



INDONESIA

NATIONAL INFORMATION
PREPARED FOR
WORLD CONFERENCE ON DISASTER REDUCTION
(WCDR 2005)

NATIONAL COORDINATING BOARD FOR DISASTER MANAGEMENT
AND INTERNALLY DISPLACED PEOPLE AFFAIRS
(BAKORNAS PBP)

INTRODUCTION

1.1 Background

Geographical location and geological condition of Indonesia have made this country one of the most potential countries but at the same time prone to disasters such as earthquakes, tsunamis, floods, landslides, cyclones, and volcanic eruptions. In general, disasters occur every year. Even in recent years, disasters have become more frequent and taken place one after another.

Besides, the big population (over 220 million people) has also resulted in disasters caused by human behaviour such as fires, forest fires, pollution, environmental degradation and the likes.

Similar to other countries, Indonesia is also susceptible to several hazards caused by failures of technology and transport in addition to epidemics.

The above condition is outlined below which indicates that most disasters, whether induced by human or by nature, in 2003 took place all year long and largely happened in Java, to be followed by Sumatera and Kalimantan. Flood and landslide, as well as drought are the most frequent disasters (Table 1).

Table 1
Types and Time of the Disaster Occurrences in 2003

| No | Type of Disaster | Event (frequency) | People Affected |
|----|-------------------|-------------------|-----------------|
| 1 | Flood | 229 | 416 |
| 2 | Landslide | 106 | 201 |
| 3 | Fires | 91 | 26 |
| 4 | Earthquake | 27 | 47 |
| 5 | Typhoon | 42 | 3 |
| 6 | Volcanic Eruption | 13 | 0 |
| 7 | Others | | |
| | Total | 687 | 2,409 |

Source: Bakornas PBP, 2004

The varieties of social culture, ethnicities, religions, and beliefs as well as economic and political situation in Indonesia are resources of the nation. However, the diversity is also potential to be the source of disasters in the form of social conflicts that in turn manifest into violent riots. Terrorists' attacks are also threats that have proven to cause national as well as international disasters.

Eventually disasters cause damages and material losses and even deaths as well as displacement of a big number of people and disruption to socio-economical livelihood of the population.

The National Information is prepared to provide highlights of disaster threats in Indonesia and efforts that have been, are being, and are not yet undertaken by the government and the civil society.

1.2 Objectives

This National Information is intended to provide a factual overview of disaster management measures in Indonesia, particularly the success stories, constraints and the progress in reducing disaster impacts, having been or being performed both by the government and the civil society.

This National Information is prepared in response to the request of the United Nations – International Strategy for Disaster Reduction in the framework of the World Conference for Disaster Reduction to be held in Kobe, Japan on 18-22 January 2005.

1.3 Outline

This National Information is prepared following the guidelines set by the UN-ISDR as follows:

- a. Introduction
- b. Political Commitment and Institutional Aspects
- c. Risk Identification
- d. Knowledge Management
- e. Risk Management Application/Instruments

- f. Preparedness and Contingency Planning
- g. Good Practice in Disaster Risk Management
- h. Priorities to Address at WCDR

II. POLITICAL COMMITMENT AND INSTITUTIONAL ASPECTS

Are there national policy strategy and legislation addressing disaster risk reduction?

Yes, Indonesia has established a policy and strategy on disaster management and regulation concerning disaster risk reduction. Regulation is not yet embodied in an integrated disaster management public act but is found in separate sectoral acts.

2.1 Policy and Strategy

The national policy on disaster management has been designed and regulated by the Government of Republic of Indonesia in the National Development Plan.

The National Policy and Strategy are as follows:

- a. To strengthen public awareness and preparedness of local government with the priority on disaster prone areas;
- b. To disseminate hazard zone mapping to the local level and its integration to land use planning;
- c. To strengthen the capability in disaster detection by providing infrastructure and human resources;
- d. To develop disaster management information system;
- e. To strengthen people capacity through training and education;
- f. To establish integrated rapid and accurate response mechanism;
- g. To issue procedures and guidelines in disaster management; and
- h. To prepare legislation in disaster prevention and response.

The policy and strategy of disaster management require an update to adjust with the latest development.

The future policy and strategy of disaster management are expected to encompass the following:

- Accommodate the issues stipulated in the Yokohama Strategy Plan of Action;
- Increase the roles and responsibilities of local government and the community on disaster management; and
- Increase the local capacity in anticipating, responding, and rehabilitating disaster impacts.

2.2. Legislation

Legislation on disaster management in Indonesia does not exist at the moment. The regulation on disaster management, however, is stipulated in several sectoral regulations such as Public Acts on Spatial Planning, Water Resources, Environment, Forestry, Epidemics (Public Act no 4 Year 1984), Government Regulation on Disease Outbreak (GR no 40 Year 1991) and others.

Proposition for drafting the regulation on disaster management has been submitted. But, with the change of government system and political condition, the draft is no longer relevant and thus requires an adjustment.

The constraints of formulating the regulation on disaster management, among other things, are:

- Numerous legislation drafts are being proposed to the parliament. Whereas there are other drafts of a higher priority, it will take a long time before the deliberation on disaster management legislation draft; and
- The disaster management legislation should serve as the umbrella to the sectoral legislations relevant to disaster management which has been enacted.

The people's demand on regulation on disaster management is urgent, considering the increasing intensity of disaster occurrences, whereas the disaster management measures undertaken do not have a clear legal basis. For this purpose, there is a need

for a legal breakthrough such as the formulation of a public act on disaster management. As it is urgently needed, an interim measure can be taken by formulating government regulation substituting the public law on disaster management. Related efforts have been undertaken such as conducting a comparative study in other countries which already have enacted such a legislation. Currently the academic draft of such a public act is being formulated.

2.3. Institutional Aspects

Is there a national body for multi-sectoral coordination and collaboration in disaster risk reduction, which includes ministries in charge of water resource management, agriculture/land use and planning, health, environment, education, development planning and finance?

Yes, Indonesia has set up a national coordinating board with the membership of the ministers concerned with disaster management encompassing prevention, response and recovery. The board was established in 1966.

From an institutional point of view, the Indonesian Government has appointed an institution or a body for disaster management at the national level, currently called the National Coordinating Board for Disaster Management and IDP Affairs (BAKORNAS PBP).

This institution was established in 1967 through a Presidential Decree. In the beginning, this institution was a part of the Ministry for Social Affairs, mainly mandated for handling natural disasters. Then, in 1990 the coordination of disaster management was taken up by the Coordinating Ministry for People's Welfare, and the responsibility is no longer limited to only handling natural disasters, but disasters induced by human acts as well. In 2001, the coordinating level of this department was further promoted and the responsibility includes relief responses to impacts of conflict (complex emergency).

The structure of BAKORNAS PBP is as follow:

Chairperson : The Vice President of Republic of Indonesia
Vice Chairperson/Executing Director : Coordinating Minister of People's Welfare.
Members : Minister of Home Affairs
: Minister of Social Affairs
: Minister of Health
: Minister of Settlement and Regional Infrastructure
: Minister of Communications
: Chief Commander of Indonesian Armed Forces
: Chief Commander of Police
: Governor of the affected area
Secretary : Secretary of the Vice President.

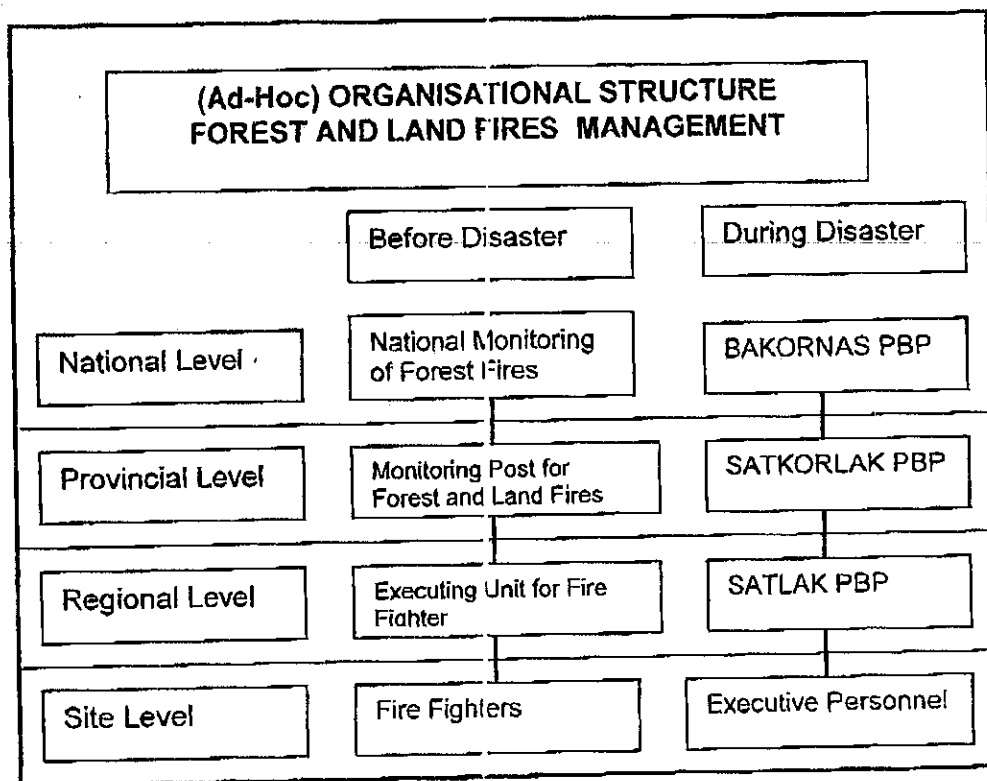
To support the tasks of BAKORNAS PBP, a Secretariat of BAKORNAS PBP has been established to provide support personnel and administration of BAKORNAS PBP.

At the provincial level, the Implementation Coordinating Unit for Disaster Management and IDP Affairs (SATAKORLAK PBP) is established and chaired by the provincial governor and at the district/municipality level the Implementation Unit for Disaster Management and IDP Affairs (SATLAK PBP) is established and chaired by the relevant district head or mayor. At the sub-district level a Task Force for Disaster Management and IDP Affairs is established and chaired by the relevant sub-district head.

From the structure point of view, the institutional arrangement of disaster management system in Indonesia has experienced several fundamental changes. The institutional structure used to be integrated starting with BAKORNAS at the highest level as the function of the central government. At the medium-level of government is Executing Coordinating Post in Disaster and Refugee Management (SATAKORLAK PBP) representing the function of the provincial government which carries the coordination function but also executes the implementation aspects of the policy of its upper level. At the local level there is an Executing Unit representing the function of the Municipality / District Government which executes the duties assigned by BAKORNAS PBP through SATAKORLAK PBP.

The issue confronted at the moment is to deal with the change of the government mechanism which used to be centralistic and becomes de-centralistic, and with the need for a change from a government centric approach to a community based one, which in consequence lead to changes of disaster management system at the regional level particularly at the structure and mechanism of disaster management. Most regional governments are not familiar with disaster management and still hold the opinion that disaster management is the responsibility of government but limited to emergency responses when and if a disaster occurs.

Efforts undertaken by the government at the moment is designing an institution which is in line with the paradigm shift on disaster management, change of government system, the vastness of the country, variety of disaster types, and degrees of difficulties when assessing the affected areas during disaster. For example, when handling forest and land fires, the fire control strategy has been designed through graded control as illustrated in the following diagram:



2.4 National Plan

Are there sectoral plans or initiatives that incorporate risk reduction concepts into each respective development area (such as water resource management, poverty alleviation, climate change adaptation, education and development planning)?

Yes, sectoral plans have adopted disaster reduction concept within their respective domains. Efforts being pursued are to integrate the sectoral activities.

Is disaster risk reduction incorporated into your national plan for implementation of the UN Millennium Development Goals (MDGs) Poverty Reduction Strategy Paper (PRSP), National Adaptation Plans of Action, national Environmental Action Plans and WSSD (World Summit on Sustainable Development) Johannesburg Plan of Implementation?

The disaster risk reduction being performed by respective sectors has not been integrated into a comprehensive national plan.

Nationally, the Indonesian government has formulated National Development Program (Propenas) for the period of 5 years (1999-2004). This program becomes a guideline for each sector and ministerial cabinet, as well as the regional government (provincial and district/municipality) in designing their respective development program within their responsibilities and mandates.

The initiative of incorporating disaster risk reduction concept depends on each sector or ministry, as to how they integrate it into their respective sectoral programmes. In other words, disaster risk reduction measures are still fragmented and embodied in individual sectors.

Efforts undertaken by the government for risk reduction is by designing National Disaster Management Plan, which is currently under construction. In the absence of the National

Disaster Management Plan, disaster management measures cannot be possibly incorporated into the National Development Plan.

It is expected that all sectors concerned with disaster management encompassing the prevention, emergency response, recovery and rehabilitation can complement each other's efforts to bring out a synergy in materializing comprehensive disaster risk reduction concept. For that purpose, National Disaster Management Plan is urgently needed whose preparation involves all related sectors, government, non-government organizations, private institutions, and the civil society.

2.5 Guidelines and Standard Procedures

Does your country have building codes or practice and standards in place which takes into account seismic risk?

Indonesia has enacted a set of regulation regarding building codes as governed by the Act on Building Construction (Act No 28 Year 2002). This public act is elaborated by the derivative regulations specifying the building construction technicalities.

One of the duties of BAKORNAS PBP and the member ministers is to design guidelines and procedures of disaster management in accordance with their respective authorities and responsibilities. BAKORNAS PBP has produced Disaster Management Guidelines prepared in 1994 and improved in 1997. In view of the later development, BAKORNAS PBP again designed a general guideline on National Disaster and IDP Management in 2001.

By referring to the guideline, each sector and the related minister designed their respective technical guidelines on disaster management for their respective work units, such as Ministries for Health, Social Affairs, Settlement and Regional Infrastructure, Energy and Mineral Resources, and others.

Beside the above mentioned guidelines and procedures, the government through the Ministry for Settlement and Regional Infrastructures has issued building codes which

govern the standard and procedures of constructing buildings through Public Act No. 28/Year 2002 on Buildings. The local governments refer to the Act in designing the respective regional regulation which governs the issuance of building construction licenses.

In setting the building codes, the Government through the National Ministry or Regional Section for Settlement and Regional Infrastructure has considered the seismic risk. The application of the building codes is still limited to big and earthquake prone urban areas, while for the rural areas the building codes have not been applied by the local government. Therefore, there is a need for a social campaign on the use of the building codes for the rural areas.

2.6. Budget

Do you have an annual budget for disaster risk reduction?

Annual budgets for disaster reduction are allocated into the budgets of respective sectors, for example the reforestation initiative by the Forestry Ministry, dam construction by Public Work Ministry and other arrangement in other sectors.

For disaster management, the government has allocated budget for disaster response called contingency budget. The fund is allocated for several agencies which have direct relation with emergency responses, namely Social Affairs, Health, Settlement and Regional Infrastructure Ministries and Secretariat Bakornas PBP. The fund is a contingency fund that can be disbursed by the approval of the respective ministers. Basically, the allocated fund is to be used for emergency purposes (food, potable water, health, sanitation, and temporary shelter).

Meanwhile, the disaster management fund for rehabilitation and reconstruction is proposed by each sector following a disaster occurrence. The fund is proposed by each sector is a coordination meeting to be discussed together and allocated in the form of additional fund or for the following year.

Fund allocation for prevention purposes is the responsibility of respective agencies. The use of the fund for prevention and mitigation is not well integrated since each agency performs prevention measures from their respective view points without necessarily considers the link with the other sectors.

At the regional level, several provinces and district/municipality have allocated funds for disaster management but still limited to regions which have financial viability. Most regions have not been able to allocate their contingency fund for reasons of limited revenues.

2.7. Public Participation

Are the private sector, civil society, NGOs, academia and media participating in disaster risk reduction efforts?

The involvement of private sector, NGOs, academia, and media in disaster reduction efforts are quite encouraging. However their involvements are stand alone initiatives calling for their coordination.

People's participation in disaster management in Indonesia is big enough. This is reflected in the number of non-governmental organizations which are concerned with disaster management. The NGOs can work with international NGOs such as OXFAM, MSF, CARE, Save the Children, and others. However, there are many which have been self sufficient, without the need to depend on external assistance, such as Indonesian Environmental Forum (WALHI), Kappala, Dompot Dhu'afa, MPBI (Indonesian Society for Disaster Management). These organizations have been active in various aspects of disaster management starting from prevention and preparedness, response, and recovery.

The Indonesian Red Cross Society has an important role in first aids in every disaster occurrence. The Indonesian Boy Scouts have also formed Disaster Preparedness Boy Scout Team by increasing their skills in delivering medical help first aids during a disaster.

The number of NGOs active in disaster management, mainly during disasters, has created its own problem concerning how to organise them. Most of these NGOs want to deliver their assistance in their own methods. They feel that they are the ones mobilizing assistance and therefore they are the ones to deliver the assistance. There is a reluctance on the part of these NGOs to be coordinated by the government.

People's participation in disaster management currently is fragmented following what each NGO will do lacking integration. Additionally there is a different platform between the government and the NGOs in disaster management. Therefore, there is a need for a regulation that will govern the mobilization and delivery of the resources for assistance to the affected population.

III. Risk Identification

3.1 Hazard Mapping

Has your country carried out hazard mapping/assessment?

Hazard mapping is conducted by the government and non government entities through their respective agencies in line with their individual mandates and responsibilities. For examples, flood mapping is carried out by Public Work Ministry, and landslide mapping is carried out by Mining and Energy Ministry.

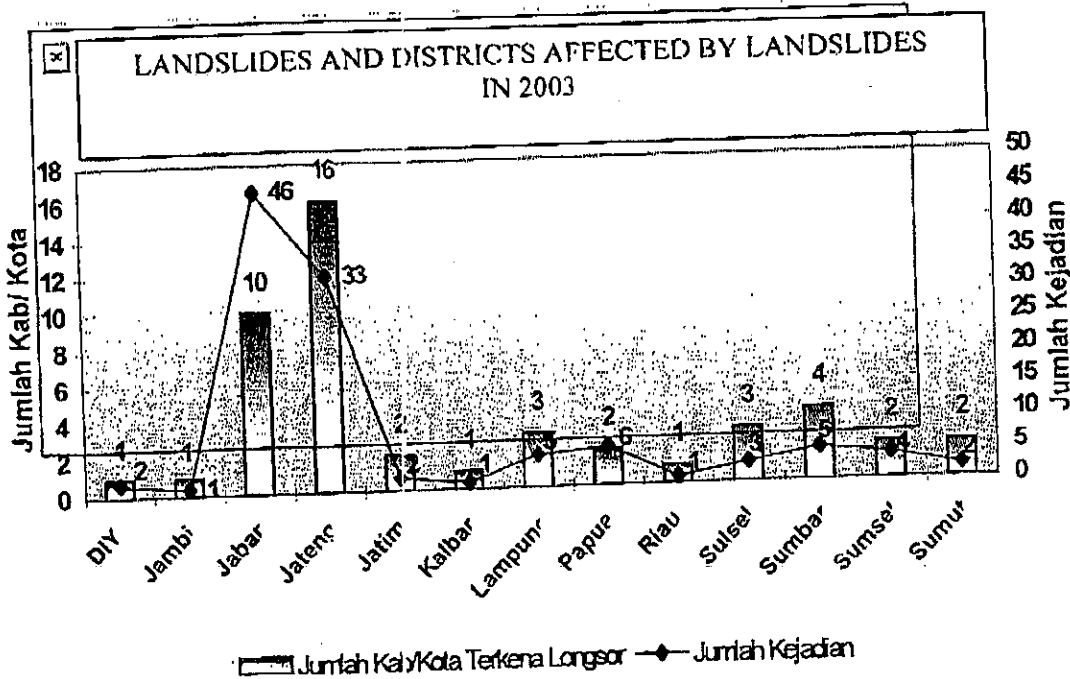
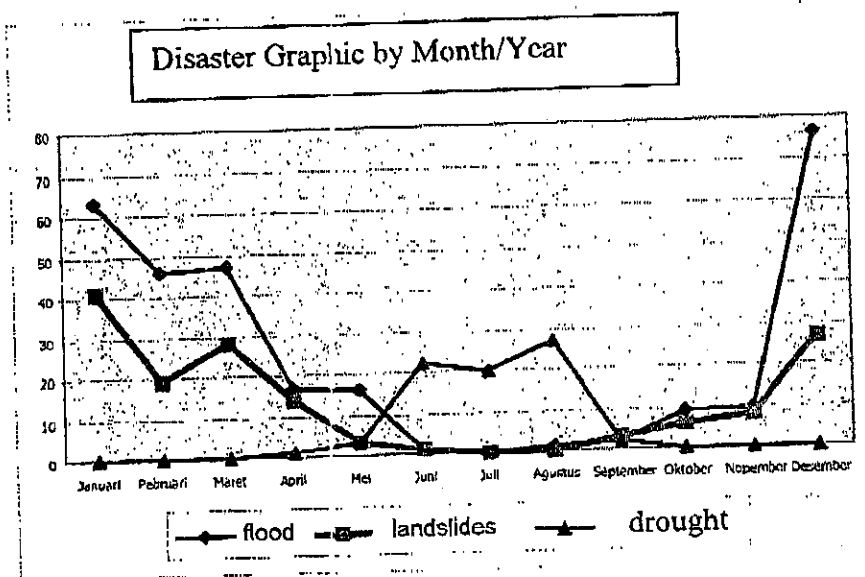
Hazard is a situation, condition, and phenomenon which are inseparable parts of people's lives. When the hazard is imposed to a vulnerable community and the hazards intensity risen, then the hazard becomes a disaster. The disaster could change the pattern of life from a normal life to a damaged one, causing loss of properties and human lives, damage social structure of the community, and develop higher demand on basic needs.

The following are several types of hazards in Indonesia:

- a. Earthquake
- b. Tsunami
- c. Volcanic Earthquake
- d. Tomado and Cyclone
- e. Flood
- f. Landslide
- g. Drought
- h. Forest and Land Fires

- i. Plant Pest
- f. Epidemic, Endemic, and Disease Outbreak
- j. Technological failure
- k. Environment Pollution
- l. Social Riots

The intensity of various disasters in Indonesia can be seen as follows:

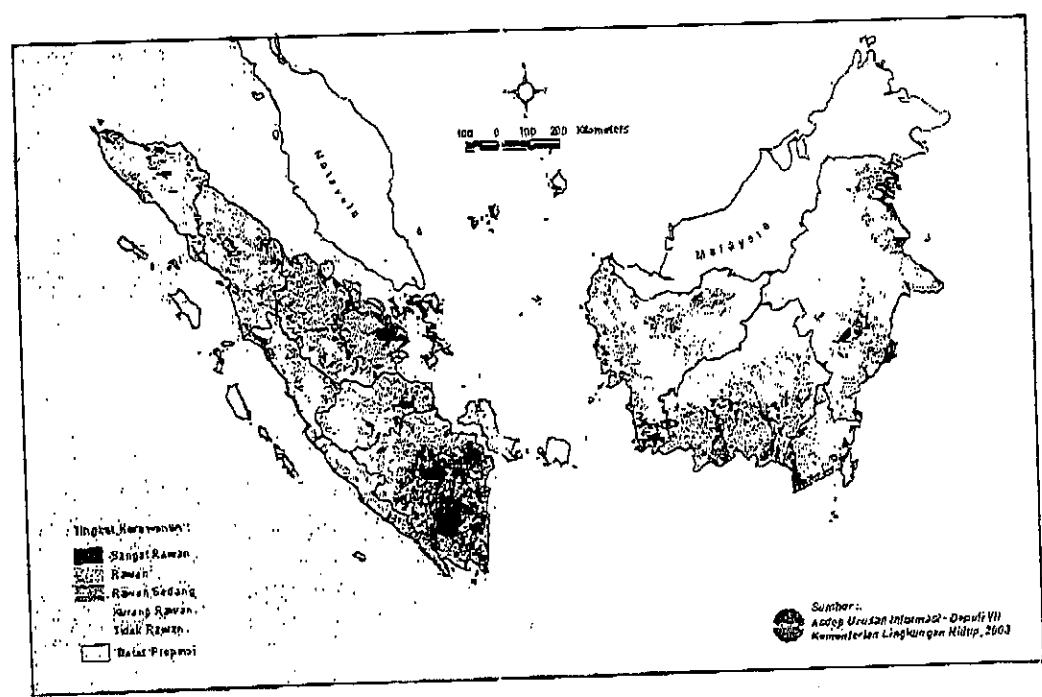


Jumlah Kab/Kota Terkena Longsor = Districts/Municipality Affected by Landslides or we may want to shorten the translation into Affected by Landslides

Jumlah Kejadian = Occurrences

Hazard mapping in Indonesia is still done only for some types of hazards, namely volcanic eruption, floods, earthquake, and landslides. Hazard mapping is undertaken in piece meals by respective sectors. Mapping for volcanic eruption, earthquake, and landslide by General Director of Geology and Mineral Resources, while hazard mapping for floods is executed by Directorate General of Water Resources. The mapping was done in quite a detail up to the scale of 1 to 25,000 in Java and 1 to 50,000 for areas outside Java. BAKOSURTANAL (Coordinating Board for Land Use Survey), an institution which coordinates mapping activities in Indonesia is now integrating several disaster hazard maps into a single unit of maps with similar standardized hazards for easier analysis. Meanwhile, the State Ministry for Environment has also made a map depicting degrees of forest and land fires vulnerability in Sumatera and Kalimantan 2003 for the purpose of preventing and controlling the environmental impacts.

Map of Level of Forest and Land Fires Vulnerability in Sumatera and Kalimantan 2003



Consequently, there are still rooms for activities for hazard risk mapping, including hazard mapping for several other hazards such as drought and other environmental degradation. Additionally, it is necessary to integrate maps of various types of hazards into an integrated map. Subsequently, the established hazard maps need to be shared with the relevant local communities.

3.2 Vulnerability and Capacity Assessment

Has your country carried out vulnerability and capacity assessment?

Vulnerability and capacity assessments are being done in a manner limited to certain areas which have sufficient attentions for disaster management. Normally such assessments are carried out on a project basis.

Vulnerability of Indonesia is due to its geographical location which is quite exposed to hazards and disaster threats. From a socio-cultural point of view, Indonesia has varieties of ethnic groups, cultures, and religions. Narrow understanding and immediate interest have caused the diversity in ethnic groups, culture, and religion to be the source of conflicts.

The inequitable prosperity of the socio-economic condition of Indonesia is potential to create a social jealousy. Inequitable control over sources of livelihood and accessibility coupled with the tendency for malpractice has increased the feeling of injustice. This condition has even enlarged conflict potentials.

Indonesian politics is in the transition from centralistic to de-centralistic paradigm, from more authoritarian to more democratic. This transition is also potential to create conflict. Indonesian capacity on disaster management can be viewed from several dimensions, namely paradigm, policy, structure, mechanism, programs and activities dimensions.

Vulnerability and capacity assessment at the moment is still undertaken mostly in certain local areas not in all areas. Meanwhile, local preparedness for doing the assessment depends on the intensity of the hazard which endangers the area. The higher the

intensity of the hazards, the bigger is the chance to conduct vulnerability and capacity assessment. A study on vulnerability and capacity assessment at national level is urgently needed.

3.3 Mechanism for Risk Monitoring and Mapping

Does your country have any mechanism for risk monitoring and risk mapping?

Risk monitoring and mapping are carried out sector by sector which still require an improvement on their mechanism to design one that is integrated with the need of the local authority.

Up to the present time, mechanism for comprehensive risk monitoring and mapping do not exist yet. The monitoring and mapping are conducted by sector following the mandate of each sector. For geological disasters (volcanic eruption and landslides) the monitoring has been conducted by the Geological and Mineral Resources Directorate General of the Mine and Energy Ministry. Flood monitoring is conducted by the Settlement and Regional Infrastructure Ministry whereas weather monitoring is done by the Meteorological and Geo-physics Agency. Risk mapping to some disaster prone areas is being conducted to enable risk monitoring.

3.4. Socio-economic and Environmental Impact and Loss Analysis

Is there a systematic socio-economic and environmental impact and loss analysis in your country after each major disaster?

There is no analysis made in a post disaster socio economic assessment. Normally, the damage and need assessment is carried out by way of estimation.

Disaster impact analysis is still limited to the one on the direct impacts such as damages and losses after the occurrence of a disaster in several areas. Indirect impact analysis such as an analysis of socio-economic and environmental impacts are rarely undertaken. Such an analysis is limited to the drought analysis conducted by the Agriculture Department.

Therefore, a methodology on socio-economic, environmental, and loss impact analysis is needed for certain disaster types. For this field, a cooperation with an external organization such as ESCAP is needed to help analyze the loss and damage estimate caused by disasters.

3.5 Early Warning Systems

Are there early warning systems in place?

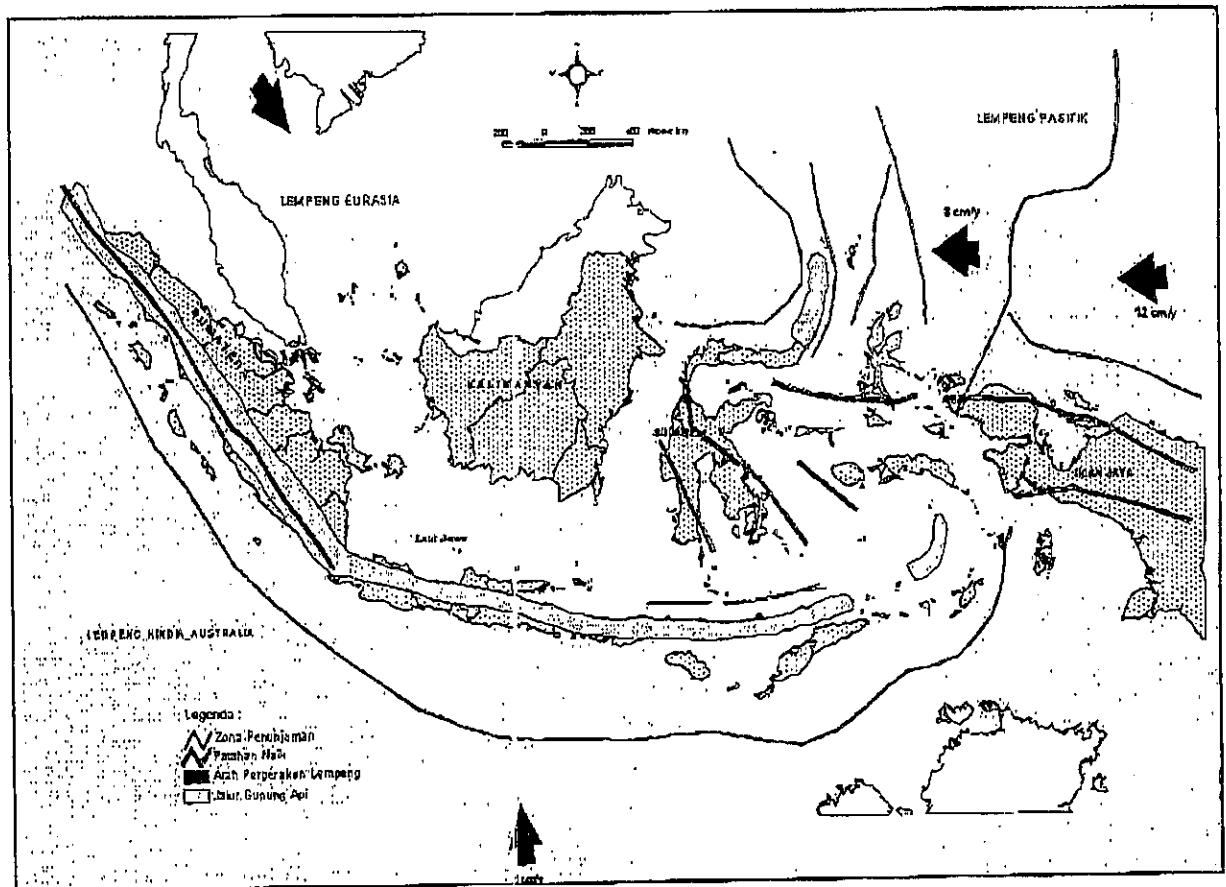
For certain hazards, early warning systems have been employed such as those for volcanic eruption, floods, landslides, and drought. The agencies responsible for the EWS are agencies responsible for observation such as Meteorological and Geophysics Agency, Geological Directorate General of Mine and Energy Ministry, Public Works Ministry, etc

Early Warning System in Indonesia nowadays is only limited to certain types of disaster and areas frequently hit by disasters. The disasters in question include volcanic eruption and flood. The early warning system on volcanoes is run by the government and the community. The government builds monitoring posts quipped with monitoring instruments close to the mountain summit. The information is delivered to the community through the village heads and forwarded to the community through certain signals.

The information of weather forecast is provided on the start of every season (wet and dry seasons) by the Meteorological and Geo-physics Agency to issue a warning to the areas predicted to suffer from excessive rain and drought.

In the health sector, an early warning system on disease outbreak is known to the health personnel at the central, provincial, and district/municipal levels.

Social Affairs Ministry has developed a communication network system in cooperation with the Citizen band using the single side band and also using the toll free number of 8888000 Halo Disaster for reporting and complaining on disasters.

Table 4: Geological and Tectonic Condition of Indonesia

Zone penunjaman = subduction/ obduction zone
 Patahan Naik = Thrust Fault

Similarly for floods, the government has also installed equipment for monitoring on the water table of river surface in several locations. When the water surface has reached a dangerous level, the Irrigation Agency is responsible to disseminate the information to the local government to be further disseminated to the community.

The problem being faced is that not all disaster types can rely on an early warning system such as landslide, earthquake, tsunami, and flash flood. The other problem is that the early warning system is run only by certain institutions but not informed to other sectors and the community.

It is expected that each type of disaster relies on an early warning system by placing observation posts in places prone to disasters. The information obtained from the observation posts is disseminated via a fast and accurate information system to the related sectors and the community.

IV. KNOWLEDGE MANAGEMENT

Does your country have disaster risk information management systems (government and non government)?

Several agencies have information system on risk management. However, the information is not disseminated to the public and not accessible to public.

a. Disaster Risk Information System

Each institution is responsible to develop its own information system in line with its function and mandate. The information system takes the form of websites, bulletin and other communication media such as facsimile and telephone. The information delivered is generally one on details of a disaster and prediction of possible future disasters.

Several government institutions and NGOs who have developed the disaster information system are:

- BAKORNAS PBP (www.bakornasppbp.go.id)
- Meteorology and Geological Agency or BMG (www.bmg.go.id).
- Ministry of Settlement and Regional Infrastructure (www.kimpraswil.go.id)
- Ministry of Environment (www.menlh.go.id)
- Ministry of Forestry
- Ministry of Social Affairs
- Indonesian Society for Disaster Management of (www.mpbi.org)

The problem in developing disaster information system is that each institution develops its own information system based on its main duties. So disaster management is only a small part of the delivered information. The information system developed by BAKORNAS PBP is aimed to integrate all information on disaster available in all

institutions into an inter-related network which is called Indonesian Disaster Management Information System (SIPBI).

Therefore, technical and financial assistance is needed to operate an integrated and inter-related information system of disaster management in Indonesia.

b. Research and Academic Communities

Are the academic and research communities in the country linked national or local institutions dealing with disaster reduction?

Academic and research institutes have conducted numerous researches on disaster risk initiatives. These activities may be a pure research or an applied research in cooperation with other agencies.

Research and study on disasters in Indonesia are undertaken by several research and development institutions of government, private sector, and NGOs. The institutions which conduct research, study, and technological development on disaster include Technological Assessment and Application Institution, Indonesian Science Institute, National Coordinating Board for Survey and Mapping, Geological Research Centre, Meteorology and Geological Agency, Settlement Research Centre, Water Resources Research Centre, and others.

Several academic institutions also develop disaster research centres such as Gadjah Mada University of Yogyakarta, Bandung Institute of Technology, Surabaya 10 November Institute of Technology, University of Pembangunan Nasional Veteran of Yogyakarta, and others.

The constraint being faced in conducting the disaster research and study include lack of public campaign, and lack of facilities, human and financial resources for research. To conduct the research, those institutions usually need to build a cooperation with the users of the results of the research. Additionally, the attention for preventive measures is still lacking.

Specifically for the research and assessment, there are plenty of rooms for donor agencies to provide assistance.

In addition to the research agencies and universities, there are professional associations which are quite active giving attention to the efforts for research in disaster such as Association of Indonesian Geophysical Experts, Association of Indonesian Geological Experts, Association of Indonesian Technical Experts and others.

c. Educational and Training Program

Are there educational programmes related to disaster risk reduction in your public school system?

Little has been done about these programmes. If at all, they are very much limited to pilot projects in several disaster prone areas (tectonic, floods, and volcanic areas).

c1. Educational Programme

Formal education on disaster management in Indonesia at the moment is still at the level of master degree such as master programme of natural disaster management in Gadjah Mada University. For the bachelor degree, disaster management is only part of a curriculum of each department. In the health sector, the subject of disaster related health problems is one of the subjects in the Medical Department and Public Health Department. At the secondary and high schools, disaster management is inserted into the introduction to the school subject of environment.

The problem is that not every school or academic institution has applied the above mentioned arrangement. The insertion of disaster management subject at the secondary and high schools is in experiment particularly in a number of disaster prone areas.

It is expected that education on disaster management be conducted at every level of education starting from elementary to secondary school beginners, and university.

Certain academic institutions (particularly in disaster prone areas) are expected to be centres of excellence for research and study on specific disasters such as University of Bengkulu which becomes an earthquake research and study center.

c 2. Training

Are there any training programs available?

Yes, there have been many training programmes organized by various parties be they government agencies or non government entities.

Training on disaster and emergency management has been frequently held either for a general subject (integrated) or technical subject (sectoral). The training is conducted at the national, provincial, and regional levels. Training materials are adopted from the curriculum of UN organizations and international training institutions (WHO, UNICEF, UNHCR, UNFPA, ADPC, Columbia University, PAHO, and others) which are adjusted to the condition of Indonesia. The BAKORNAS PBP is standardizing a general training curriculum and module based on all existing training programmes. The training is conducted for different levels including: decision/policy makers, executive managers, and field operators. There is a need for grading the disaster management training.

The problem encountered is the change of personnel at the regional level. The executive managers of disaster management at the regional level frequently have to undergo transfer of duties from one unit to another. This has caused a gap to the learning process at the regional level. This condition happens as the disaster management unit at regional level is not a permanent one, but only a functional unit serving as the coordinating point of related units.

The Government plans to organize disaster and emergency management training at the regional level reaching districts and cities. The purpose of such training is to promote the local capacity to overcome disaster threats in their respective area. Moreover, through NGOs this training is expected to reach villages and their communities.

d. Traditional Indigenous Knowledge

What kind of traditional indigenous knowledge and wisdom is used in disaster related practices or training programs on disaster risk reduction in your country?

Generally, people employ traditional techniques in managing disasters in their own areas.

In a number of areas, the local people use traditional indigenous knowledge to manage disasters. Following the progress of knowledge and technology, which rely on the use of new techniques in disaster management, this traditional indigenous knowledge is increasingly put aside.

The government and NGOs keep trying to promote the use of the traditional knowledge through training and public campaigns to the communities.

e. Public Awareness

Do you have any national public awareness programs or campaigns on disaster risk reduction?

Public awareness has been organized but relatively still insufficient relative to the vastness of the country and the number of its population.

Public awareness program in Indonesia is undertaken on a sectoral basis by the Government, private sector, and non-government agencies /institutions. The programmes and activities are generally project oriented. If a project ends, the programme and activities end as well.

Considering that public awareness is very important as a part of disaster prevention, there is a need to mainstream it, for the sake of the sustainability of the programme and activities to increase preparedness, by establishing a single institute (such as National

Information Institute) which periodically provide information of disaster prediction to the local government and the general public.

V. RISK MANAGEMENT APPLICATIONS

Is there any good examples of linking environmental management and risk reduction practices in your country?

Many programmes implemented by the government and the civil society geared towards environmental improvement and damage prevention such as reforestation, mangrove replanting, land rehabilitation, etc. However, the law enforcement is still weak as reflected by the high rate of illegal logging, unofficial mining, etc.

a. Environmental Management and Risk Reduction

The cause of environmental degradation is often found in Indonesia is the change of land use, especially in areas which are supposed to function as a protection area to function as a cultivation area. Violations toward the spatial plan keep occurring which cause environmental degradation and in turn, disasters. Therefore, environmental improvement absolutely has to be initiated.

One of environmental management example related to disaster reduction is National Forest and Land Rehabilitation Programme. The purpose of this programme is to restore the environment through national rehabilitation and reforestation of critical land. The rate of forest destruction which annually ranges from 1.6 to 2 million hectares of land has caused hydro-meteorological disasters such as flood, landslide, and drought. This programme is run in an integrated manner by involving the people, private sector, and government institutions (at national and regional levels) The national programme is managed by the people pioneered by the armed forces. In a five year time (2003-2007) the rehabilitation target is 3 million hectares of land, whereas the destroyed forest reaches 43 million hectares.

In addition to the environmental improvement by the Government, the regional government and NGOs also run advocacy, public awareness and mass mobilization for replanting.

The problem is that forest and land rehabilitation effort is much smaller than the existing environment destruction. Therefore, this programme needs to be integrated with the effort to prevent illegal logging at the water catchment area. In short, more land needs rehabilitation demanding quite a big budget and resource mobilization.

b. Financial Instrument

Are financial instruments utilized in your country as a measure to reduce the impact of disasters?

There is no financial instrument designed for disaster reduction.

Up to now, no financial instrument, such tax reduction for institutions which attempt for environmental and disaster management activities, has been used for disaster management. Several private companies have performed such activities, not mainly for gaining tax reward from the government, but due to the need and concern of the companies.

Meanwhile, financial instrument available at the moment is retribution or fee to compensate for exploiting natural resources, such as logging fee, mining fee, and the likes. On the other hand, compensation for environmental rehabilitation efforts has not properly received attention. Therefore, a financial instrument is needed to give appreciation or reward to companies or community who have concerns on disaster prevention and reduction.

c. Technical Measures in Disaster Reduction

Please identify specific examples of technical measures or programmes on disaster risk reduction that have been carried out in your country.

Technical measures in disaster management have been done both by the government and the community, such as the construction of sabo dams, terracing, river dikes, and earthquake resistance houses. However, the technical measure are still implemented at local and sectoral levels, not in a comprehensive manner. Therefore, an integrated effort is needed to incorporate the sectoral efforts into a disaster management framework. A disaster management plan is therefore required for local (district/ municipality) level.

VI. PREPAREDNESS AND CONTINGENCY PLANNING

a. Contingency Plan

Do you have disaster contingency plans in place? Are they prepared for both national and community levels?

At the national level, there is no integrated contingency plan but in some cases and at regional (provincial and district/municipality) level contingency plans have been established.

Preparation of a contingency plan in Indonesia has not been much administered, and is only implemented in several areas and being trained. Training on contingency plan has already conducted by BAKORNAS PBP in cooperation with UNHCR which was followed by pilot activities in several areas such as Nanggroe Aceh Darussalam and East Lampung District. At the community level, contingency plan is already implemented by the respective communities in cooperation with NGOs such as Care, ACF, ITB, World Vision, Oxfam, and Kappala) to handle hazards.

Considering the numerous disaster threats in Indonesia, whether induced by nature or social conflicts, training for preparing a contingency plan by respective regions is needed for disaster prone areas.

b. Emergency Fund

Has your government established emergency funds for disaster response and are there national or community storage facilities for emergency relief items, mainly food, medicine, tents/shelters?

Emergency fund at the national level is allocated for ministries related to emergency responses such as Health, Social Affairs, and Public Work Ministries. Whereas the arrangement at the regional level very much depends on the capacity of individual regions.

For disaster management, the Government has allocated an emergency fund in several sectors/ministries related to emergency responses. The ministry in question is Social Affairs Ministry, which is mandated to provide food assistance and other social assistance. Health Ministry is responsible to provide health and medical care services on emergency situations, and Settlement and Regional Infrastructure Ministry is responsible providing temporary shelters, sanitation, potable water, and emergency reconstruction of critically required infrastructure.

The budget allocated is a contingency budget which can be disbursed by the respective ministries through the endorsement of the Finance Minister following a relevant decision in a cabinet meeting. Additionally, BAKORNAS PBP manages an emergency fund which can be used to initiate the operation of the Satkorlak PBP (at the province level) and Satlak PBP (at the district/municipality level). Therefore, often times when a disaster strikes, the affected area is not prepared with an emergency contingency fund requiring an initial fund to initiate the operation of disaster responses. Emergency fund is also made available by the Government in an in-kind form such as rice, medicines, and side dish.

The problem with emergency fund is its too limited amount when compared to the costs for responding to the emergency situation. Provision of the emergency fund is found at the national level and in some "rich" regions having excessive routine and operational budget which enables the concerned regions to put aside an emergency fund.

c. Coordination in Disaster Responses

Who is responsible for the coordination of disaster response preparedness and is the coordination body equipped with enough human and financial resources for the jobs? Please comment on the effectiveness of the coordination work done so far.

Bakornas PBP is the responsible institution in disaster management encompassing prevention, response and recovery. But in the implementation, the operational budget still stays with the respective ministries. Coordination often is not effective since the Bakornas PBP is not mandated to determine the budget allocation.

Coordination in disaster responses is done by the Government in a graded manner starting from the national level to the provincial level and district/municipality level through the mechanism of Bakornas, Satkorlak and Satlak. Satlak together with the community at the district/municipality level is responsible for directly handling every disaster occurrence. When the disaster is beyond their coping capacity, Satlak will ask for the help of Satkorlak and Bakornas. If the disaster intensity is so big and of a national scale, the disaster management is taken by Bakornas. In the health sector, the Health Ministry cooperates with the Military Health Centre, Police, Indonesian Red Cross, by sending their Combined Health Team to the disaster site.

The problem being faced nowadays is the change of the government system from one which is centralistic to a de-centralistic system. With such a change, the regional government has the full authority to set its own institutional arrangement. Consequently, the unit authorised for disaster management in the region is very much determined by the policy of the respective region. Sometimes the authority is quite big, but there are many cases where the unit is only a small part of an organization unit whose authority is very small.

VII. GOOD PRACTICES IN DISASTER MANAGEMENT

Please provide at least two examples (one page per example)

Paguyuban Sabuk Gunung Merapi, Mount Merapi

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The establishment of this organization is related to the volcanic eruption affecting Turgo, Pakem of Sleman District, Yogyakarta in 1994. Local non-governmental organizations and nature lovers' groups were involved in providing relief responses for the victims of the eruption. The local government urged the residents of Turgo to leave the area to be resettled somewhere else, which was received with some resistance by the community. Kappala was among the groups advocating that the population defend their rights to stay. Kappala personnel lived with the community to give moral support and to conduct a hazard spatial study in 1994 - 1995. The study resulted in identification of the risks of living in disaster prone areas but also identification of safe and unsafe areas.

The results of the spatial study were deliberated in a community gathering during which the case of Mbok Sami was brought forward for discussion. Mbok Sami survived because she fell to the ground during the attack of hot clouds and she was covered by some bamboo wall. The wall protected her from the hot clouds. The lesson learned is that natural hazards could be managed. The results of the study, highlighting the risks of living in disaster prone areas explain the adaptation by the population. The study, which identifies safe and unsafe areas combined with the lesson learned from the case of Mbok Sami, have encouraged the gathering participants to take a pro-active stand against natural hazards.

The community gathering was followed up by the establishment of a Komunitas Merapi (Merapi Community) with members of 10 hamlets within the province of Yogyakarta. The community was the embryo of PASAG. Following Merapi's eruption in 1997, Kappala invited relevant local NGOs and nature lovers' groups involved in Turgo relief to participate in a community workshop facilitated by Kappala in 1998. Results of Kappala's study on hot clouds referring to the accounts of eyewitnesses were deliberated to promote pro-activeness in confronting natural hazards. The workshop was instrumental in expanding the membership and coverage of the Komunitas to be called Paguyuban Sabuk Gunung (PASAG) Merapi.

The organisation started with the membership of residents of 10 hamlets. These hamlets represent the ones located at the highest inhabitable altitude around the "hip" of Merapi. They are parts of 8 villages within 4 sub-districts of 2 districts under the territory of 2 provinces. The organisation has now grown to involve 61 hamlets of 20 villages within 4 districts. The common theme binding the different hamlets is their recognition of living in the Merapi area. This recognition is very much reflected by the vision of this organisation being Nyawiji mrih lestari rinengkuh Merapi (be united for sustainability embracing Merapi). The hamlets and their population are aware that PASAG is not only their individual respective hamlets but involves a network of hamlets. The name of the organisation suggests a belt-like membership network of hamlets embracing the volcano.

The membership of the organisation has stemmed from the hamlets of highest altitude. One village normally only has one highest hamlet. Therefore for one highest-altitude hamlet to form an alliance, if it has to follow the government administration system, then it would follow the sub-district grouping. However, at the organisational level, the coverage areas are divided by the alignment of the mountain slope, which is the western slope and the southern slope. Each of the slope alignment areas covers districts of different provinces. There has been a discussion among the members to

arrange the clusters following the river course considering that the lahars and hot clouds flow along existing rivers.

Throughout the growth of PASAG, the hamlets have influenced their counterpart hamlets of the same village to join the organisation. The expansion of membership within a village was undertaken to increase the capacity of the respective vulnerable hamlets to mitigate future disasters as the non-vulnerable hamlets of the same village will provide refuge when the population of the vulnerable hamlets will have to evacuate. Other hamlets, which are not vulnerable, voluntarily join the organisation to provide mutual help. The residents of the non-vulnerable hamlets who join the organisation also feel that they gain benefits such as networking and training opportunities made possible through the organization.

PASAG recognizes that different problems are faced by different hamlets and therefore leaves the specific solutions of specific problem variants to each hamlet or village or kecamatan. Nevertheless the commonalities of the problems have enjoined the different hamlets into one community. Smaller communities into a big community. The maintenance of the big community will, therefore, have to depend on the maintenance of the shared problems. Losing commonalities of the shared problems will lead to disengagement of the big community.

The shared problems are formulated into issues. Problems of natural hazards lead to the identification of an issue regarding the rights to remain inhabiting the zones declared to be restricted by the government. Problems of non-participatory development lead to environmental hazards threatening sustainable utilization of natural resources by the community. These issues boil down to the main issue of social injustice. The PASAG, originally established to empower the community in taking a pro-active stand towards natural hazards, turns into a social movement which empowers the community to deal with not only hazards of Mount Merapi but the hidden issue of hazards toward Mount Merapi.

Risk Analysis competence has been instrumental in the process of identification of problems and, in turn, issues. This observation suggests that Risk Analysis is not only to be used for dealing with natural hazards but transferable to other types of problems. Its competence, rendering a sense of control in the hands of the community, has contributed significantly in empowering the community. Risk Analysis, therefore, is recommendable for a community development attempt as long as such an attempt is recognized as one of community empowerment.

VIII. PRIORITIES TO ADDRESS AT WCDR

Priorities you want addressed at WCDR

Please list any other thematic areas or specific areas of discussion that you consider of importance to increase the effectiveness of disaster risk reduction for your country.

In view of the circumstances, issues, challenges and strengths encountered by Indonesia as detailed in the earlier part of this document, the country would need to pursue further initiatives to improve its disaster management particularly on the following areas:

a. hazard mapping

An update of hazard mapping would have to be done across the country. The update would also provide an opportunity to integrate the currently fragmented hazard maps. The dissemination of the results of the exercise to the relevant institutions and make the results accessible to them would positively influence the subsequent planning of the institutions which would better ascertain disaster prevention and mitigation.

b. socio economic impact assessment

Such an assessment would be important to feature the relationship between disaster management and development. This will condition policy and decision makers place disaster management in the agenda of development framework and therefore lending it the appropriate priority.

c. enabling system/legislation

Revitalising and updating the system and legislation that will enable preventive and proactive disaster management are the other priority that needs to be addressed by Indonesia. The efforts and process to bring out such system and legislation will also serve as public education to alter people's view point that a disaster is the act of God for which human beings have no control whatsoever.

d. human resources development and capacity building

The capacity building efforts, including training, for disaster management proponents be they government personnel or civil society components, should be administered by taking into account the institutional and/or environmental contexts required for the individuals and/or institutions to better perform their respective responsibilities and tasks

leading toward the mastery of required competencies in disaster management. In other words, training or capacity building is to be managed in a tailor made manner.

e. national disaster management plan

The need for a national disaster management plan, which lays out the policy, strategy and procedures of disaster management, is indisputably very relevant. Particularly considering that the country has recently shifted its government system from a centralistic administration to a de-centralistic one, changing the power sharing and authority in public administration, including the one for disaster management.

Additionally a strategic plan on disaster management is also needed to lay-out the priorities and targets of disaster management measures in the next few years including their requirements for financial inputs.
