaster management reflects balance in social life and the environment. By “principle of harmony” is meant that content of provisions in disaster management reflects harmony in life and the environment. By “principle of synchrony” is meant that content of provisions in disaster management reflects synchrony of life and social community life.

Letter e

By “principle of order and legal certainty” is meant that content of provisions in disaster management must be able to bring about order in society by guaranteeing legal certainty.

Letter f

By “principle of sense of community” is meant that fundamentally disaster management is the shared duty and responsibility of the Government and society carried out through mutual participation (*gotong royong*).

Letter g

By “principle of environmental conservation” is meant that content of provisions in disaster management reflects environmental conservation for present and future generations for interest of the nation and state.

Letter h

By “principle of science and technology” is meant that disaster management must make optimum use of science and technology to facilitating and expediting disaster management process either at prevention phase, during disaster, or at post-disaster phase.

Clause [2]

Letter a

By “principle of rapidness and targetedness” is meant that disaster management must be carried out in a rapid and targeted manner in accordance with demands of situation.

Letter b

By “principle of prioritization” is meant that if disaster happens, management activity must get priority and be focused on human life rescue activity.

Letter c

By “principle of coordination” is meant that disaster management is based on good and reciprocal supportive coordination.

By “principle of cohesiveness” is meant that disaster management is carried out by a variety of sectors in a cohesive manner based on good and reciprocal supportive cooperation.

Letter d

By “principle of efficiency” is meant that overcoming of public ordeal is carried out without wasting excessive time, effort, and costs. By “principle of effectiveness” is meant that disaster management activity must be effective, particular in overcoming public ordeal, without wasting excessive time, effort, and costs.

Letter e

By “principle of transparency” is meant that disaster management is carried out openly and can be accounted for. By “principle of accountability” is meant that disaster management is carried out openly and can ethically and legally be accounted for.

Letter f

Self-explanatory

Letter g

Self-explanatory

Letter h

By “principle of non-discrimination” is meant that the state in disaster management does not differentiate treatment based on whatsoever sex, ethnicity, religion, race, and political affiliation.

Letter i

By “principle of non-proselytization” is meant that it is prohibited to spread religion or belief during disaster emergency situation, especially by way of assistance delivery and emergency response services.

Article 4

Self-explanatory

Article 5

The government and regional government are responsible for operations of management of natural, non-natural, and social disaster.

Article 6

Letter a

Self-explanatory

Letter b

Self-explanatory

Letter c

Self-explanatory

Letter d

Self-explanatory

Letter e

Self-explanatory

Letter f

‘On-call’ funds are funds laid aside by the government are on-call in event of disaster.

Letter g

Self-explanatory

Article 7

Clause [1] Letter a Self-explanatory Letter b Self-explanatory Letter c Self-explanatory Letter d Self-explanatory Letter e Self-explanatory Letter f

Self-explanatory

Letter g

Control over this process, including over issuance of permit to collect money or goods that are national in nature, lies with the Minister for Social Affairs.

Clause [2]

Self-explanatory

Clause [3]

Self-explanatory

Article 8

Self-explanatory

Article 9

Self-explanatory

Article 10

Self-explanatory

Article 11

- Self-explanatory
- Article 12
 - Self-explanatory
- Article 13
 - Self-explanatory
- Article 14
 - Clause [1]
 - Letter a
 - Self-explanatory
 - Letter b
 - Self-explanatory
 - Letter c
 - Self-explanatory
 - Clause [2]
 - Steering Committee element comprises government element and professional community element in a balanced and proportional number.
 - Letter a
 - Self-explanatory
 - Letter b
 - Self-explanatory
 - Clause [3]
 - Self-explanatory
- Article 15
 - Clause [1]
 - Self-explanatory
 - Clause [2]
 - By coordination function is meant carrying out coordination during the pre-disaster and post-disaster phases, while by command and implementation functions are meant functions carried out during emergency response.
 - Clause [3]
 - Self-explanatory Article 16 Self-explanatory Article 17 Self-explanatory Article 18 Self-explanatory
- Article 19
 - Clause [1]
 - Letter a
 - Membership of steering element refers to membership of steering element of the National Disaster Management Agency.
 - Letter b
 - Self-explanatory
 - Clause [2]
 - Self-explanatory
- Article 20
 - Self-explanatory

Article 21

Letter a

Self-explanatory

Letter b

Self-explanatory

Letter c

Self-explanatory

Letter d

Self-explanatory

Letter e

Self-explanatory

Letter f

Self-explanatory

Letter g

Control over this process includes control over issuance of permit to collect money and goods by governor and district head/ mayor in accordance with their scope of authority.

Letter h

Self-explanatory

Letter i

Self-explanatory

Article 22

Self-explanatory

Article 23

Self-explanatory

Article 24

Self-explanatory

Article 25

Self-explanatory

Article 26

Clause [1]

Letter a

By vulnerable community groups is meant members of society in need of assistance because of the situation they shoulder, which includes amongst others elderly persons, disabled persons, children, and pregnant and lactating mothers.

Letter b

Self-explanatory

Letter c

Self-explanatory

Letter d

Self-explanatory

Letter e

Self-explanatory

Letter f

Self-explanatory

- Clause [2]
 - Self-explanatory
- Clause [3]
 - Self-explanatory
- Article 27
 - Self-explanatory
- Article 28
 - Self-explanatory
- Article 29
 - Self-explanatory
- Article 30
 - Self-explanatory
- Article 31
 - Self-explanatory
- Article 32
 - Self-explanatory
- Article 33
 - Self-explanatory
- Article 34
 - Self-explanatory
- Article 35
 - Letter a
 - Self-explanatory
 - Letter b
 - Self-explanatory
 - Letter c
 - Self-explanatory
 - Letter d
 - Self-explanatory
 - Letter e
 - By disaster risk analysis is meant research and study activities on activities that may potentially cause disaster.
 - Letter f
 - Self-explanatory
 - Letter g
 - Self-explanatory
 - Letter h
 - Self-explanatory
- Article 36
 - Self-explanatory
- Article 37
 - Self-explanatory
- Article 38
 - Self-explanatory
- Article 39

- Self-explanatory
- Article 40
 - Clause [1]
 - Self-explanatory
 - Clause [2]
 - Self-explanatory
 - Clause [3]
 - By development activity involving high disaster risks is meant those development activities that may potentially cause disaster, including amongst others oil drilling, nuclear weapons manufacturing, waste disposal, mining explorations, and forest clearing.
- Article 41
 - Self-explanatory
- Article 42
 - Self-explanatory
- Article 43
 - Self-explanatory
- Article 44
 - Self-explanatory
- Article 45
 - Self-explanatory
- Article 46
 - Self-explanatory
- Article 47
 - Self-explanatory
- Article 48
 - Self-explanatory
- Article 49
 - Self-explanatory
- Article 50
 - Self-explanatory
- Article 51
 - Self-explanatory
- Article 52
 - Self-explanatory
- Article 53
 - Self-explanatory
- Article 54
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- Article 55
 - Self-explanatory
- Article 56
 - Self-explanatory
- Article 57
 - Self-explanatory

Article 58
Self-explanatory

Article 59
Self-explanatory

Article 60
Self-explanatory

Article 61
Self-explanatory

Article 62
Self-explanatory

Article 63
Self-explanatory

Article 64
By outer space activity is meant those activities linked to outer space that cause disaster, including amongst others satellite launching and outer space exploration.

Article 65
Self explanatory

Article 66
Self-explanatory

Article 67
Self-explanatory

Article 68
Self-explanatory

Article 69
Self-explanatory

Article 70
Self-explanatory

Article 71
Self-explanatory

Article 72
Self-explanatory

Article 73
Self-explanatory

Article 74
Self-explanatory

Article 75
Self-explanatory

Article 76
Self-explanatory

Article 77
Self-explanatory

Article 78
Self-explanatory

Article 79
Self-explanatory

Article 80
Self-explanatory

Article 81
Self-explanatory

Article 82
Self-explanatory

Article 83
Self-explanatory

Article 84
Self-explanatory

Article 85
Self-explanatory

SUPPLEMENT TO STATE GAZETTE NO. 4723

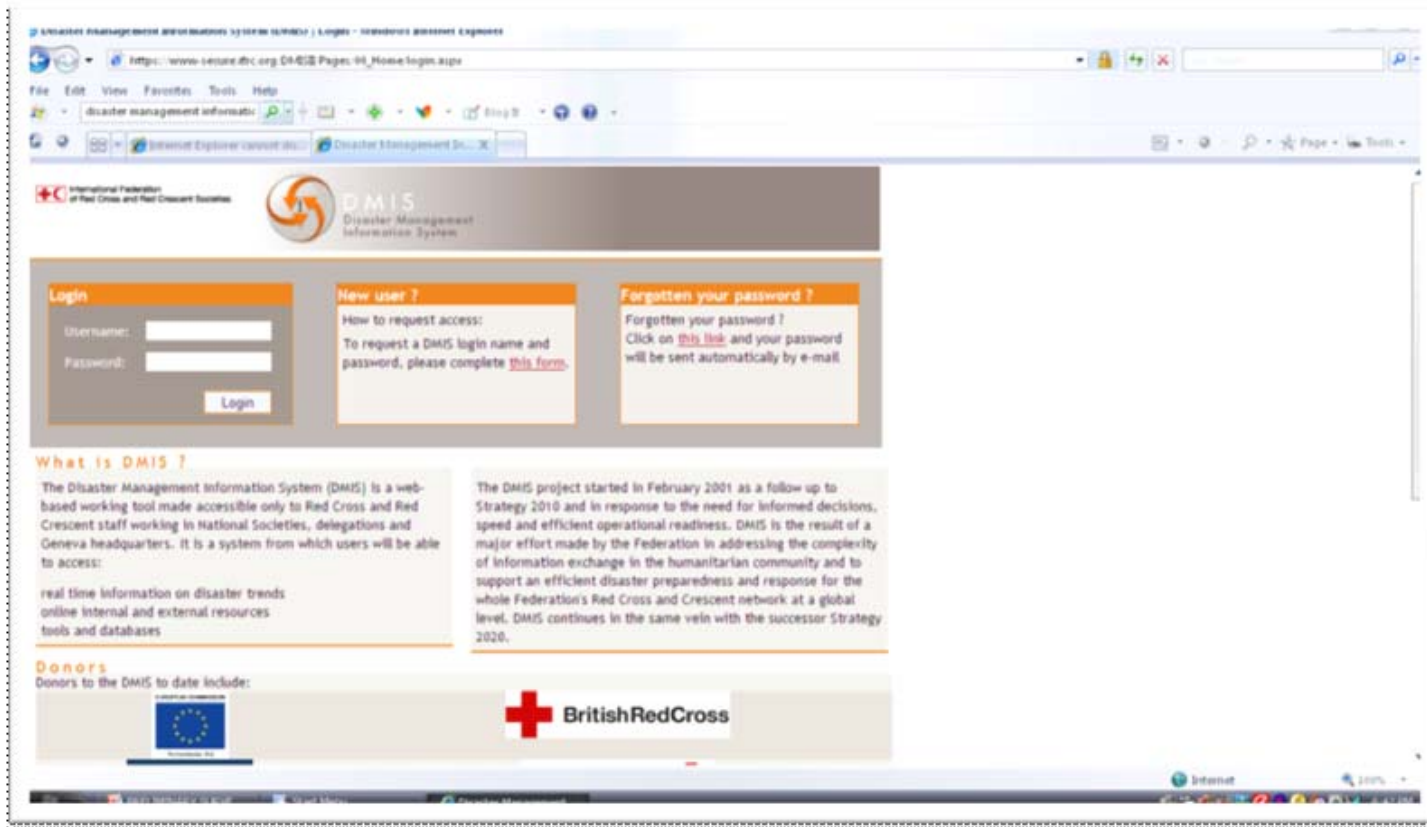
APPENDIX 4

RELATED RESOURCES

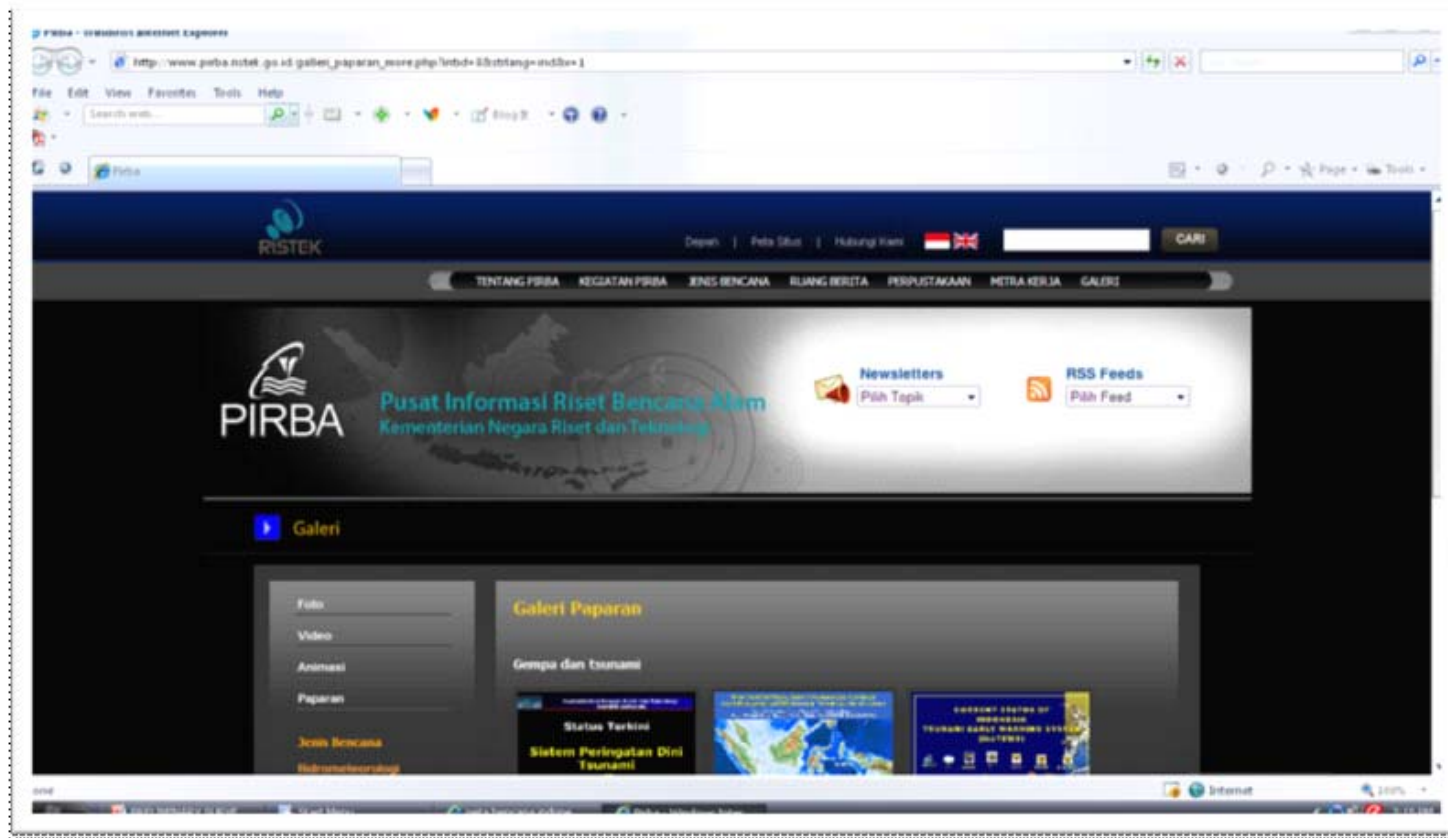
RELATED RESOURCES



Geospasial Badan Penanggulangan Bencana : <http://geospasial.bnppb.go.id>



Disaster Management Information System: <http://www-secure.ifrc.org>



Pusat Informasi Riset Bencana Alam, Kementerian Riset dan Teknologi: <http://www.pirba.ristek.go.id>



Bakosurtanal: <http://www.bakosurtanal.go.id>

APPENDIX 5

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180	Nanny Roedjinandari	Student, GMU

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272	Uncu Syahril	Staff CEVEDS International
273	Vanny Suitela	CRCS, GMU, Yogyakarta
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279	Widodo	UII
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293	Zulkarnaen Syri Lokesywara	Lecturer

APPENDIX 6

ORGANIZING COMMITTEE

ORGANIZING COMMITTEE**Person in Charge**

Prof. Dr. Irwan Abdullah

Steering Committee:

- Prof. Dr. Irwan Abdullah
- Prof. Dr. Ir. Edhi Martono, M.Sc.
- Prof. Dr. Abdul Halim, MBA., Akt.
- Prof. Dr. Heddy Shri Ahimsa Putra
- Dr. Zainal Abidin Bagir
- Dr. HA..Sudibyakto, M.S.
- Dr. Wening Udasmoro
- Dr. Agus Indiyanto

Operating Committee :

Head : Prof. Dr. Ir. Edhi Kartono, M.Sc.

Coordinator : Drs. Supriyanto, M.P.A.

Coordinator

Panel Discussion : Emil Karmila, M.A.

Secretariat : Ana Anggraini, M.Hum.

Nugroho Sukarno P.

Siti Nurhidayah, M.Hum.

Endah Setyaningsih, S.Psi.

Contact to Speaker : Emil Karmila, M.A.

Ana Anggraini, M.Hum.

Nugroho Sukarno P.

Treasury : Siti Rochani

Padlan Hanafi

Discussion and

poster session : Paramitha Dyah Fitria Sari, M.Hum.

Dhesta Titi Raharjana, M.Si.

Indri Sugiarti, M.Kom.

**Facility, Perlengkapan,
and Decoration**

Coordinator : Sapto Suwono, B.A.

Team : Pardiana and team

Suhardi and team

Consumption : Siti Wiratmi, S.E., M.P.A.

Sri Partiyani

Documentation and IT	: Ririt Yuniar, M.Hum. Puji Widodo, M.Kom.
Poster/ Backdrop	: Paramitha Dyah Fitriasari, M.Hum. Pudji Widodo, M.Kom.
Certificate	: Pudji Widodo, M.Kom. Indah Yuli R., A.Md.
Transportation and Hotel	: Sugiyarso, S.E. Sri Suharjo Ali Chaedori
Public Relation	: Arni Wistriyatun Endah Setyaningsih, S.Psi.
MC	: Emil Karmila, M.A.
Co- MC	: Ana Anggraini, M.Hum. Arni Wistriyatun
Moderator Proceeding	: Team Steering Committee Raditya Jati, S.Si., M.Si. Dyah Hisbaron, S.Si., M.T., M.Sc. Utia Suarma, S.Si., M.Sc. Ari Retnowati, S.Si.
Security Soundsystem	: Agus Ratno and Team Ngadiman Suberono
Electricity	: Margono Sigit Subronto
Guest L.O	: Asri Supeni Riwayanti, S.I.P. Siti Wiratmi, S.E., M.P.A. Siti Rochani Suratmi Sapto Suwono, B.A. Sugiyarso, S.E. Nugroho Sukarno P. Sutarno Trijasa Pri Juwandi (counter)

Front Desk : Sudilah
CU Suyati
M. Eko Erwanto
FX. Triyanto
Sugiharno
Retno Nurani

Stand, leaflet SPs,
Poster session : Dhesta Titi Raharjana, M.Si.
Pradiastuti Purwitorosari, S.S.
Indah Yuli R., A.Md.

APPENDIX 7
DOKUMENTARY PHOTOS

DOCUMENTARY PHOTOS













