

**NATIONAL DISASTER MANAGEMENT
AGENCY (BNPB)**

**THE STUDY
ON
NATURAL DISASTER MANAGEMENT
IN
INDONESIA**

FINAL REPORT

VOLUME 2:

MAIN REPORT

VOLUME 2-1: STUDY ACTIVITIES AND FINDINGS

MARCH 2009

JAPAN INTERNATIONAL COOPERATION AGENCY

**ORIENTAL CONSULTANTS CO., LTD.
ASIAN DISASTER REDUCTION CENTER**

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Foreign Currency Exchange Rates Applied in the Study

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(Rate as of October 1, 2008)

PREFACE

Based on a request from the Government of Republic of Indonesia, the Government of Japan responded by providing a development study to formulate the comprehensive disaster management plan on national and regional levels of Indonesia, and also to enhance the capacity for disaster management. This study was conducted by the Japan International Cooperation Agency (JICA).

For this study, JICA sent a team headed by Mr. Isamu Gunji of the joint venture of Oriental Consultants Co., Ltd. and Asian Disaster Reduction Center, between April 2007 and December 2008. In addition, JICA also set up a monitoring mission to examine the study from specialist and technical point of views.

The team held discussions with the officials of the Government of Indonesia. They also conducted field surveys at the study areas. The final report and further studies were performed after the team returned back to Japan.

I hope that this report will contribute to the promotion of the project in Indonesia, and also enhance friendly relationships between our two countries.

Finally, I would like to express my sincere appreciations to the officials of the Government of Indonesia for their close cooperation extended to the study team.

March, 2009

Ariyuki MATSUMOTO

Vice-President

Japan International Cooperation Agency

March 2009

Mr. Ariyuki MATSUMOTO
Vice-President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

Dear Sir,

We are pleased to inform you that the team has finalized the study for formulating the comprehensive disaster management plan on national and regional levels of Indonesia, and development of capacity for disaster management. And the final report, “The Study on Natural Disaster Management in Indonesia” has been submitted.

The study was performed from March 2007 to March 2009 by the joint venture of Oriental Consultants Co., Ltd. and Asian Disaster Reduction Center in accordance with the contracts between the Japan International Cooperation Agency and the joint venture. During the study, the team devoted their best efforts for formulating the comprehensive disaster management plan on national and regional levels of Indonesia, and development of capacity for disaster management.

All members of the study team wish to express their sincere appreciations to the personnel of your agency, monitoring mission, and the Embassy of Japan in Indonesia, and also to the officials of the Government of the Republic of Indonesia, Badan Nasional Penanggulangan Bencana (BNPB), SATKORLAKs of East Java Province and West Sumatra Province, SATLAKs of Kabupaten Jember, Kabupaten Padang Pariaman and Kota Pariaman including other related agencies for their cooperation extended to the study team.

The team sincerely hopes that the results of the study will contribute to the promotion of disaster management plans on national and regional levels of Indonesia.

Yours faithfully,

Isamu Gunji
Team Leader

The Study on Natural Disaster Management in Indonesia

THE STUDY ON NATURAL DISASTER MANAGEMENT IN INDONESIA

OUTLINE

1 SCOPE OF THE STUDY

1.1 Background of the Study

On December 26, 2004, the countries surrounding the Indian Ocean suffered unprecedented damage by a giant earthquake of magnitude 9.0 with a hypocenter in the coast of Sumatra in Indonesia and a sequent tsunami. The international community offered massive aid to assist in disaster recovery, and Japan also executed international emergency relief operations and urgent rehabilitation and reconstruction support.

In July 2005, the President of Indonesia H.E. Susilo Bambang Yudhoyono and the Prime Minister of Japan H.E. Junichiro Koizumi recognized that capacity development for reducing damage by natural disaster including earthquake and tsunami are priority issues for Indonesia, and agreed to establish the “Committee on Disaster Reduction” in order to mitigate natural disasters in Indonesia and strengthen cooperation to develop a disaster reduction system.

Under these circumstances, the Government of Japan agreed to the request of Government of Indonesia, and decided to implement the Study for formulation of comprehensive disaster management plan on national and regional levels of Indonesia and development of capacity for disaster management.

In December 2006, the Japan International Cooperation Agency (“JICA”) dispatched the Preparatory Study Team to Indonesia for the preliminary survey as well as discussion of the Scope of Work for the Study. Between the Preparatory Study Team and the National Coordinating Board for Disaster Management (“BAKORNAS PB”), the Scope of Work and the Minutes of Meeting were agreed on December 11, 2006.

This Study was conducted from March 2007 to March 2009 in accordance with the Scope of Work.

BAKORNAS PB was reformed to BNPB in 2008 during the Study.

1.2 Objectives of the Study

The overall goal of the Study is to enhance the natural disaster management capacities in Indonesia and to facilitate the creation of necessary institutional mechanisms to achieve it through the formulation of disaster Management Plan at national and regional levels. Aiming at achieving the overall goal, the following activities against natural disasters targeting flood, sediment disasters, earthquake and tsunami, were implemented in this Study:

- To formulate comprehensive disaster management plan in national and regional levels of Indonesia
- To develop capacity of national and regional organizations concerned and communities.

1.3 Study Area

- National Level:
Entire Country
- Regional Level:
Two pilot regions have been selected for the comprehensive disaster management plan at Kabupaten and Kota level as follows:
 1. Kabupaten Jember in East Java Province
 2. Kabupaten Padang Pariaman and Kota Pariaman in West Sumatra Province

1.4 Study Components

The Study is composed of the following components:

Component 1: Formulation of Natural Disaster Management Plan	Component 1-1: Formulation of National Disaster Management Plan
	Component 1-2: Formulation of Regional Disaster Management Plan for Pilot Regions
Component 2: Capacity development of the organizations concerned	Component 2-1: Capacity development of BAKORNAS PB/BNPB
	Component 2-2: Capacity development of regional organizations concerned
	Component 2-3: Capacity development of the communities
Component 3: Preparation of general guideline for formulation of Regional Disaster Management Plan for the other regions in Indonesia	

2 OUTPUTS OF THE STUDY

2.1 National Disaster Management Plan

National Disaster Management Plan was formulated through a series of workshops with BNPB and relevant government agencies for disaster management based on the following general principle and basic policy discussed and agreed with BNPB.

General Principle

- To apply the Disaster Management Plan of Japan.

-
- After this Study, the Plan needs to be further reviewed and checked in detail, and will be finalized in the official format of Government of Indonesia and formulated through the necessary official process.

Basic Policy and Strategy

- National Disaster Management Plan of Indonesia is drafted based on the discussions and reviews of Disaster Management Plan of Japan. During the effort of drafting the Plan, the characteristic of Indonesia that are different from those of Japan are supposed to be incorporated. To be more precise, the JICA Study Team introduces and elaborates the Disaster Management Plan of Japan to BNPB.
- In this Study, we focus on four disaster types including earthquake, tsunami, flood and sediment disasters. BNPB will formulate the parts for other types of disasters and accommodate the Plan for those disasters that are not dealt with in this Study in the future.
- As for the structure of the Plan, the Plan has a separate part for each disaster type. Each part basically consists of three sections including (1) Pre-Disaster Measures, (2) Emergency Response Measures and (3) Post Disaster Measures for rehabilitation and recovery along with the disaster management cycle. In the part for Earthquake Disaster Measures; the earthquake and tsunami measures are discussed and in the part for Rain and Storm Disaster Measures; the flood and sediment disasters are discussed.
- The National Plan has the similar format to that of the “Regional Disaster Management Plans” in order to enable to make the comparison and reference among the national and regional plans and make the coordination more effective and appropriate when implementing the disaster management efforts by the national and regional authorities.
- The Plan is formulated with the recognition that the Plan complements and enhances the items stipulated in the relevant Presidential Regulation and Government Regulations.
- The National Disaster Management Plan needs to have such flexibility that enables the relevant government agencies to incorporate the unique mission and mandate for the disaster management efforts of the agencies since those agencies would find it difficult to stipulate the mission and mandate in the National Plan.
- The National Disaster Management Plan is formulated on the basis that it will be reviewed periodically once in five years and when a big disaster happens.

Structure of formulated National Disaster Management Plan is as follows. The contents of each Part are shown in Figure 1.

Part 1: General

- Objectives and structure of the Plan, Basic Strategy, Background

Part 2: Earthquake Disaster Measures

- Activities, and their responsible and relevant organizations of disaster management items in each disaster phase (Pre-disaster, Emergency Response, Post disaster)

Part 3: Rain and Storm Disaster Measures

- Activities, and their responsible and relevant organizations of disaster management items in each disaster phase (Pre-disaster, Emergency Response, Post disaster)

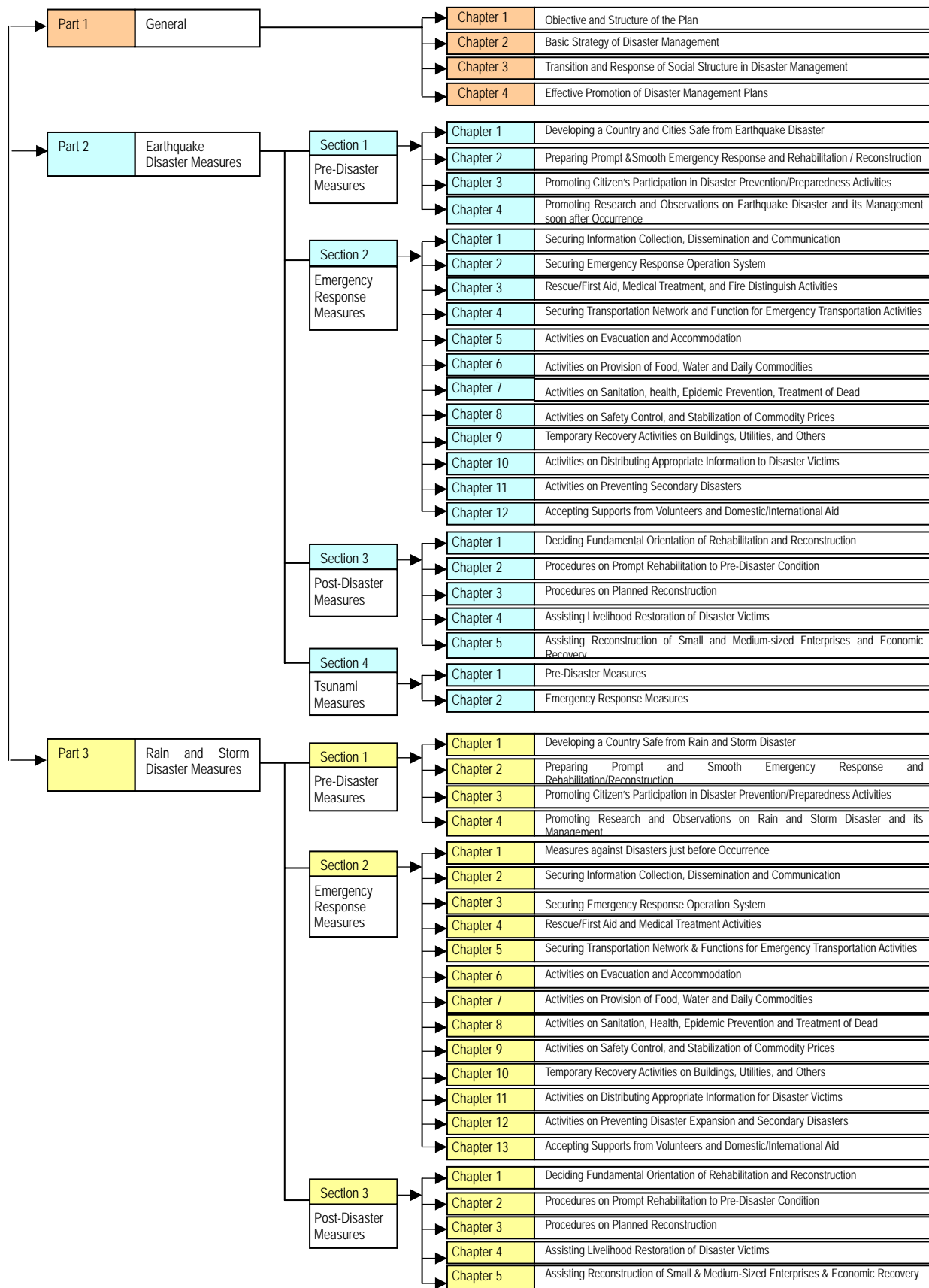


Figure 1 Structure and Contents of National Disaster Management Plan

2.2 Regional Disaster Management Plan

Regional Disaster Management Plans were formulated through active discussions in a series of workshops between counterparts of pilot regions and the Study Team based on the following basic policy discussed and agreed with counterparts.

Basic Policy

- Target disasters for formulating disaster management plan in this Study are four (4) kinds of natural disaster (earthquake, tsunami, flood and sediment disaster). Therefore, in the future, Kabupaten and Kota need to formulate and add parts for other disasters.
- The plan has two “Parts” for type of disasters. “Earthquake Disaster Measures” part deals with earthquake and tsunami, and “Rain and Storm Disaster Measures” part deals with flood and sediment disaster. Each “Part” basically consists of four (4) sections, “General”, “Pre-Disaster Measures”, “Emergency Response Measures” and “Post Disaster Measures” along with disaster management cycle.
- Contents of the plan are prepared based on the Japanese plan, but modified the contents to be suitable for the current conditions of Indonesia.
- Finalization of the plan toward authorization and promulgation will be conducted by Indonesian side based on the plans formulated as outputs of this Study.

1) Kabupaten Jember Regional Disaster Management Plan

Structure of Kabupaten Jember Regional Disaster Management Plan is as follows. The contents of each Part are shown in Figure 2 & 3.

Part 1: Rain and Storm Disaster Measures

Part 2: Earthquake Disaster Measures

- Main disasters in the area are flood and sediment disasters, therefore, “Rain and Storm Disaster Measures” is set as Part 1.
- Structure of both of Part 1 and Part 2 is same and consists of 4 sections.
- In Section 1 “General” includes natural conditions, social conditions, history of disasters, hazard maps and risk maps as Disaster Characteristics of pilot regions.
- Section 2 to Section 4 describe activities, and their responsible agencies of disaster management items in each disaster phase (Pre-disaster, Emergency Response, Post disaster).

2) Kabupaten Padang Pariaman Regional Disaster Management Plan

Main disasters in the area are earthquake and tsunami disasters, therefore, “Earthquake Disaster Measures” is set as Part 1, and “Rain and Storm Disaster Measures” is set as Part 2. Structure of Sections and Chapters in each Part are same as Jember’s one.

3) Kota Pariaman Regional Disaster Management Plan

Main disasters in the area are earthquake and tsunami disasters, therefore, “Earthquake Disaster Measures” is set as Part 1, and “Rain and Storm Disaster Measures” is set as Part 2. Structure of Sections and Chapters in each Part are same as Jember’s one.

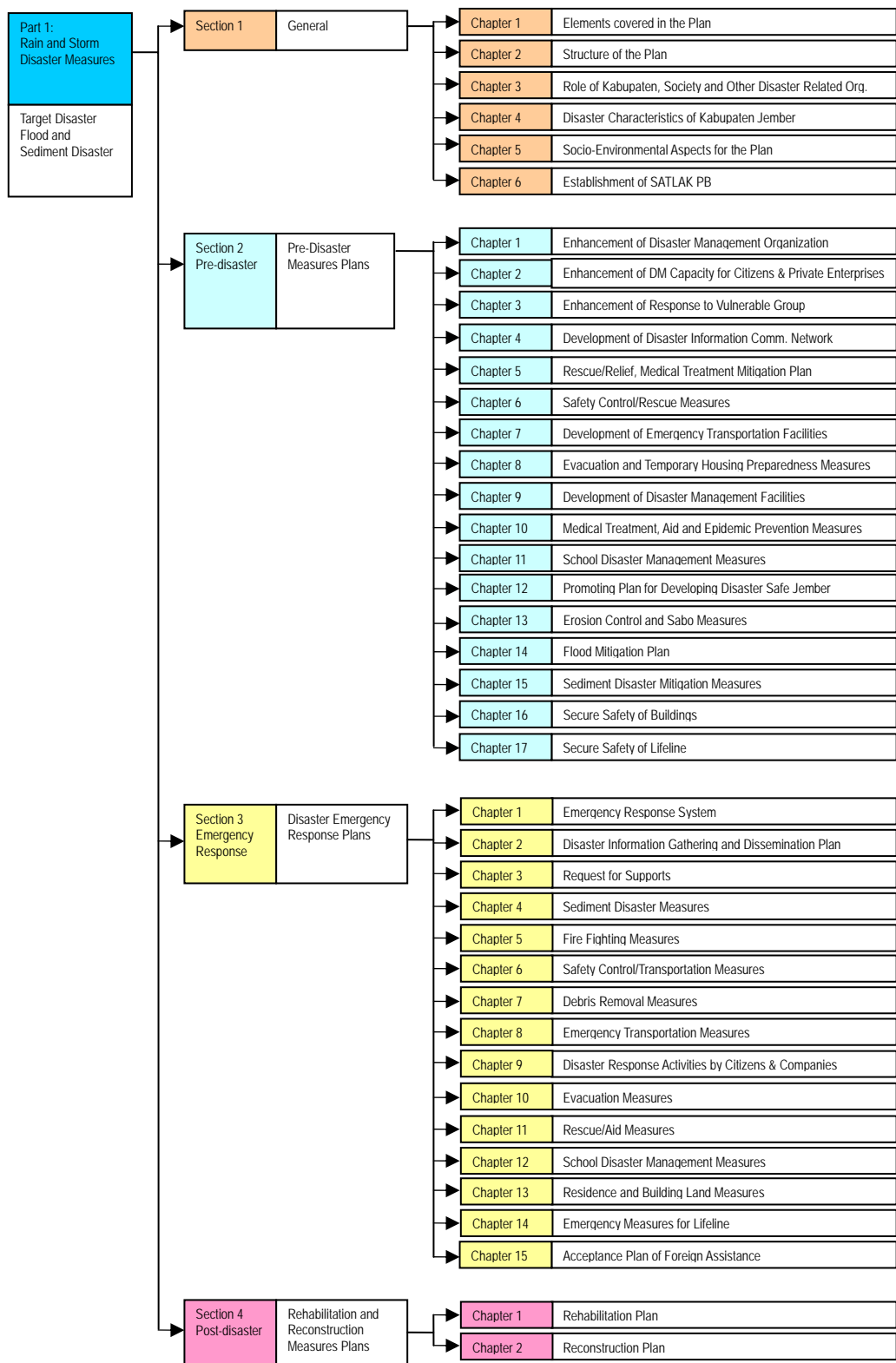


Figure 2 Structure and Contents of “Rain and Storm Disaster Measures” Part of Regional Disaster Management Plan

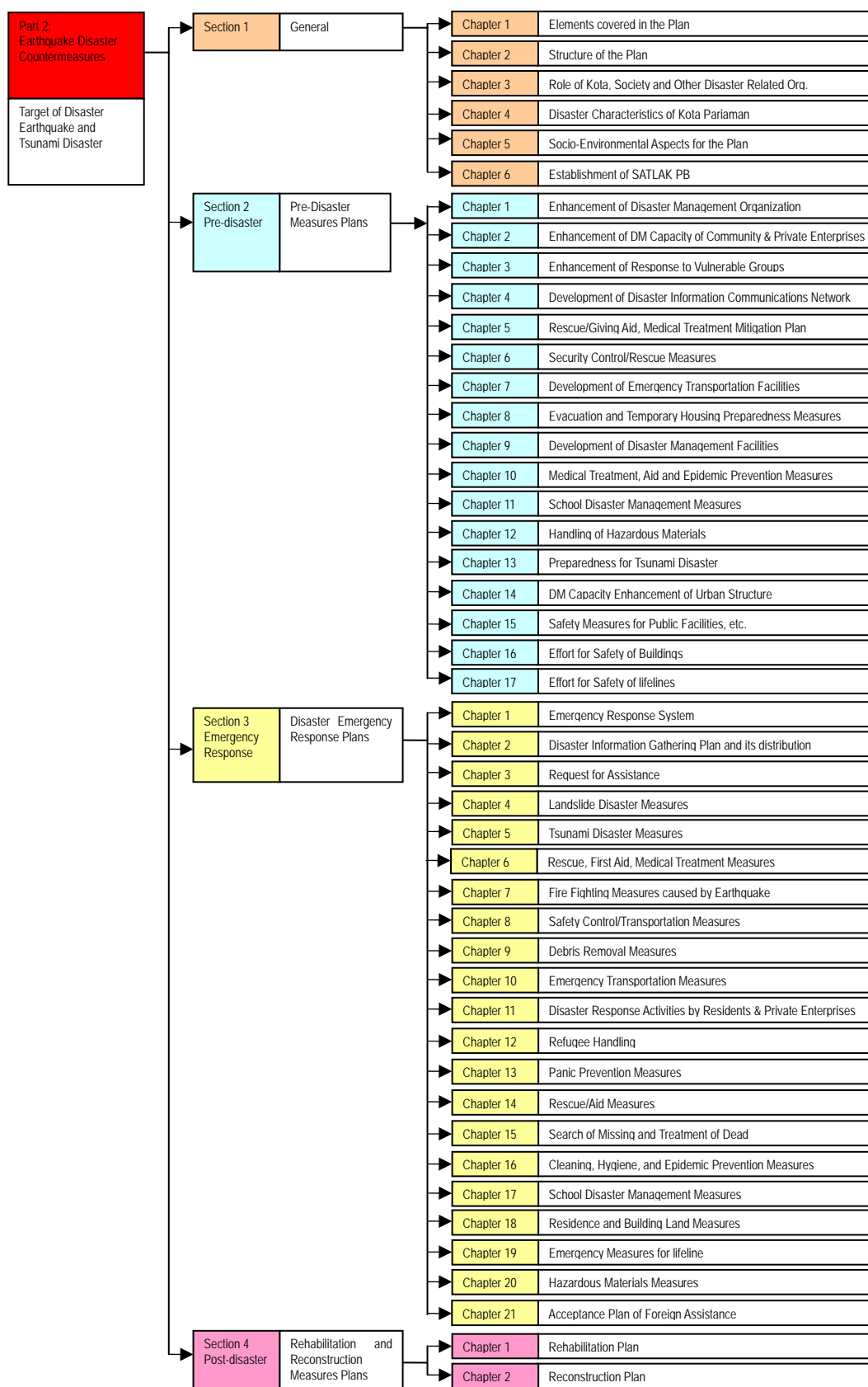


Figure 3 Structure and Contents of “Earthquake Disaster Measures” Part of Regional Disaster Management Plan

2.3 General Guideline for Formulation of Regional Disaster Management Plan

Guideline to enable Kabupaten and Kota governments to formulate Regional Disaster Management Plan by themselves, was prepared based on the activities for formulating Regional Disaster Management Plans in three pilot regions.

Structure of Guideline is as follows.

Part 1 : General Guideline

Part 2 : Appendixes

Appendix 1: Guideline for Creation of Hazard Maps and Risk Maps
for Natural disasters

Appendix 2: Guideline for Community-based Disaster Risk Management (CBDRM)
Activities in Indonesia

Main contents of Part 1 “General Guideline” as the main part of the guideline are short and emphasize on describing the whole concept of the plan. This is because a sample Regional Disaster Management Plan is assumed to be attached to be able to smoothly understand the whole contents of the plan, when this guideline will be distributed by Indonesian side.

Appendix 1 describes methodology for creation of hazard maps and risk maps based on the activities in this Study, and Appendix 2 shows procedures of activities for community based disaster risk management along with the activities in this Study.

3 ACTION PLAN FOR CAPACITY ENHANCEMENT OF DISASTER MANAGEMENT

Items of the Action Plan for further developments and enhancement of capacity of disaster management mostly at the national level over the next five years are shown below. They have been identified in the course of the joint study by BNPB Team and JICA Study Team as well as discussions with relevant government agencies.

1	Legal and Institutional Development	
	1.1	National Disaster Management Plan (NDMP)
	1.1.1	Authorization of NDMP, Earthquake & Tsunami, and Rain & Storm Disasters
	1.1.2	Preparation and Authorization of Guidelines/Manual for NDMP outside Earthquake & Tsunami, and Rain & Storm Disasters
	1.1.3	Preparation and Authorization of NDMP outside Earthquake & Tsunami, and Rain & Storm Disasters
	1.2	Regional (Local) Disaster Management Plans (RDMP)
	1.2.1	Authorization of RDMP: Jember District, Padang Pariaman District, Pariaman City: Earthquake & Tsunami, and Rain & Storm Disasters
	1.2.2	Preparation and Authorization of Guidelines/Manual for Planning of RDMP: Earthquake & Tsunami, and Rain & Storm Disasters
	1.2.3	Preparation and Authorization of Guidelines/Manual for Regional (Local) Disaster Management Plans outside Earthquake & Tsunami, and Rain & Water Disasters
	1.2.4	Preparation and Authorization of RDMP outside Earthquake & Tsunami, and Rain & Storm Disasters
	1.3	Regional (Local) Disaster Management Agency (BPBD)

	1.3.1	Preparation and Authorization of Guidelines for Establishing BPBD
	1.3.2	Establishment of BPBD (total 33 Provinces and over 483 Districts. Prioritization needed)
	1.4	National Disaster Management Operation Plans (NDMOP)
	1.4.1	Preparation and Authorization of Guidelines/Manual for NDMOP
	1.4.2	Preparation and Authorization of NDMOP: General Issues
	1.4.3	Preparation and Authorization of NDMOP: Particular Issues
	1.5	Regional (Local) Disaster Management Operation Plans (RDMOP)
	1.5.1	Preparation and Authorization of Guidelines/Manual for Regional (Local) Disaster Management Operation Planning
	1.5.2	Preparation and Authorization of RDMOP
	1.6	National and Regional (Local) Level Contingency Plans
	1.6.1	Preparation and Authorization of Guidelines/Manual for National Level Contingency Planning
	1.6.2	Preparation of Contingency Plans by National Government Agencies
	1.6.3	Preparation and Authorization of Guidelines/Manual for Regional (Local) Level Contingency Planning
2		Human Resources Development (HRD) and Capacity Development
	2.1	HRD at National and Regional (Local) Levels
	2.1.1	Programming and Planning of Comprehensive HRD
	2.1.2	Preparation of Guidelines/Manual for HRD of National Government Agencies and Institutions
	2.1.3	Implementation of HRD and Manpower Training for Government Agencies and Institutions
	2.1.4	Preparation of Guidelines/Manual for HRD and Manpower Training of Life-line Infrastructure Corporations
	2.1.5	Implementation of HRD of Life-line Infrastructure Corporations
	2.1.6	Preparation of Guidelines/Manual for HRD of Local Governments and Concerned Organizations
	2.1.7	Implementation of HRD of Local Governments and Concerned Organizations
	2.1.8	Establishment of Certification/Qualification Systems of Disaster Management Expert
	2.2	Human Resources Development (HRD) at School Education
	2.2.1	Programming and Planning of School Education on Disaster Management from Primary to High Education Levels
	2.2.2	Preparation of Guidelines/Manual for School Education on Disaster Management at each level
	2.2.3	Implementation of School Education on Disaster Management at each level
	2.3	Enhancement of People's Awareness of Disaster Management
	2.3.1	Programming and Planning of Comprehensive Enhancement of People's Awareness of Disaster Management
	2.3.2	Implementation of Production and Dissemination Tools of Disaster Management Information to General Public
	2.3.3	Implementation of Disaster Management Drills, at National Level, Local Government Level, and Community Level
3		Nation-wide Communication Network Development for Sharing Disaster Information
	3.1	Development of Disaster Information Sharing System for Emergency Response
	3.1.1	Master Planning Study on Disaster Information Sharing System for Emergency Response (DISSER)
	3.1.2	Implementation of Development of DISSER
	3.2	Development of Regional Depot
4		Data Digitization Development for Disaster Management Information
	4.1	Survey and Database Development
	4.1.1	Development of Data Standardization for Digital Maps, GIS-base Database, Information Formats, etc
	4.1.2	Survey and Database Development (1) Major Transportation Facilities, to be inputs to Hazard Mapping and Spatial Planning
	4.1.3	Survey and Database Development (2) Lifeline Infrastructure Facilities, to be inputs to Hazard Mapping and Spatial Planning
	4.1.4	Survey and Database Development (3) Public Facilities, to be inputs to Hazard Mapping and Spatial Planning
	4.2	Hazard Maps
	4.2.1	Preparation and Authorization of Guidelines/Manual for Hazard Mapping at District Level (based on Hazard Maps prepared for Jember District)
	4.2.2	Preparation of Hazard Maps for Priority Areas

	4.2.3	Preparation of Consolidated Master Hazard Map of Indonesia based on the Latest Information and Data as of 2012
	4.3	Spatial Plans
	4.3.1	Preparation of Guidelines for Updating Spatial Planning, reflecting Hazard Mapping and Disaster Management Information
	4.3.2	Updating Existing Spatial Plans at Provincial and District Levels reflecting Hazard Mapping and Disaster Management Information
	4.4	Large City's Disaster Management Measures on Earthquake Disaster to be considered at National Level
	4.4.1	Preparation of Framework and Methodology and Guidelines for Large City's Disaster Management Measures
	4.4.2	Preparation of Hazard Maps which indicate every physical structure including roads, bridges, buildings (both permanent and temporary), public facilities and open spaces actually surveyed.
	4.4.3	Analysis of Earthquake Disaster Impact and Prepare Risk Map
5		Other Actions to be taken immediately after the authorization of National Disaster Management Plan
	5.1	Enhancement of Awareness of Earthquake Resistant Structure
	5.2	Reporting Systems Development, and Publishing of Disaster Management Information
	5.2.1	Reporting Systems
	5.2.2	Publishing Disaster Management Information

4 RECOMMENDATIONS

Recommendations from this Study are summarized below.

- 1) The national and regional disaster management plans formulated in this Study should be widely disseminated. The plans should be reviewed periodically.
- 2) A comprehensive disaster management plan including all disaster types should be formulated.
- 3) In a plan for other disasters, the activity areas for each disaster phase have to be clearly described, and the plan needs to identify the stakeholders that are responsible for each area.
- 4) BNPB will take the lead to coordinate the local disaster management plan to maintain consistency between the national and the regional plans.
- 5) Disaster management operation plans/manuals needs to be formulated by each government ministry, agency, local government and entities for use when people are actually implementing the actions that are stipulated in the national and regional disaster management plans.
- 6) The final results of regional disaster management plan including planning know-how should be disseminated to Provinces in East Java and West Sumatra and related municipalities so they can establish the necessary coordination among disaster management agencies.

- 7) Collection and preparation of detailed scientific data to support practical planning work is necessary. For example, development of large scale topographic maps, and fixedness and digitalization of desa boundary should be promoted.
- 8) For flood disaster management, observation and collection of rainfall amount and water level at least in main watersheds are necessary. Data integration and database development of rainfall and hydrological conditions should be promoted to provide a scientific base for disaster management plans at both national and regional level.
- 9) Historical disaster data/records should be collected and accumulated. Disaster data accumulation should be promoted at national and local levels using specific format and obtaining accuracy.
- 10) Geographic database system for disaster management should be effectively used for planning work in each relevant agency.
- 11) Public awareness on disaster management should be raised through school education and community disaster management activities lead by national and local governments.
- 12) Existing capacity of firefighting including improvement of equipment, rescue operation system and human resource development should be enhanced.
- 13) Emergency medical service system should also be improved.
- 14) Preparation of earthquake disaster management plan for large cities such as Jakarta Metropolitan Area, Bandung, Medan and local capital cities located earthquake prone area should be promoted.
- 15) Disaster management in big cities located at coastal area should be discussed from the global warming point of view.

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The Study on Natural Disaster Management in Indonesia

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Part 1: Rain and Storm Disaster Measures

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Appendix 1: Guideline for Creation of Hazard Maps and Risk Maps
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Abbreviations

Terms	Bahasa	English
APBN	Anggaran Pendapatan dan Belanja Negara	State Annual Budget
APBN-P	APBN - Perubahan	Revision of APBN– normally in October
APBD	Anggaran Pendapatan dan Belanja Daerah	Local government annual budget
BAKORNAS PB	Badan Koordinasi Nasional Penanganan Bencana	National Coordinating Board for Disaster Management
BAKOSURTANAL	Badan Koordinasi Survei dan Pemetaan	National Coordination Agency for Survey & Mapping
BAPPENAS	Badan Perencanaan Pembangunan Nasional	National Development Planning Agency
BKKBN	Badan Koordinator Keluarga Berencana Nasional	National Coordinator Agency for Family Planning
BMG	Badan Meteorologi dan Geofisika	Agency of Meteorology and Geophysics
BNPB	Badan Nasional Penanggulangan Bencana Alam	National Agency for Disaster Management
BOS	Bantuan Operasional Sekolah	School operational fund
BPHTB	Bea Perolehan Hak atas Tanah dan/Bangunan	Tax on every land & building transaction
BPPT	Badan Pengkajian dan Penerapan Teknologi	Agency for Assessment and Application of Technology
BPS	Badan Pusat Statistik	Statistic Indonesia
BRR NAD & Nias	Badan Rehabilitasi dan Rekonstruksi Nangroe Aceh Darusallam & Nias	Agency of Rehabilitation and Reconstruction for the Region and Community of Aceh and Nias
CPI	Indeks Harga Konsumen (IHK)	Consumer Price Index
DEPDAGRI	Departemen Dalam Negeri	Department of Home Affairs
DEPDIKNAS	Departemen Pendidikan Nasional	Department of National Education
DEPKES	Departemen Kesehatan	Department of Health
DEPHAN	Departemen Pertahanan	Department of Defense
DIPA	Daftar Isian Pelaksanaan Anggaran	Spending Warrant
DKP	Departemen Kelautan dan Perikanan	Department of Marine and Fisheries Affairs
DPD	Dewan Perwakilan Daerah	Council of Region Representative (Senator)
DPR	Dewan Perwakilan Rakyat	House of Representative (Parliament)
ESDM	Departemen Energi dan Sumber Daya Mineral	Department of Energy and Mineral Resources
GDP	Produk Domestik Bruto (PDB)	Gross Domestic Product
INPRES	Instruksi Presiden	Presidential Instruction
KEPPRES	Keputusan Presiden	Presidential Decree
LAPAN	Lembaga Penerbangan dan Antariksa Nasional	National Institute of Aeronautics and Space
LIPI	Lembaga Ilmu Pengetahuan Indonesia	Indonesian Institute of Science)
MPR	Majelis Permusyawarahan Rakyat	People's Consultative Assembly
NSPM	Norma,Standart, Pedoman, Manual	Norm, Standardization, Guideline and Manual
PBB	Pajak Bumi dan Bangunan	Land & Building Tax
PERDA	Peraturan Daerah	Local Government Regulation
PERMEN	Peraturan Menteri	Ministerial Regulation
PERPRES	Peraturan Presiden	Presidential Regulation
PERPU	Peraturan Pengganti Undang-Undang	Government Regulation in Lieu of Law
PP	Peraturan Pemerintah	Government Regulation
PPh	Pajak Penghasilan	Income Tax
PPN	Pajak Pertambahan Nilai	Value Added Tax (VAT)
PPnBM	Pajak Pertambahan Nilai Barang Mewah	Luxurious Goods VAT
PT. KAI	PT. Kereta Api Indonesia	State owned Train company
PT. PELNI	PT. Pelayaran Nasional Indonesia	State owned Shipping Company
PT. Pos Indonesia	PT. Pos Indonesia	Indonesian Post
PU	Departemen Pekerjaan Umum	Department of Public Works
RAPBN	Rancangan APBN	Draft of APBN
RKA-KL	Rencana Kerja Anggaran – Kementrian/Lembaga	Ministries/Agencies annual working plan
UUD 1945	Undang-Undang Dasar 1945	Constitution
UU	Undang-Undang	Law

CHAPTER 1 INTRODUCTION

1.1 Background of the Study

On December 26, 2004, the countries surrounding the Indian Ocean suffered unprecedented damage by a giant earthquake of magnitude 9.0 with a hypocenter in the coast of Sumatra in Indonesia and a sequent tsunami. The international community offered massive aid to assist in disaster recovery, and Japan also executed international emergency relief operations and urgent rehabilitation and reconstruction support.

In July 2005, the President of Indonesia H.E. Susilo Bambang Yudhoyono and the Prime Minister of Japan H.E. Junichiro Koizumi recognized that capacity development for reducing damage by natural disaster including earthquake and tsunami are priority issues for Indonesia, and agreed to establish the “Committee on Disaster Reduction” in order to mitigate natural disasters in Indonesia and strengthen cooperation to develop a disaster reduction system.

Under these circumstances, the Government of Japan agreed to the request of Government of Indonesia, and decided to implement the Study for formulation of comprehensive disaster management plan on national and regional levels of Indonesia and development of capacity for disaster management.

In December 2006, the Japan International Cooperation Agency (“JICA”) dispatched the Preparatory Study Team to Indonesia for the preliminary survey as well as discussion of the Scope of Work for the Study. Between the Preparatory Study Team and the National Coordinating Board for Disaster Management (“BAKORNAS PB”), the Scope of Work and the Minutes of Meeting were agreed on December 11, 2006.

This report presents all the result of the Study on Natural Disaster Management in Indonesia (“the Study”), which was conducted from March 2007 to March 2009 in accordance with the Scope of Work.

1.2 Scope of the Study

1.2.1 Objectives of the Study

The overall goal of the Study is to enhance the natural disaster management capacities in Indonesia and to facilitate the creation of necessary institutional mechanisms to achieve it through the formulation of disaster Management Plan at national and regional levels. Aiming at achieving the overall goal, the following activities against natural disasters targeting flood, sediment disasters, earthquake and tsunami, were implemented in this Study:

- To formulate comprehensive disaster management plan in national and regional levels of Indonesia

- To develop capacity of national and regional organizations concerned and communities.

1.2.2 Study Area

- National Level:
 - Entire Country
- Regional Level:
 - Two pilot regions have been selected for the comprehensive disaster management plan at Kabupaten and Kota level as follows:
 1. Kabupaten Jember in East Java Province
 2. Kabupaten Padang Pariaman and Kota Pariaman in West Sumatra Province

1.2.3 Study Components

The Study is composed of three components, namely: 1) Formulation of Natural Disaster Management Plan, 2) Capacity Development of the organizations concerned and 3) Preparation of general guideline for formulation of Regional Disaster Management Plan. It has the following components:

Table 1.2.1 Study Components

Component 1: Formulation of Natural Disaster Management Plan	Component 1-1: Formulation of National Disaster Management Plan
	<ol style="list-style-type: none"> 1. Review of existing disaster management framework 2. Seminar on disaster management plan formulation 3. Formulation of National Disaster Management Plan 4. Formulation of Action Plan for National Disaster Management
	Component 1-2: Formulation of Regional Disaster Management Plan for Pilot Regions
Component 2: Capacity development of the organizations concerned	<ol style="list-style-type: none"> 1. Review of existing disaster management framework at regional level 2. Formulation of comprehensive Regional Disaster Management Plan 3. Study on Regional Disaster Management Plan on Priority Disaster
	Component 2-1: Capacity development of BAKORNAS PB/BNPB
	<ol style="list-style-type: none"> 1. Needs assessment for BAKORNAS PB/BNPB and provision of technical advice to BAKORNAS PB/BNPB Staff 2. Recommendation of Institutional Strengthening 3. On the Job Training through formulation of National Disaster Management Plan 4. Workshops and Seminars for the staff of the organizations 5. Disaster Management Training for counterparts
	Component 2-2: Capacity development of regional organizations concerned

	<ol style="list-style-type: none"> 1. Needs assessment for the organizations and provision of technical advice to the staff of the organizations concerned 2. On the Job Training thorough formulation of Regional Disaster Management Plan 3. Workshops and seminars for the staff of the organizations concerned 4. Disaster Management Training for counterparts
	Component 2-3: Capacity development of the communities
	<ol style="list-style-type: none"> 1. Public education and community awareness campaign 2. Recommendation on community based disaster management 3. Implementation of evacuation training
Component 3:	
Preparation of general guideline for formulation of Regional Disaster Management Plan for the other regions in Indonesia	

1.2.4 Schedule of the Study

The Study has been implemented for a period of 25 months between March 2007 and March 2009. Detailed schedule of the Study is shown in Figures 1.2.1 (1) to (3).

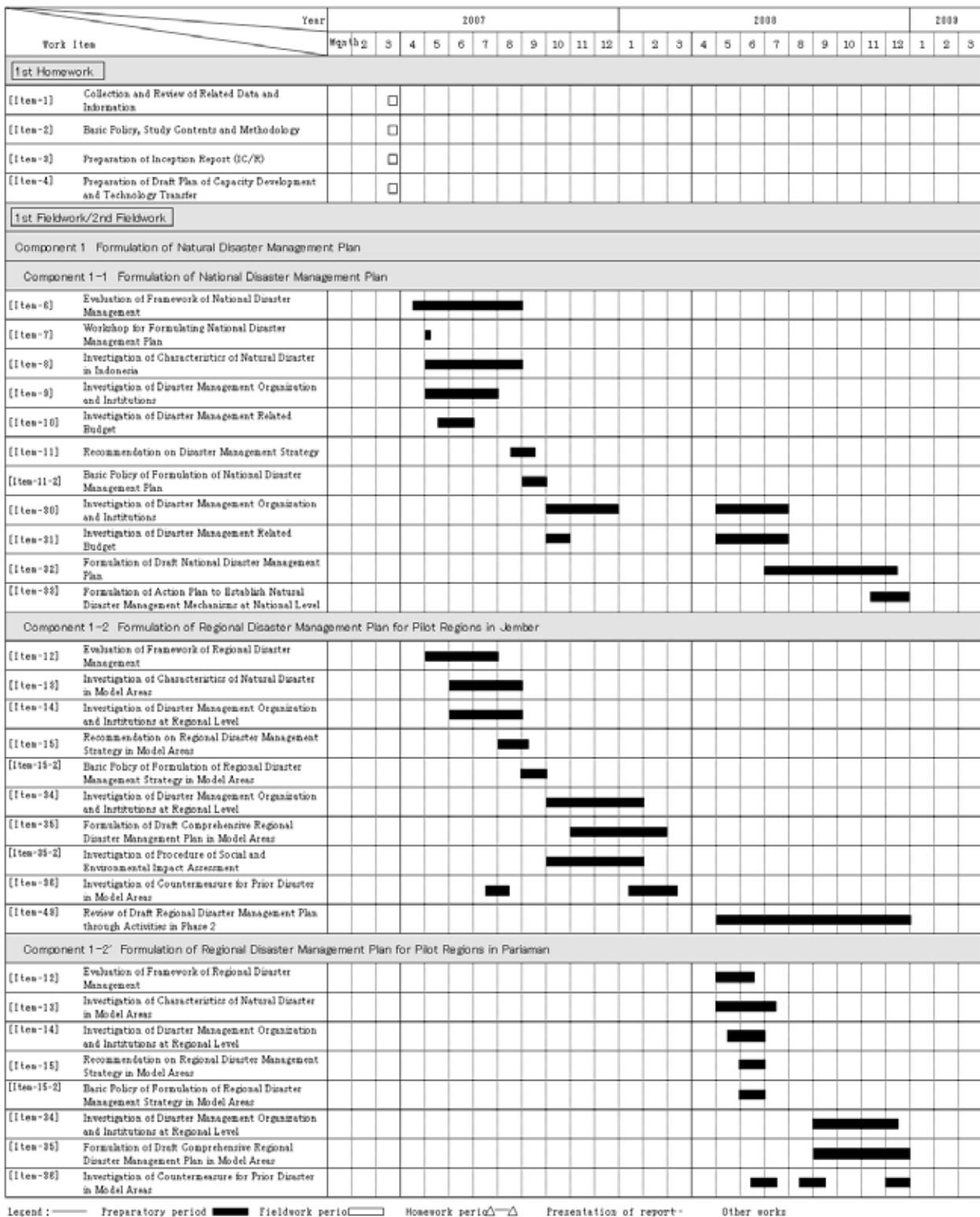


Figure 1.2.1(1) Study Schedule

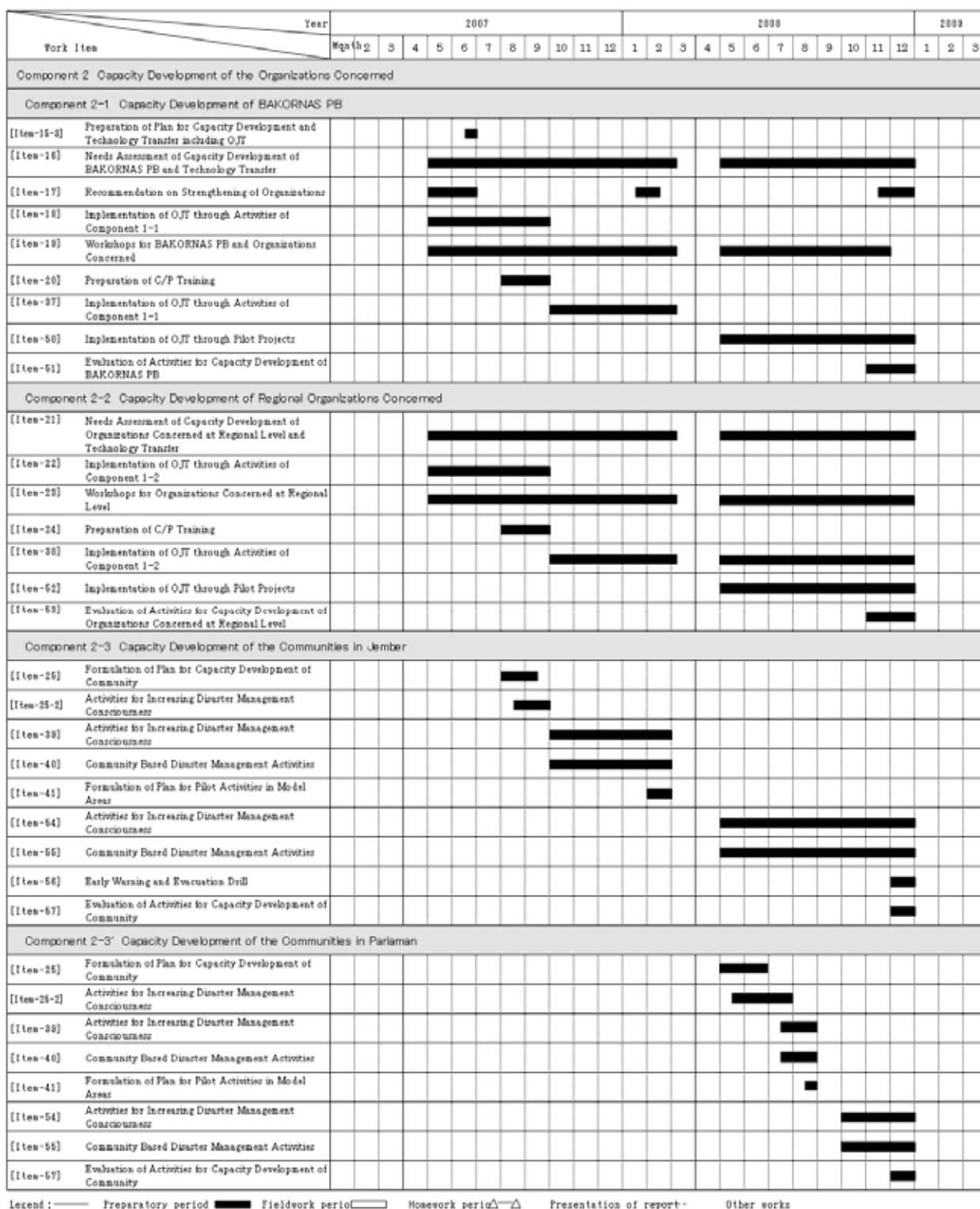


Figure 1.2.1(2) Study Schedule

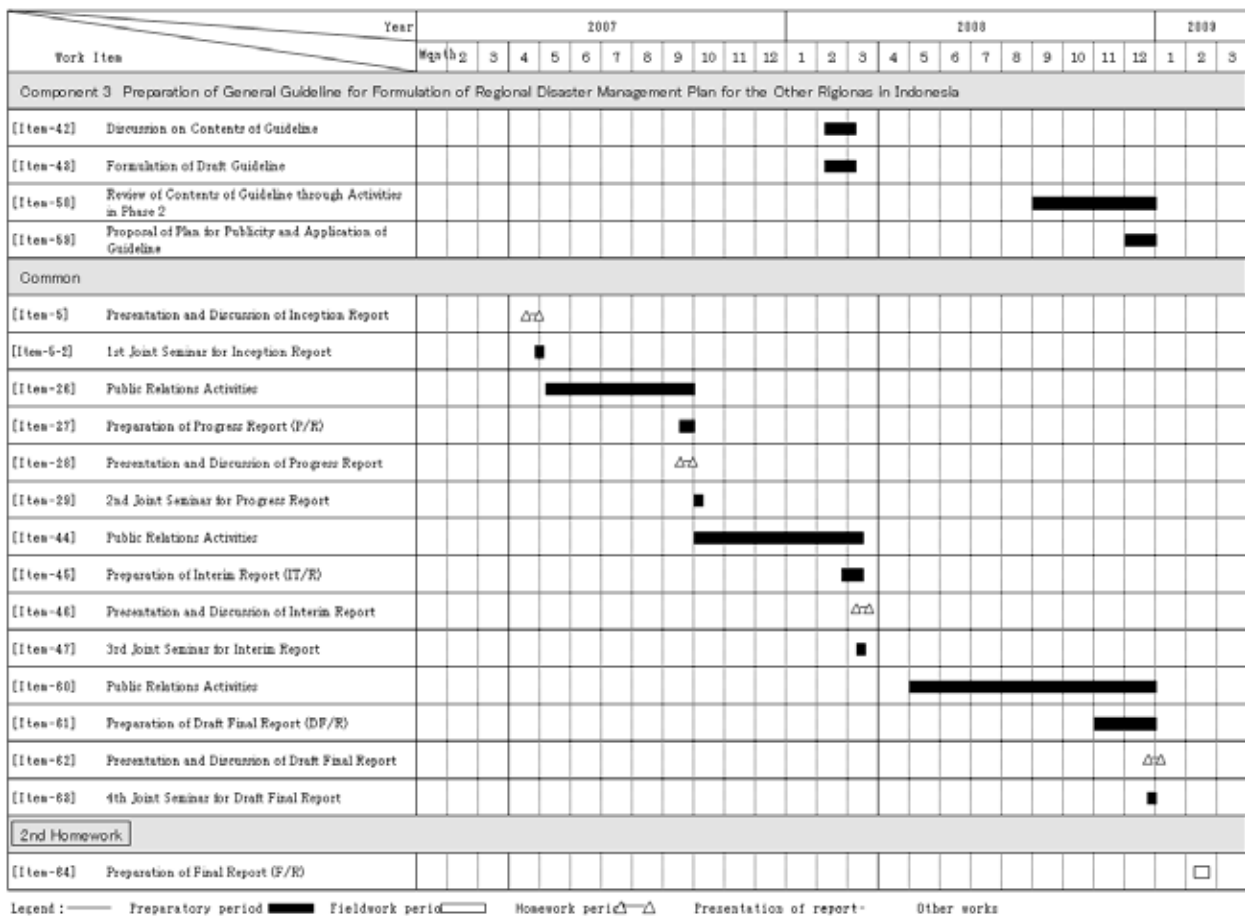


Figure 1.2.1(3) Study Schedule

1.2.5 Counterparts and Steering Committee

The Study has been conducted through the close coordination between the Study Team and the counterparts. The counterpart organizations are as follows:

- (1) BAKORNAS PB/BNPB (BAKORNAS PB was reformed to BNPB in 2008)
- (2) SATKORLAK in West Sumatra Province and East Java Province
- (3) SATLAK in Kabupaten Padang Pariaman, Kota Pariaman and Kabupaten Jember

Counterpart personnel appointed for the Study activities in each organization are shown in Tables 1.2.2 to 1.2.5.

The Steering Committee is comprised of the following departments and organizations.

- (1) Ministry of Research and Technology
- (2) Ministry of Public Works
- (3) Ministry of Energy and Mineral Resources
- (4) Coordinating Ministry for People's Welfare
- (5) Meteorological and Geophysical Agency
- (6) National Coordinating Agency for Survey and Mapping
- (7) Directorate General of Community Development, Ministry of Home Affairs
- (8) West Sumatra Province, East Java Province
- (9) Kabupaten Padan Pariaman, Kota Pariaman, Kabupaten Jember
- (10) JICA Indonesia Office

Table 1.2.2 Counterpart Personnel in BNPB

No	Name	Position
1	Ir. Sugeng Triutomo, DESS	Deputy-1, for Prevention and Preparedness <u>Team Leader</u>
2	Ir. Bemardus Wisnu Widjaja, M.Sc	Director, Disaster Risk Reduction
3	Mudjiharto, SKM, MM	Director, Community Empowerment
4	Slamet Sugijono, SE	Director, Preparedness
5	Ir. Fatchul Hadi, Dipl, HE	Head of Planning Bureau
6	Dewina Nastion, SH, M.Sc	Head of Legal & Cooperation
7	Ir. Adhy Duriat S, Dipl, HE	Director, Damage Assessment
8	Dr. Priyadi Kardono, M.Sc	Head of Data Center, Information & Public Relations
9	Ir. Siti Nurhayati, MM	Director, Emergency Response
10	Yolak, SE, MM	Director, Equipment

Table 1.2.3 Counterpart Personnel in Kabupaten Padang Pariaman

No.	Name	Institution
Planning Team		
1	Zahirman, S.Sos. MM.	National Unity and Public Protection Department
2	Ir. Erman	Regional Planning Department
3	Joni Anwar, S.ST	Public Works Department (Residence and Infrastructure Design Division)
4	Ir. Abd. Halim, M.Si	Marine and Fishery Affairs Department
5	Suhaili, S.Sos	Information & Communication Department
Disaster Team		
1	Drs. Martoni	National Unity and Public Protection Department
2	Hermansyah, S.E	National Unity and Public Protection Department
3	Mohammad Roem	Social Department
4	Syaripuddin,	Public Works Department
5	Radius Syahbandar	Public Welfare Department
6	Rahim Thamrin, SST.	Public Works Department (Road and Bridge Infrastructure Division)

Table 1.2.4 Counterpart Personnel in Kota Pariaman

No.	Name	Institution
Planning Team		
1	Kasmizal	Data and Research, Regional Planning Department
2	Maisyafri	National Unity and Public Protection Department
3	M. Rizki	National Unity and Public Protection Department
4	Ferinaldi	Social Agency
Disaster Team		
1	Nopriyadi Sukri	Public Works Department
2	Abdul Hamid	Public Works Department
3	Riky Falantino	Regional Planning Department
4	Eletra Zainis	Regional Planning Department
5	Dirmayanto	National Unity and Public Protection Department

Table 1.2.5 Counterpart Personnel in Kabupaten Jember

No.	Name	Position/Institution	Responsibility
1	M. Fadallah	Assistance II	Leader/Regional Disaster Management Planning
2	Edi Budi Susilo	Head of Information and Communication Department	Enlightenment/Education/Community Disaster Management
3	Sudjak Hidayat	Head of National Unity and Public Protection Department	Regional Disaster Management Planning
4	Bambang Saputra	Social Department	Regional Disaster Management Organization and Institutions
5	Ir. Juwarto	Head of General Affair Department	Topographical and Geological Analysis
6	Ir. Djoko Santoso	Irrigation Department	Sediment Disaster Analysis and Countermeasure
7	Ir. Rasid Zakaria	Head of Irrigation Department	Flood Analysis and Countermeasure
8	Ir. Juwarto	Head of General Affair Department	Earthquake Analysis and Countermeasure
9	Sudjak Hidayat	Head of National Unity and Public Protection	
10	Ir. Juwarto	Head of General Affair Department	Tsunami Analysis and Countermeasure
11	Sunarsono	Head of Transportation Department	Early Warning Planning
12	Mudhar Syarifudin	The Head of Regional Planning Department	Urban and Land Use Planning
13	Soepono	The Head of Red Cross Jember Department	Community-based Disaster Management
14	Sukaryo	Red Cross Jember Department	
15	Rifendi	National Unity and Public Protection Department	
16	Drs. Farouq	Head of Public Welfare Department	Database

1.3 Structure of This Report

This report presents all results of the Study conducted during the period from March 2007 to December 2008. The report consists of the following Volumes:

- Volume 1: Summary

- Volume 2: Main Report

Volume 2-1: Study Activities and Findings

Volume 2-2: National Disaster Management Plan

Part 1: General

Part 2: Earthquake Disaster Measures

Part 3: Rain and Storm Disaster Measures

Volume 2-3: Kabupaten Jember Regional Disaster Management Plan

Part 1: Rain and Storm Disaster Measures

Part 2: Earthquake Disaster Measures

Volume 2-4: Kabupaten Padang Pariaman Regional Disaster Management Plan

Part 1: Earthquake Disaster Measures

Part 2: Rain and Storm Disaster Measures

Volume 2-5: Kota Pariaman Regional Disaster Management Plan

Part 1: Earthquake Disaster Measures

Part 2: Rain and Storm Disaster Measures

Volume 3: Supporting Report

Volume 4: General Guideline for Formulation of Regional Disaster Management Plan

Part 1 : General Guideline

Part 2 : Appendixes

Appendix 1: Guideline for Creation of Hazard Maps and Risk Maps for Natural disasters

Appendix 2: Guideline for Community-based Disaster Risk Management (CBDRM) Activities in Indonesia

CHAPTER 2 STUDY ACTIVITIES AND FINDINGS AT NATIONAL LEVEL

2.1 Disaster Management System at National Level

2.1.1 Existing Government Structure for Disaster Management at National Level

1) Government Agencies/Institutions concerned with Disaster Management and, their activities

(1) Particular Institutions

A. BNPB

The government institution that responsible for disaster management at the national level is **National Disaster Management Agency** (Badan Nasional Penanggulangan Bencana, herein after referred as “BNPB”). The establishment is based on the Presidential Regulation No.8 Year 2008, and it is the result of institutional reform which has been implemented in the last several years. The previous organizations were as follows:

- i) Keppres No. 106, year 1999: Bakornas PB (Disaster Management),
- ii) Keppres No. 3, year 2001: Bakornas PBP (Disaster management & refugee handling)
- iii) Keppres No. 111, year 2001: Regarding amending presidential regulation No3, year 2001, ,
- iv) Perpres No.83, year 2005: Regarding Bakornas PB

BNPB is a non departmental agency that is responsible directly to the President. The organization has two basic components. One is the “Steering Committee” chaired by the Head of BNPB with 19 members (10 echelon-1 level official from the concerned ministries plus 9 experts / community leaders). The other one is called as Executing Body consisting of 1 Prime Secretariat & 1 Prime Inspectorate and 4 Deputies.

The number of permanent staff of BNPB is 93 (registered as of December, 2007) and their activities are now covering all stages of disaster, from pre-disaster, emergency response to post-disaster. According to Perpres No. 8/2008, the tasks of BNPB are following:

- i) Provide guidance & directing on all disaster management activities which include prevention, emergency respond, rehabilitation & reconstruction fairly & equally.
- ii) Determine the standardization & requirement of disaster management efforts.
- iii) Inform the community on all disaster related activities.
- iv) Report the President on all disaster management activities once a month in normal situation and every moment in disaster responding stages.
- v) Use & take responsibilities for all local/international donations.
- vi) Take responsibilities for usage of BNPB budget from National Budget (APBN).
- vii) Execute other obligations according to the regulations

- viii) Compile the Guideline regarding to the establishment of Local Disaster Management Agency (Badan Penanggulangan Bencana Daerah, hereinafter referred as “BPBD”)

At the local government level, BNPB will be assisted by BPBD. As of September 2008, establishment of these organizations are still in progress.

B. BRR NAD-Nias

Nanggroe Aceh Darussalam and Nias Agency for Rehabilitation and Reconstruction (Badan Rehabilitasi dan Rekonstruksi Nanggroe Aceh Darussalam dan Nias, hereinafter referred as “BRR”)

BRR was established by the President on 28 April 2005. The organization structure consists of Implementing Agency, a Steering Board, and an Oversight Board. BRR central office is in Banda Aceh and has two branch offices in Nias and Jakarta.

From the national budget, BRR has the allocation of IDR 12 trillion (2006), IDR 10 trillion (2007) and IDR 7 trillion (2008) respectively.

Donors and international NGOs were also actively participated in the Aceh & Nias reconstruction activities. As many as 500 NGOs (domestic & international) were involved since the first day of the disaster. The total fund contribution from the donors exceeded US\$ 6 billion.

After April 2009, BRR will be officially dissolved and the remaining tasks will be handed over to the local government of Aceh and Nias. It is being in plan that the new structure of the local BRR will be divided into six regional offices: five in Aceh and one in Nias (province of North Sumatera).

(2) Major Departments concerned to Disaster Management

Before the BNPB was established, government of Indonesia that didn't have any clear fixed regulation regarding which agencies are responsible for in a specific disaster. In practice, the central government has formed a special task force or a new agency if any big disaster occurred, like Aceh tsunami (new agency, BRR); Sidoarjo Hot Mud (a special task force, chaired by Public Works), etc. For a “small” & “routine” disaster like flood or landslide, government agencies have their own activities and in some cases, overlapping of activities & responsibilities between agencies were found. Currently BNPB is in progress to map all activities & the related agencies on particular disaster. The aim is to have sophisticated coordination among government agencies on disaster management activities. The following is the list of pertinent past disasters indicating the related agencies that have activities in this field, as investigated & published by State Ministry of Research and Technology in 2007:

Table 2.1.1.1 List of Past Disasters & Related Government Agencies

No	Agency	Type of Disaster		
		Earthquake & Tsunami	Flood	Sediment (Landslide)
1	<i>BNPB</i>	•	•	•
2	Meteorological & Geophysics Agency(<i>BMG</i>)	•	•	•
3	Volcanologist & Disaster Mitigation (<i>ESDM</i>)	•		•
4	Research & Technology (Ristek)	•	•	•
5	Assessment & Application of Technology Agency (<i>BPPT</i>)	•	•	•
6	Indonesia Research Institute (<i>LIPI</i>)	•	•	•
7	National Coordinating Agency for Survey & Mapping (<i>Bakosurtanal</i>)	•	•	
8	Aeronautics & Space (<i>LAPAN</i>)	•	•	•
9	Department of Public Works (<i>PU</i>)	•	•	•
10	Department of Forestry (Dephut)		•	•
11	Department of Social Affairs (<i>Depsos</i>)	•	•	•
12	Department of Health (<i>Depkes</i>)	•	•	•
13	Department of Agriculture (<i>Deptan</i>)			•
14	Department of Communication & Informatics (<i>Depkominfo</i>)	•	•	•
15	Department of Home Affairs (<i>Depdagri</i>)	•	•	•
16	National Agency for Search & Rescue (<i>BASARNAS</i>)	•	•	
17	National Armed Forces & National Police (<i>TNI/POLRI</i>)	•	•	
18	Institute Technology Bandung (<i>ITB</i>) Gajah Mada University (<i>UGM</i>)	•	• (plus <i>ITS</i> & <i>UI</i>)	• (plus <i>UI</i>)

2.1.2 Budget and Finance on Disaster Management

1) Natural Disaster and Socio-Economic View

(1) Economic Condition in Indonesia

The country continues the work of rebuilding and developing after the Asian financial crisis in 1997. Declining oil production and lack of new exploration investment turned Indonesia into a net oil importer in 2004. Economic reformers introduced three policy packages in 2006 to improve the investment climate, infrastructure, and the financial sector, but translating them into reality has not been easy. Keys to future growth remain internal reform, building up the confidence of international and domestic investors, combating corruption and strong global economic growth. Unfortunately, Indonesia suffered some big disasters in the period 2004-2007 including: tsunami in Aceh, a major earthquake near Yogyakarta, tsunami in South Java, an industrial accident in Sidoarjo, East Java that created a "mud volcano," and major flooding in Jakarta, all of which caused damages in the billions of dollars. Donors are currently assisting Indonesia with its disaster mitigation and early warning efforts.

(2) Economic Loss caused by Disaster in Indonesia

In the period 2004 – 2007, Indonesia suffered from not less than seven (7) major disasters, including two earthquake and two tsunami, major flood in Jakarta and its surrounding area (Jabodetabek), Avian Flu and one industrial disaster in Sidoarjo, East Java. All of this caused an economic loss of US\$ 12 billion, directly and indirectly. This amount is equal to almost 3.1% of Indonesian GDP in 2007 or equal to 15.8% of Indonesia Annual National Budget (APBN) from 2007.

Indonesia located in a region so called "Pacific Ring of Fire", a zone of frequent earthquakes and volcanic eruptions. More than 90% of world earthquakes and 81% of the big ones have occurred in this region. Indonesia also has 129 active volcanoes. Many of them erupted frequently over the last 10 years.

From the total US\$ 12 billion, the three disasters that caused the biggest economic lost to Indonesia were: Tsunami in Aceh (US\$ 4.5 billion), Jogjakarta earthquake (US\$ 3.1 billion) and the industrial accident in Sidoarjo, East Java (US\$ 3 billion).

On May 27 2006, an earthquake struck Bantul district of Yogyakarta. It caused 6,000 deaths with almost 40,000 injuries and a hundred thousand were homeless. National Development Planning Agency (Bappenas) estimated the total damage & losses were US\$ 3.1 billion, of which 91% was to private own houses and small scale industries.

Two days after Yogyakarta earthquake, the oil & gas exploration in Sidoarjo the center of industrial park, located 20 km south of Surabaya, started to spray out hot mud. Now, one year later,

the steaming mud pool is still growing at an estimated 100,000 – 150,000 cubic meters a day. More than 11,000 people from eight villages were displaced. 25 factories had to be abandoned. Infrastructure has been damaged extensively, including toll roads, railway tracks, power transmission systems, gas pipelines and national artery roads. It is expected that the mud eruption will last for years.

In 2007, Indonesian government allocated IDR 0.6 trillion and IDR 1.57 trillion in 2008 in the APBN for the infrastructure reconstruction. PT. Lapindo themselves will pay for people & housing relocation totaling an estimated IDR 2.5 trillion.

Facing such big economic losses within 3 years caused by disaster, has made Indonesia lose so much valuable resources and put extra pressure on the government budget, not to mention the human loss. With yearly country deficits of IDR 62 trillion (2007) and IDR 75 trillion (2008 – 1.7% to GDP), Government of Indonesia doesn't have much financial flexibility if any big disaster happens again.

Table 2.1.2.1 List of Major Disasters with Economic Loss in Indonesia (2004 – 2007)

No	Name	Economic Losses (US\$ billions)		
		Direct	Indirect	Total
1	Aceh & Nias Tsunami – December 26, 2004 ¹	2.92	1.53	4.45
2	Avian Flu ² (2004 -2005)	0.6	-	0.6
3	Merapi Eruption – April 2006 ³	No data	No data	20,000 people evacuated
4	Jogjakarta Earthquake – Mai 27, 2006 ⁴	2.5	0.7	3.1
5	Mud Volcano in Sidoarjo – East Java – Mai 29, 2006 ⁵	1.2	1.8	3
6	South Java Tsunami – July 17, 2006 ⁶	0.031	0.063	0.094
7	Flood in Jakarta & surrounding area ⁷ (Jabodetabek ⁸) – February, 2007	0.7	-	0.7
TOTAL (US\$ billions)				12
→ 3.1% from Indonesia GDP-2007				(IDR 110.4 trillion)
→ 15.8% from APBN 2007				

¹ Preliminary Damage & Lost Assessment – Bappenas 2004

² Dep. of Agriculture – Media Indonesia Online October 12, 2005

³ UN – Indonesia

⁴ Preliminary Damage & Lost Assessment – Bappenas 2006

⁵ Preliminary Damage & Loss Assessment – Bappenas April 2006

⁶ JRF Progress Report 2007 – World Bank Indonesia

⁷ EM-DAT: The OFDA/CRED International Disaster Database.

⁸ Jakarta, Bogor, Depok, Tangerang & Bekasi

2) Annual Budget of Indonesian Government in 2008

(1) Outline of National Budget in 2008

The Indonesian annual national budget (APBN) is mainly financed by the taxes. In the annual budget 2008, out of the total revenue of IDR 781 trillion, the taxes total 69% (IDR 592 trillion). These taxes included: income tax (PPh), value added & luxurious goods taxes (PPN/PPnBM), land & building taxes (PBB & BPHTB), custom, and international trade tax. Natural resources royalty (various royalties from industries like oil & gas, mining, forestry and fisheries) totaled IDR 126.2 trillion (15%). The balance of income was sourced from state owned enterprises profits, and other legal income.

Since the decentralization policy in 2001, transfer to region has been increasing sharply from year to year. In 2008, this portion was 32.0% (IDR 281.2 trillion) from all government budgets. The central government budget in 2008 totals IDR 573.4 trillion.

From the total IDR 573.4 trillion, the central government budget is allocated as follows: 49.4% (IDR 283.3 trillion) is used for the ministries/agencies annual budget; 15.9% (IDR 91.3 trillion) for interest payments; 17.0% (IDR 97.9 trillion) for subsidy; 11.5% (IDR 66.2 trillion) for social assistance and the balance of 4.3% (IDR 25.0 trillion) for other expenses.

In 2008, the Interest payment will consist of: domestic debt interest payment (68.6%) and external /foreign debt interest payment (31.4%), which is very vulnerable to the fluctuation of the US dollar.

The subsidy program is the most popular government policy for the people. But this also has the highest political risk for the government. One of the reasons why the Suharto regime was so powerful and popular was because he believed in the effectiveness of the subsidy program. Nowadays, many people still associate the Suharto regime with the availability of daily goods at affordable prices. The momentum of his regime fall also started when he decided to increase fuel prices and that was soon followed by major demonstrations all over Indonesia.

Items that still receive subsidy from government in 2008 are as follows: selected fuel (BBM) prices, electricity, rice for the poor, seed, fertilizer and state owned enterprises (BUMN) which have public service obligations.

The social assistance consists of IDR 3 trillion for government reserve fund for disaster management and IDR 63.2 trillion for social assistance programs which will be implemented by particular ministries/agencies. These programs included: BOS (the school operational assistance fund) by department of national education (DEPDIKNAS); free health services for the poor in the community health center (PUSKESMAS) or class III rooms in public hospitals or in selected

private hospitals by Department of Health (DEPKES); and the cash for the poor program (SLTB) by Coordinating Agency of Social Welfare (KESRA).

Other expenses consist of: budget for the preparation of national election in 2009; funds for the government rice reserve program and other activities that were not allocated before.

Table 2.1.2.2 Indonesian Budget from 2004 - 2008

Item	In IDR trillion (Exchange Rate 1 US\$ = IDR 9150, - June 2008)					
	2004 ⁹	2005 ¹⁰	2006 ¹¹	2007 ¹²	2008 ¹³	2008 (Revision) ¹⁴
Revenue	403.8	380.4	659.1	684.5	781.2	895
Budget (Total National)	430	397.8	699.1	746.4	854.7	989
Central Government	300	266.3	478.2	493.9	543.4	697
Transfer to Region	130	131.5	220.8	252.5	281.2	292
Deficit	- 26.3	- 17.4	- 40	- 61.9	-73.5	-94

Soon after the finalization of the national budget (APBN) 2008, the major economic indicators changed rapidly. Oil & commodity prices went to record highs. This pushed the government to promptly revise the annual budget. The central government budget is almost IDR 700 trillion. A big portion goes to subsidies (energy & non energy¹⁵). The subsidies now cost the government more than IDR 200 trillion. In contrast, agencies budgets are cut to 15% (Bakornas PB is not included), as the government tries to limit the current budget deficit.

(2) General Allocation of National Budget

In the last four (4) years, there were five (5) departments that always had the biggest allocation in the APBN. These traditionally big five are: Department of Defense, Department of Education, Department of Public Works, Indonesian National Police and Department of Health. They received 50% from the total allocation for all central government departments/agencies. In the budget of 2008, from total allocation of IDR 311.9 trillion, these five ministries received almost 53%. BAKORNAS PB (BNPB), which will take over the budget for 2008, in contrast has only 0.035% (IDR 111.3 billion) of the total.

⁹ APBN – Source: *Nota Keuangan dan APBN2005* – Department of Finance (DoF)

¹⁰ APBN – Source: *Nota Keuangan dan APBN2005* – DoF

¹¹ APBN-P – Source: *Nota Keuangan dan APBN2007* – DoF

¹² APBN-P – Source: *Nota Keuangan dan RAPBN 2008* – DoF

¹³ APBN – Source: *Nota Keuangan dan RAPBN 2008* – DoF

¹⁴ APBNP 2008 – Source UU No. 16/2008 – Mai 2008

¹⁵ Energy include subsidy for gasoline, kerosene, diesel and oil prices for the state own electricity company (PLN). Non-energy include subsidy for rice prices for the poor, palm oil, soybean, fertilizer for farmers, etc.

Table 2.1.2.3 List of Selected Departments with Respective Budget (2005 - 2008)

No	Government Agencies	BUDGET (in IDR billion)				
		2005	2006	2007	2008	2009 ¹⁶
	Total Allocation for Ministries/ Agencies in central Government ¹⁷	127,422	156,251	258,005	311,947	312,775
1	National Coordinating Board for Disaster Management (<i>BAKORNAS PB</i>)	5.01 + (13.77 ON CALL ¹⁸)	43.78 + (328.00 ON CALL)	61.49 + (15.00 ON CALL)	111.3 ¹⁹	
	National Agency for Disaster Management (<i>BNPB</i>)	-	-	-	-	153
2	National Education (<i>DEPDIKNAS</i>)	21,585	31,462	44,058	49,701	51,987
3	Public Works (<i>PU</i>)	13,081	21,300	24,213	36,109	35,663
4	Defense (<i>DEPHAN</i>)	21,979	27,484	32,640	36,399	35,032
5	Indonesian Police	11,169	16,618	20,041	23,347	25,658
6	Health (<i>DEPKES</i>)	7,796	14,291	17,236	19,704	19,299
7	Meteorology and Geophysics (<i>BMG</i>)	180	534	657	801	817
8	Indonesian Institute of Science (<i>LIPI</i>)	NA	681	545	580	498
9	Assess. & App. of Technology (<i>BPPT</i>)	NA	397	522	569	544
10	Research and Tech. (<i>RISTEK</i>)	1,397	423	446	498	440

(3) Existing Budgeting and Funding for Disaster Management

In the past, the total Indonesian budget for disaster management was hardly made since the budget was spread around many departments/agencies, both in local and central government. Many of them have their own special allocation for disasters, mainly in form of tactical funds, which can be used promptly, but they never publish such figures. To trace them one by one is almost impossible, since Indonesia consist of 33 provinces and 483 districts/cities, plus more than 30 departments/agencies in central government. Moreover, there is no obligation for them to report back to any relevant authorities or to BAKORNAS PB/BNPB as the main coordinator on disaster issues. This study compiled the most significant budget allocated for disaster, as far as they are published; it is based on many government documents as well as interviews with the related officers.

A. Budget for BAKORNAS PB in the past years

BAKORNAS PB is the main board in Indonesia that responsible for disaster issues. This coordinating board was firstly formed by the government in 1999 to deal with social conflict across Indonesia. It has become well known among Indonesians after the tsunami disaster in Aceh. Its human resources are coming from many ministries. After a series of major disasters during

¹⁶ "Temporary Budget", Department of Finance (July 2008)

¹⁷ Including *DPR* (House of Representative/Parliament), *MPR* (People Consultative Assembly), *BPK* (Supreme Board), *Mahkamah Agung* (Supreme Court), *Jaksa Agung* (Attorney General), *Kepresidenan* (President expenses), *Wakil President* (Vice President expenses), *KPU* (National Election Commission) & *Mahkamah Konstitusi* (Constitution Court)

¹⁸ Contingency fund that can be used in case of disaster emergency

2004-2007, the Parliament and government issued the new Law No.24/2007 regarding disaster management, which ordered the government to form a new permanent agency responsible for disaster management activities. This agency is National Disaster Management Agency (*BNPB*) and has replaced *BAKORNAS PB* in January 2008 (more practically in May 2008)

Table 2.1.2.4 BAKORNAS PB budget & Its On Call Money (2004 – 2008)

No	ITEM	BAKORNAS PB Total Budget (IDR billions) 20				
		2004	2005	2006	2007	2008
1	State Annual Budget (APBN)	3.94	5.01	43.78	61.49	111.3
2	ON CALL Money	65.84	13.77	328.00	15.00	NA*
	Total	69.79	18.78	371.08	76.49	111.3

Note: * in the draft government regulation on managing the disaster management fund, stated that the national reserve fund for disaster management allocation will be budgeted by BNPB (article 12 point C). In 2008, the amount is IDR 3 trillion.

B. PARTICULAR FUND FOR EXTRA-ORDINARY DISASTERS

Beside *BAKORNAS PB*, there are many allocations in other departments/agencies that are related to disaster management activities. The biggest one is the allocation until April 2009 on BRR for Aceh and Nias as mentioned above. The second biggest one is the allocation for recovery of Yogyakarta earthquake disaster. Public Works and Department of Social Services also have a very significant allocations to handle disaster issues. For each year in 2007 and 2008, Department of Public Works had an allocation for flood controlling infrastructure development not less than IDR 2 trillion. Department of Social Services also have budget for emergency response that totaled IDR 0.55 trillion in 2008. Government of Indonesia also allocated national fund for disaster management in APBN. This fund had amounts of IDR 3 trillion (2008), IDR 2 trillion (2007), IDR 2.9 trillion (2006) and IDR 3.2 trillion (2005). This fund is not allocated for specific departments/agencies, but will be used by the government as needed and for all disasters in the whole Indonesia.

a) Aceh Tsunami Disaster

In April 2005, the government of Indonesia received a debt waiver from the Paris Club (consist of 19 world rich countries including Japan) in amount of US\$ 2.7 billion (\pm IDR 21 trillion). The report “*BRR One Year*” stated that the government allocated these funds for Aceh & Nias reconstruction activities over four-year budget period.

According to World Bank report²¹, until 2007, the reconstruction process in Aceh and Nias totaled not less than US\$ 8 billion. US\$ 4.9 billion (61.1%) was allocated for particular projects and programs. Additional US\$ 3.1 billion (38.9%) has been pledged. From the total US\$ 8 billion,

¹⁹ Allocation in *RAPBN 2008*, likely is taken over by *BNPB*

²⁰ Source: *BAKORNAS PB* – August 2007

²¹ “Aceh Public Expenditure Analysis” – World Bank Indonesia 2006

Government of Indonesia will provide 34% (2006-2009), the balance of 66% was sourced from donors and NGOs that actively supported the government in all stages of the disaster. The rehabilitation & reconstruction activities are scheduled to be ended in 2009, the time when the BRR will be officially dissolved.

b) Yogyakarta Earthquake Disaster

According to *Bappenas*, until May 31, 2006, donations received from the international communities in the emergency stage totaled US\$ 64 million (including US\$ 5 million from European Commission (EC) that was allocated to Europe NGOs) and many emergency goods.

For reconstruction phase, the EC and the governments of the Netherlands, United Kingdom, Canada, Finland and Denmark stepped forward to contribute to the Java Reconstruction Fund (JRF) managed by the World Bank, providing US\$ 79.6 million in support. The housing sector received the largest allocation of reconstruction funds (76%), followed by the education sector (9.5%).

From the Indonesia side, the government allocated IDR 2.7 trillion in 2007 for the reconstruction of Yogyakarta and Central Java.

JICA was amongst the first international agencies that responded to the disaster. A medical team was dispatched to Yogyakarta on May 28, 2006, one day after the earthquake. Other JICA contributions included: community based rehabilitation through partnership with local universities and NGOs in various sectors and the restoration of social services & the local economy.

c) Department of Public Works Budget for Disaster Prevention

Public Works has many projects related to natural disaster prevention issues. In the APBN there is a flood controlling and coast salvage program. In 2007, one big project in this program was the “East Canal Flood controlling system. The total cost for this project is estimated at IDR 4.9 trillion (2004-2010) and will be shared between Public Works and the local government of Jakarta. For 2007, Public Works themselves separately allocated IDR 1.65 trillion for another component of the routine improvement of infrastructure in rivers and coastline in all Indonesia.

d) Department of Social Services

Department of Social Services has a budget allocated for a program of “assistance and social welfare security”, which totals IDR 0.64 trillion. Two components from this program are directly related with disaster management:

- providing basic aid of food, clothes, woods and other emergency relief facility for disaster victims amounting to IDR 0.4 trillion.

- Providing a stimulus for relief of housing materials for disaster/conflict victims amounting to IDR 0.15 trillion

In *APBN 2007* and *APBN 2006*, the same program had a budget totaling IDR 1.5 trillion and IDR 0.6 trillion respectively.

There is no further information available about the particular components that are directly related with disaster management.

(4) Analysis of National Budget for Disaster Management

A. Comparison with Indonesian GDP

Based on the various findings as stated in the previous chapter about the budget on disaster management activities in Indonesia, one of the approaches to define an appropriate national budget for disaster management is by comparing its total amount with the GDP of the respective year. This will give an overview of how much the government had spent in the previous year on disaster management activities.

Table 2.1.2.5 Indonesian Total Budget for Disaster Management (2005 – 2007)

No	Items	Budget (in IDR trillion) (Exchange Rate 1 US\$ = IDR 9150, - July 2007)			
		2005	2006	2007	2008
1	Disaster Management Reserve Fund (central government) ²²	3.2	2.9	2	3
2	<i>BAKORNAS PB</i> annual budget + ON Call Money	0.019	0.37	0.076	0.111
3	Public Works allocation for Flood controlling system ²³	1.3	2	2	2
4	Dept. of Social allocation for emergency response (2008: IDR 0.55 trillion)	No data	No data	No data	0.55
5	BRR (Aceh)	0	12	10	10.19
6	Yogyakarta & Central Java Earthquake	0	0	2.7	0.65
7	BPLS (The Sidoarjo Mudflow Mitigating Agency) ²⁴	0	0	0	1.1
	TOTAL Budget	4.519	17.27	16.776	18.29
	GDP (Current Price) – IDR trillion ²⁵	2,785	3,338	3,760	4,497
	Percentage to GDP (Current Price)	0.16 %	0.5%	0.45%	0.42%

²² Source: *RAPBN 2006 & 2007*

²³ Source: *RAPBN 2005, 2006 & 2007*

²⁴ Source: *RAPBN 2008*

²⁵ IMF – World Economic Outlook Database, April 2007 – accessed online at <http://www.imf.org/external/pubs/ft/weo/2007/01/data/weoselgr.aspx>. GDP of 2007 is an estimated value by IMF staffs.

B. Assessment of National Disaster Management Budget in 2008 & 2009

In the approved First Draft of National Budget (RKP) 2009, the government of Indonesia is focusing to anticipate the disasters caused by global climate change. All related activities are compiled into Priority II, Focus No. 5 regarding disaster mitigation and adaptations to global climate change. This focus consists of 27 activities and will be executed by 9 agencies with total budget of IDR 1.73 trillion. Other disaster related significant spending includes: Aceh & Nias (IDR 1.7 trillion), Public Works flood controlling (IDR 1.9 trillion) & Sidoarjo Hot Mud (IDR 1.1 trillion).

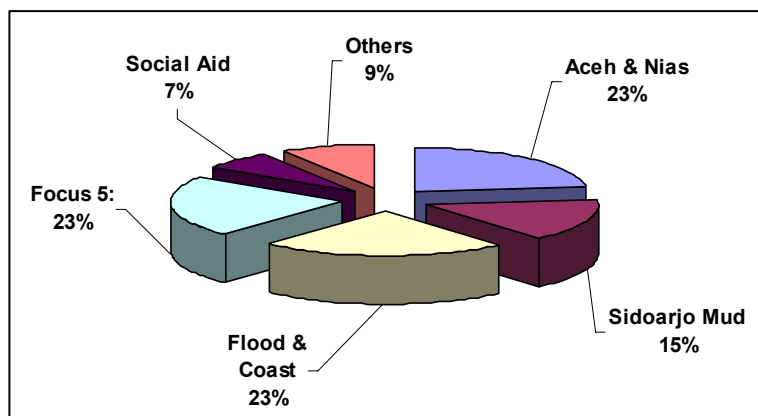


Figure 2.1.2.1 Composition of Disaster Management fund (Draft) in 2009

Table 2.1.2.6 List of Disaster Related Activities in 2009 and Their Anticipated Budgets (RKP 2009)

No	Focus/ Activities	Implementing Agency	Budget Indication (IDR billion)
1	Social Aid distribution	Social Affairs	515
2	Flood controlling & coastal salvage infrastructure	Public Works	1,922
3	Sidoarjo Hot Mud	<i>BPLS</i> ²⁶	1,172
4	Aceh & Nias	Public Works, Transportation, Home Affairs, Religion, Ministry for Acceleration of Development in Backward Regions, National Land Agency, local government.	1,784
5	Crisis Management – tackle health issues in disaster affected area	Health	200
Priority 2 – Focus 5: Mitigation capacity enhancement & adaptation to the global climate change			
1	Various activities, include: Forest rehabilitation; enhancement of organic & sustainable agriculture; sea conservation; controlling the land, forest fire & environment destruction; Meteorological Early Warning System; Spatial planning; IDSN development & research for local border conflict resolution	Agriculture, Marine & Fisheries, Forestry, Environment, BMG, Home Affairs, Public Works, <i>Bakosurtanal</i> , <i>BNPB</i>	1,730

Table 2.1.2.7 List of Disaster Related Activities in 2008 and Their Respective Budgets (RKP 2008)

No	Focus/ Activities	Implementing Agency ²⁷	Budget Indication (IDR billion)
1	Social Aid distribution	Social Affairs	550
2	Flood controlling & coastal salvage infrastructure	Public Works	2,000
Priority 8: Disaster Management, Disaster Risk Reduction & Improvement on Eliminating the communicable Diseases (total IDR 9,439.8 billion)			
1	Rehabilitation & Reconstruction programs in Aceh & Yogya	<i>BRR</i> & various agencies	7,380
2	Simplification of Disaster Risk Reduction Action Plan	<i>BNPB</i> , <i>Ristek</i> , <i>LIPI</i> , <i>DKP</i>	127
3	Institutional & Human Resources Capacity Building in early warning system & disaster mitigation	Home Affairs, <i>BNPB</i> , <i>Depkominfo</i> , Social Affairs, <i>Bakosurtanal</i> , <i>Ristek</i> , <i>Lapan</i> , <i>BMG</i>	1,028
4	Utilization of national and regional Spatial Use Management with concern of disaster risk reduction	<i>Bakosurtanal</i> , Public Work, Home Affairs, <i>DKP</i>	304
5	Improvement on Eliminating Communicable Disease and Tackling the Avian Influenza	Health, Agriculture, <i>Depkominfo</i>	604

²⁶ BPLS = Sidoarjo Mudflow Disaster management agency.

²⁷ *BRR* = Aceh & Nias Rehabilitation and Reconstruction Agency; *RISTEK* = Ministry of Research & Technology; *LIPI* = Indonesia Institute of Science; *DKP* = Department of Maritime & Fisheries; *Depkominfo* = Department of Communication and Information; *Bakosurtanal* = Survey & Mapping; *BPPT* = Research and Application of Technology; *LAPAN* = Aeronautics and Space - Remote Sensing; *BMG* = Meteorology and Geophysics; *BPLS* = Badan Penanggulangan Lumpur Sidoarjo

C. Assumed Appropriate National Budget for Disaster Management

According to the new Government Regulation No.22, 2008, there are two sources of disaster management funding: one is from the government and the other is from the NGOs. Government fund can be classified as follows:

- Disaster management Reserve fund, allocated in APBN.
- BNPB budget, allocated in APBN
- BPBD budget, allocated in APBD²⁸.
- Donation/ Disaster Grant in APBN/APBD and Foreign Loan (PHLN)
- Pre- and Post disaster activities allocation in departments/agencies.

Non Government fund are sourced from:

- Fund raising by the community organizations, mass media and other community based organizations.
- Disaster Insurance of non-governmental institution assets

For all funding that was sourced from the government, in 2008, more than IDR 5.113 trillion will be available for disaster management activities. This amount comes from allocation in the departments/agencies (APBN 2008 that focusing on disaster management IDR 2 trillion, excluding the Aceh & Yogyakarta allocation), Disaster Management Reserve Fund IDR 3 trillion and BAKORNAS PB (BNPB) budget for 2008 IDR 0.113 trillion. Other funds, if any, do not identify such allocation.

From past experience (2004-2007), BAKORNAS PB didn't have any control over these funds unless it was in their own budget. There are three important points in the new regulations on managing the disaster management fund, which can be a very positive development not only for BNPB, but also for all disaster related activities in Indonesia:

- BPBD shall be established and get funds from the local government budget.
In the past, BAKORNAS PB was involved in every kind of disaster, small and big, local and national. The local governments it seems didn't play a significant role, and were only active in the emergency response stage without sufficient funds or capacity. To cover 33 provinces, 483 districts/municipalities²⁹ plus more than 60,000 villages only by BNPB is absolutely impossible. However, with the revised BPBD, there is a big chance that disaster management related activities can be better planned, coordinated and implemented.
- The Law also states that the reserve fund for disaster management will be managed by BNPB. This fund has been very significant: IDR 3 trillion (2008), 2 trillion (2007), 2.9 trillion (2006) and 3.2 trillion (2005). All this time, this fund was not allocated to specific

²⁸ APBD = local government budget

²⁹ Status: July 2008 (including 12 newly established districts/municipalities)

departments/agencies, but was used as needed by the government, and mainly in the emergency response & post-disaster stages only.

- It is to be understood that budget allocation for pre and post disaster management to the departments will be coordinated by BNPB. This can be interpreted to mean that BNPB will be involved in the drafting process of the annual national budget, and that the government annual working plan, especially on disaster related activities, will be executed by BAPPENAS alone. In other words, all disaster related activities/projects in other departments/agencies, both in pre and post disaster stage, must be planned and coordinated by and with BNPB. They must be informed of and approved all projects related to disaster issues.

However, in comparing with other established agencies with the same number of staff, it can be said that budget of IDR 111.3 billion (2008) for BNPB having staff of between 100 (minimum) to 200 (maximum) is relatively smaller, considering how complex and comprehensive the tasks are that they have to implement. Reconsideration of allocation budget to BNPB may be required.

D. Conclusion of Analysis

At the present stage (as of October 2008 when the time the budget 2009 has not been confirmed.), regarding the study on funding and budgeting for disaster management at the national level, the analysis is concluded as follows:

1. The budget for disaster management needs to be sufficient within the capacity of the whole government annual funding, taking into consideration the events in the past years when Indonesia has been heavily affected by disasters, particularly those occurring in the three years (2004 – 2007) with economic loss estimated to total US\$12 billion (IDR.110 trillion). The gravity of budget allocation should be shifted from post-disaster to pre-disaster, and sufficient budget should be allocated to all relevant government agencies and local governments under single directives and coordination by concerned authorities including BAPPENAS, Department of Finance as well as BNPB.
2. Annual budget 2008 has been authorized and the total amount for disaster management to be allocated to the relevant agencies is assumed to be approximately IDR.5.1 trillion, which is broken-down into (a) approx. IDR.2 trillion for prevention and mitigation activities by various agencies, (b) IDR.3 trillion as a reserve fund for emergency use under initiatives and coordination of BNPB, and (c) IDR.111 billion for general operational expense of BNPB.
3. Regarding to the above assumed government budget, there are two points to be noted. (a) The allocation of 2 trillion to relevant agencies should be under coordination and

monitoring by BNPB. The allocation for 2009 should be under the initiatives and coordination by BNPB with BAPPENAS. (b) IDR.111 billion for general expenses of BNPB is unlikely to be sufficient since the capacity and responsibility as well as consequently the activities will be drastically expanded in comparison with the past BAKORNAS PB which has been a coordinating agency and has coordinated disaster management activities of concerned government agencies under the direction of the committee formed by the Vice President and the line ministers. BNPB is not only coordinating such activities but also directly conducts Pre-Disaster, Emergency Response, and Post Disaster with BNPB's own budget and by BNPB's own officials and staff. Therefore, not only the increase of staff members (It is said that about 100 members at present will be 200 by the Presidential election in October, 2009.), but also the budget should be double or more.

4. In the general scheme of the government annual budget allocation, it is understood that some 33% which is equivalent to IDR 281 trillion, out of total IDR 854 trillion, is to be transferred to the local governments. Although this reserve fund for emergency use amounting to IDR.3 trillion will be used at the time of disaster occurrences under coordination of *BNPB*, it should not be forgotten that the prevention and mitigation of disasters is also to be coped with by every local government and supported by sufficient government budget. If the amount is proportionally the same as that of the above mentioned IDR 2 trillion for activities by various concerned agencies of the central government, it might total approximately IDR 2.15 trillion, since available amount to the central government after exclusion of "subsidies", "loan interest payments", "social aids", and so forth is IDR.261 trillion, and the IDR 2 trillion is 0.7% of it, and 0.7% from total local government budget as mentioned IDR 271 trillion is equivalent to IDR 2.15 trillion. This budget should be allocated again to the various local government agencies under the coordination of BPBD, for which organizational structure, number of depots, size, capacity, etc will be decided hopefully by the end of 2008.
5. The mechanism of funding and budgeting of BNPB as well as BPBD points of view need to be discussed further, with consideration of their responsibilities and capacity. If the total budget assumption is the same as the result of the previous analysis, then the available funds and its budget allocation for the disaster management will be approximately IDR 7.26 trillion (including for BPBD) which is equivalent to 0.85% out of the total government annual budget of 2008, or 1.2% out of the total government annual budget excluding for subsidies, loan interest payments, social aids, and so on. In comparison with that of Japan (5% out of general account, or 1% of the total special accounts), it seems sufficient. However, on the other hand, it is understood that disaster management is comparatively new in Indonesia, and the development of legal, institutional and capacity enhancement,

social and community awareness, disaster management planning, etc. as well as financial matters will be comprehensively implemented, and therefore, the size of assumed annual budget might be within adequate range for the present or forth coming years. (See Chapter 2.6 Action Plan for Enhancement of Capacity)

6. The current status shows that some local governments, especially in disaster prone areas, are actively increasing their own capacity in disaster risk reduction; for example:
 - Provincial government of Central Java has established an agency called Secretariat of BPBD³⁰ which is responsible to the Governor through the local government Prime Secretariat (*Sekda*)³¹. The main task of this new agency is to draft & execute local policies for disaster management activates (article 8).
 - Provincial government of Central Java & kota Yogyakarta³² have drafted the regional action plan on disaster risk reduction which includes matrix of activities & the related agencies that will implement them.
 - The city of Padang already has a local government regulation (*Perda*) on disaster management³³ and now is in the process of developing the *BPBD*.

On one side, the current development is very positive since it shows that the local governments are now very aware of disaster issues. However, on the other side, this shows the importance of coordination & efforts regarding the planning & institutionalization of disaster management. Disaster management activities should not be a “stand alone” effort, but they should be comprehensive & cross agency activities that are coordinated systematically in order to prevent overlapping between agencies.

7. Lastly, BNPB with the concerned authorities at the top of the government administration should be directly concerned with international cooperation which may be extended to Indonesia at the time any big disaster occurs in Indonesia. The extended goods, services, and funds should be initially handled by BNPB (with other concerned authorities) within its capacity which should be expanded from year to year from now on.

³⁰ June 2008.

³¹ Perda Jateng No.10/2008, article 7.

³² Mayor of Padang Decision No.669/2007 dated December 19, 2007.

³³ Issued on Feb 22, 2008 – source (Padang Ekspres, <http://www.padangekspres.co.id/content/view/279/105/>)

2.1.3 Indonesian Disaster Management Reform through Law No.24

1) Background

(1) Necessity of Establishment

After the experience of the earthquake and tsunami that attacked Aceh as well as coastal areas facing Indian Ocean, in December 2004, a series of big natural hazards such as Nias earthquake, Yogyakarta earthquake and so forth, have forced the government of Indonesia to drastically reinforce its legal and institutional framework including the development/ establishment of Laws, Regulations and Institutions.

Thus, National Action Plan for Disaster Deduction 2006-2009 was prepared and published in January, 2007. It indicates the necessity of Disaster Management to be conducted by the central government and the Plan lists up all necessary activities of every concerned government sector to be implemented every year from 2006 to 2009.

The realization of those Disaster Management stipulated in the National Action Plan should be legally, institutionally and financially supported, and therefore the pertinent laws and regulations needed to be firstly established.

(2) Legal Background

A. The hierarchy of Indonesian Legal System and Disaster Management Law

Currently, the prevailing hierarchy of Indonesian Legal System was regulated by Law No.10/2004 and others as follows:

- **UUD 1945** (Undang Undang Dasar 1945) : Constitution
- **UU** (Undang Undang) : Law, or
- **PERPU** (Peraturan Pengganti Undang Undang) : Government Regulation in lieu of Law
- **PP** (Peraturan Pemerintah) : Government Regulation
- **PERPRES** (Peraturan Presiden) or
- **KEPPRES** (Keputusan Presiden) :Presidential Regulation or Presidential Decree
- **PERDA** (Peraturan Daerah) : Local Government Regulation

B. Scheme of each Law relating to Disaster Management

a) UU

UU is proposed/formulated by House of Representative or Government.

The scope of UU¹ is to further regulate UUD 1945 on the following issues:

1. Human Rights

¹ UU No. 10/2004 article 8

2. Citizenship Rights and Responsibilities
3. Implementing the national sovereignty and power sharing between state agencies
4. Area of the state and population distribution
5. Citizenship and residency
6. State Finances

Outside the above six scopes, a law being formulated should specifically direct to further establishment of elaborated regulations (such as Government Regulations and Presidential Regulations). UU must be approved firstly by the House of Representative and finally by the President for legalization.

Disaster Management Law No.24 Year 2007 is UU and they established the relevant regulations.

b) PP

PP is promulgated by President in order to enforce UU, since UU itself is a general regulation which needs more definition and elaboration.

In some cases, the President can issue PP without superior UU. It is called as “PP *Mandiri*” and its contents must not include the above mentioned 6 (six) aspects of UU.

Disaster Management Law was elaborated in the PP, as Government Regulation.

c) PERPRES

The President promulgates PERPRES on two conditions:

1. If it is directly ordered by UU, or
2. To enforce and to clarify the relevant PP

PERPRES has the nature “to regulate” (*Regeling in Dutch*), which means that it regulates some issues. In Indonesian law hierarchy, the word PERPRES has been used after 2004, when Law No. 10/2004 was enforced.

Disaster Management Law was elaborated in the PERPRES as Presidential Regulation.

d) Local Government Regulation

The scope of the local government regulation is to enforce the decentralization process, to deal with the specific conditions of each region and to clarify higher ranked regulations.

1. Provincial PERDA

Provincial PERDA is formulated & stipulated by both the provincial level House of Representative and the Governor.

2. District/Municipality PERDA

District/Municipality PERDA is formulated & stipulated by both the district/municipality level House of Representative and the Major/Head of District.

3. **Village PERDA**

Village PERDA is formulated & stipulated by the council of village representative and the head of village.

e) **Other regulations relevant to disaster management**

Minister regulation Permen No. 33, 2006: General guide of disaster mitigation

Minister regulation, Permen no.33, 2006, on general guide of disaster mitigation, was enforced in October 2006. This regulation is based on several laws and regulations, including:

- i) UU No. 32, year 2004, regarding local government with modifications through UU No. 8, year 2005 on the determination of law replacement's regulation No. 3, year 2005, regarding local government to become a law
- ii) Keppres No.165, year 2000, regarding position, roles, functions, authorities, organizational charts, and working system of department with modifications through Keppres No. 37, 2001, regarding second change of Keppres No. 165
- iii) Keppres No. 83, year 2005, regarding BAKORNAS PB
- iv) Permen No. 130, year 2003, regarding organization and working system of departments
- v) Permen No. 131, year 2003, regarding disaster management and refugee handling in a region.

2) **Review on Law No.24**

(1) **Structure and general contexts**

There are 12 sections found in this Law No. 24, discussing: i) general provisions, ii) base, principles and purpose, iii) responsibilities and power of government, iv) institutional structures, v) social rights and obligations, vi) role of business organizations and international agencies, vii) organization of disaster management, viii) funding and management of disaster assistance, ix) supervision, x) dispute resolution, xii) temporary resolution as well as xi) penal provisions.

The broad purpose of this law is to secure the Indonesian people and territories by managing disasters, from which Indonesia has suffered in terms of exposures, frequencies and to which it has been exposed to in terms of vulnerabilities and risks. In bringing disaster management into action, responsibilities and authorities of the national government and regional governments are identified in this law through items like development activities, social protections, securing funding for disaster management. The section about institutions defines duties of national government, the national disaster management agency, by forming a steering committee and an executing body. The regional disaster management agency has a similar structure and duties, yet it has more contents which are specific because of the position closer to the locality. This law also covers social rights and obligations of the citizens and international agencies, as well as business

organizations. In the section of phasing, the law defines that disaster management is to be organized in the three phases: pre-disaster, emergency response and post-disaster. Particularly, pre-disaster by Law No. 24 covers the situation: i) during absence of disaster event and ii) during potential occurrence of disaster event. According to this law, works needed during emergency response include: i) assessment of damage, ii) identification of the status of emergency response, iii) rescue and evacuation, iv) fulfilling basic needs, v) protecting vulnerable persons, and vi) immediate recovery of vital infrastructure and facilities. Lastly, post-disaster activities, in the law, cover rehabilitation and reconstruction.

The law also defines that funding is the responsibility for both national and regional government, while they should also seek for support from the public. Finally, penalties are mentioned against those who are hindering safety of the nation in the development activity.

(2) Elements to be highlighted

There are several elements that are important to be noted in this law. These are covered in wide sections:

Basis

1. Due to lack of regulations about on-going disaster management issues, particularly on need to plan and coordinate a framework that put into disaster management activities into action.

Section I: General

1. Disaster shall include other events than those caused by natural hazards in this law, including infective diseases and man-made disasters, such as ethnic and territorial conflicts.
2. The law provides regulations on disaster management for each phase and disaster sensitive development policies.
3. State of disaster emergency will be declared by the President on recommendation of new National Disaster Management Agency.

Section II

1. Regulates coordination and cohesiveness for basic disaster management strategy.

Section III

1. States that the president and the governors of local governments shall be responsible for organization of disaster management. [Article 5]
2. Regulates disaster risk reduction and incorporation of disaster risk in development policies. [Article 6] (related to Hyogo Framework for action).
3. Regulates establishing and pooling disaster management budgets at national level [Article 6, e]

4. States that disaster management fund shall be prepared and allocated on the basis of on-call [Article 6, f].
5. Regulates the executive branch of national policies, directed by the President, to be responsible for disaster management policies aligned with national developing policies and for proclaiming status and level of national and regional disaster. [Article 7]
6. Regulates responsibilities of regional government [Article 8, and 9].

Section IV

1. The president shall establish a new national disaster management agency in accordance with article 5. [Article 10]
2. The new agency will not be established at the level of ministry [Article 10].
3. New agency shall include both a steering committee and an execution body [Article 11].
4. New agency shall decide guidelines of disaster management [Article 12].
5. New agency shall regulate disaster management efforts based on the Law. [Article 12]
6. The disaster management agency has the responsibility to report to the president the situations at both normal and emergency state. [Article 12]
7. New agency shall allocate the fund and monitor the use of both domestic and international funds for disaster related activities. [Article 12]
8. New agency shall be responsible for accounting of national budget allocated to disaster management measures and policies. [Article 12]
9. The new agency shall also be responsible for other activities and functions based on laws. [Article 12]
10. The new agency shall prepare guidelines on establishing organization for regional disaster management. [Article 12]
11. The new agency shall develop and regulate policies on disaster management and internally displaced person (IDP) policies. [Article 13]
12. The new agency shall be responsible for implementing integrally planned and coordinated disaster management activities for pre-disaster, emergency response and post-disaster. [Article 13]
13. The steering committee of the new agency shall develop a conceptual framework of national disaster management policies as well as monitor and evaluate the disaster management efforts. [Article 14]
14. The steering committee shall include government officials and experts. [Article 14]
15. The steering committee is depended on the approval of the members of House of People's Representatives. [Article 14]
16. The establishment of executing body for disaster management is depended on the President. [Article 15]

17. The executing body shall be mandated to all coordination, command and implementation of disaster management efforts. [Article 15]
18. Issues that need to be regulated by the law, on establishment, function, responsibility, organizational structure and implementation of national disaster management agency shall be enforced by the presidential regulation. [Article 17]
19. Governor, district head and mayor establish the regional disaster management agency at each level. [Article 18]
20. Regional disaster management agency consists of steering committee and executive body and is established through coordination with national disaster management agency. [Article 19]
21. Regional disaster management center is responsible for disaster and IDP management policies and coordination of disaster management activities. [Article 20]
22. Regional disaster management agency is responsible for stipulating guidelines and directives in accordance with local government policy and national disaster management agency, preparing map of disaster prone area, reporting progress in disaster management to the regional head and accounting for use of fund from regional budget. [Article 21]
23. Functions of regional steering committee are formulating regional disaster management policy concept, monitoring and evaluating regional disaster management efforts. Regional steering committee consists of regional government organization and experts and the members are dependent on the approval of Regional House of People's Representatives. [Article 22]

Section V

1. Every person is entitled to education, training and skills in disaster management. The disaster affected is entitled to assistance to fulfill the basic needs and compensation for loss due to construction failure. [Article 26]
2. On the other hand, every person has the obligation to implement disaster management activity and provide accountable information to the public about disaster management. [Article 27]

Section VI

1. Business organization shall obtain opportunity for disaster management efforts and submit report to government and/or agency assigned to manage disaster. [Article 29]
2. International agencies and foreign non-governmental organizations may participate in disaster management activity and obtain guarantee of protection from the president towards their employees. [Article 30]

Section VII

1. The president may stipulate disaster prone regions as the prohibited ones for settlement and/or reduce the right of ownership over a thing in accordance with regulations of law. Every person whose right of ownership is reduced is entitled to compensation. [Article 32]
2. Disaster management efforts consist of 3 phases; pre-disaster, emergency response and post-disaster. [Article 33]
3. Disaster management efforts in pre-disaster consist of disaster management plan, incorporation of disaster management into developing policy, enforcement of spatial plan, education and training and disaster management technical standards requirement. [Article 35]
4. Disaster management plan is formulated by the Government and regional government. The disaster management agency coordinates the draft plan. The plan has to be reviewed by the Government and regional government on a routine basis. [Article 36]
5. Enforcement of spatial planning is to reduce disaster risk and comprise enactment of spatial plan regulations, safety standards and imposition of sanction against violators. [Article 42]
6. Disaster management efforts for potential occurrence of disaster event consist of preparedness, early warning and disaster mitigation. [Article 44]
7. Disaster mitigation is to reduce disaster risk for disaster prone regions and is done through implementation of spatial planning, regulation on development and disaster education and training. [Article 47]
8. The President stipulates the disaster emergency status by government regulation, on national scale by the President, on provincial scale by Governor and district/city scale by District Head/Mayor. [Article 50]
9. Fulfillment of basic needs comprises assistance for water, food, cloth, health service, shelter and psychosocial assistance. [Article 53]

Section VIII

1. Government and regional government are jointly responsible for disaster management funding and shall encourage public participation in providing fund. [Article 60]
2. The President and Governors shall allocate sufficient disaster management budget. [Article 61]
3. During emergency response, national disaster management agency uses on-call funding and it is made available by the President. [Article 62]

Section IX

1. The President and Governors shall supervise source of danger, development policy, spatial planning, relocation activity and financial management. [Article 71]

Section XIII

1. The new agencies for national level and regional level shall be established within 6 months and within a year, respectively. [Article 83]

(3) Implementing regulations to Law no. 24

The Law No. 24 defines that government and presidential regulations for implementing the law need to be developed within 6 months after its enforcement, on October 29, 2007 [Article 84]. Six items are to be decided by government regulation, and two are to be decided by presidential regulation, according to this law.

Government regulation needs to define:

1. Implementation of disaster management by international agencies and foreign non-governmental organizations [Article 30 clause 3].
2. Provisions on facilitated access [Article 50 clause 2].
3. Provisions on rehabilitation [Article 58 clause 3]
4. Provisions on reconstruction [Article 59 clause 2].
5. Provisions on mechanism for managing disaster management fund [Article 63].
6. Delivery mechanism and amount of assistance [Article 69 clause 4]

Two items that need to be regulated by the Presidential regulation are listed as:

1. Provision on stipulation of disaster status and level [Article 7]
2. Provisions on establishment, functions, duties, organizational structure and working procedures of the National Disaster Management Agency (BNPB).

(4) Initial assessment

There are five areas in the law that need particular focus, when compared to the Japanese disaster management system. These include:

- National disaster management plan;
- Development and disaster management;
- Early warning;
- Budget allocations and international supports; and
- National Disaster Management Authority (BNPB) and central disaster management council.

National disaster management plan: The law describes that Indonesian development policy needs to adapt a perspective of disaster risk mitigation, which is one of the visions adapted in Hyogo Framework for Action, 2005. The effort of Indonesian Government toward better disaster management is valuable.

On the other hand, the Law stresses the responsibilities of the Government to review the disaster management plan as proactive measure, with the support of BNPB to do drafting. The Government is further responsible for updating disaster management plans by localities regularly based on relevant data, perhaps hazard maps, yet the Law does not have an article describing BNPB to take the lead. This structure of making the Government responsible for developing and updating disaster management plan is not practical, with the basis of comprehending and institutionalizing that system in Indonesia. BNPB as the secretariat needs to play a leading role in the Government.

Development and disaster management: There is an article stating that any development activities which may accompany high disaster risks need to be assessed on the size of disaster risks within the authority of the nation, in the context of disaster management. In line with this, BNPB is responsible for identifying a method for disaster risk assessment as well as evaluating and monitoring risks that are identified.

There is also an article about spatial planning aiming to reduce risks through satisfying safety standards while penalize the violators. However, this article refers only to the responsibilities of national government in implementing spatial planning and adapting safety standards, and nothing specific is mandated to the BNPB. Specific responsibilities are needed to be given to BNPB for them to practically participate and take actions in such proactive measures.

Early warning: Article 7 refers to the needs on proclaiming status and level of disasters at both national and regional levels. It mentions that those agencies responsible for the citizen's evacuation shall direct and orchestrate to take actions, yet it does not identify any responsible organizations and agencies. Early warning to the public is mandated to regional government in case of Japan, unless otherwise responsibilities are given to particular agencies by regulations. The public area to be left behind in the case of calamity without clearly assigning any responsibilities on early warnings to agencies, thus, responsibilities of early warning are needed to be assigned.

Budget allocations and international donations: The law states that the President is responsible for securing both national budget for disaster management and funds for emergency response upon calamities. Stating the responsibility of the President in allocating the budget in the law is big progress from the previous structure; however, there is a need to make a system that supports efficient disaster management policy by BNPB to make this statement functional. BNPB needs to have an authority to crosscheck and monitor relevant budgets allocated for disaster management by other agencies.

The President is responsible for controlling foreign and international cooperation to national disaster management policy under the law. Utilizing cooperation from external agencies and also

keeping stable relationships with cooperative countries are one of the important disaster management strategies for a country like Indonesia, where disaster risks are high in large hazardous areas and which are exposed to social and physical vulnerabilities.

BNPB needs to be responsible for coordinating national budgets, donations and cooperation for domestic and foreign calamities, and act as a central agency for all financial matters on disasters for sound and sequential action. Transparency of funding, both incoming and outgoing is particularly important when all mandates and responsibilities on financial matters are collected to BNPB.

BNPB and Central Disaster Management Council: The BNPB is positioned on a lower level (or the same at most) in terms of hierarchy of the government system than the national line ministries. This positioning of agency would be an obstruction in initiating practical action for disaster management, as disaster management needs cross-sectoral coordination. Because formulation of national disaster management is declared in the new law, establishing a central disaster management council with members of ministers and chaired by the President, enabling cross-sectoral arrangement, is essential. In developing such central disaster management council, BNPB is supposed to act as a secretariat. Responsibilities lie in the Cabinet Office regarding disaster management coordination, with Minister as head, in case of Japan. Currently, this structure of disaster management council is more enhanced by making the Prime Minister be the head and Ministers of relevant ministries be the members.

The law also states that a member of the BNPB shall be assigned to the government officials and specialists, which implies difficulties of practical coordination on policies among ministries. Similarly, executing body appoints disaster management specialists outside the government as members, difficulties in inter-ministerial coordination are anticipated to develop in cases such as emergency response.

Overall, enacting the Law No. 24 is a big step forward in the history of Indonesian disaster management, which includes the role transformation of national disaster management agency from the coordinating board for the emergency response to a comprehensive disaster management agency, including all stages of disaster phases of prevention, emergency response, rehabilitation, and reconstruction.

2.1.4 Institutional Reform: BAKORNAS PB to BNPB

1) Current structure of BAKORNAS PB

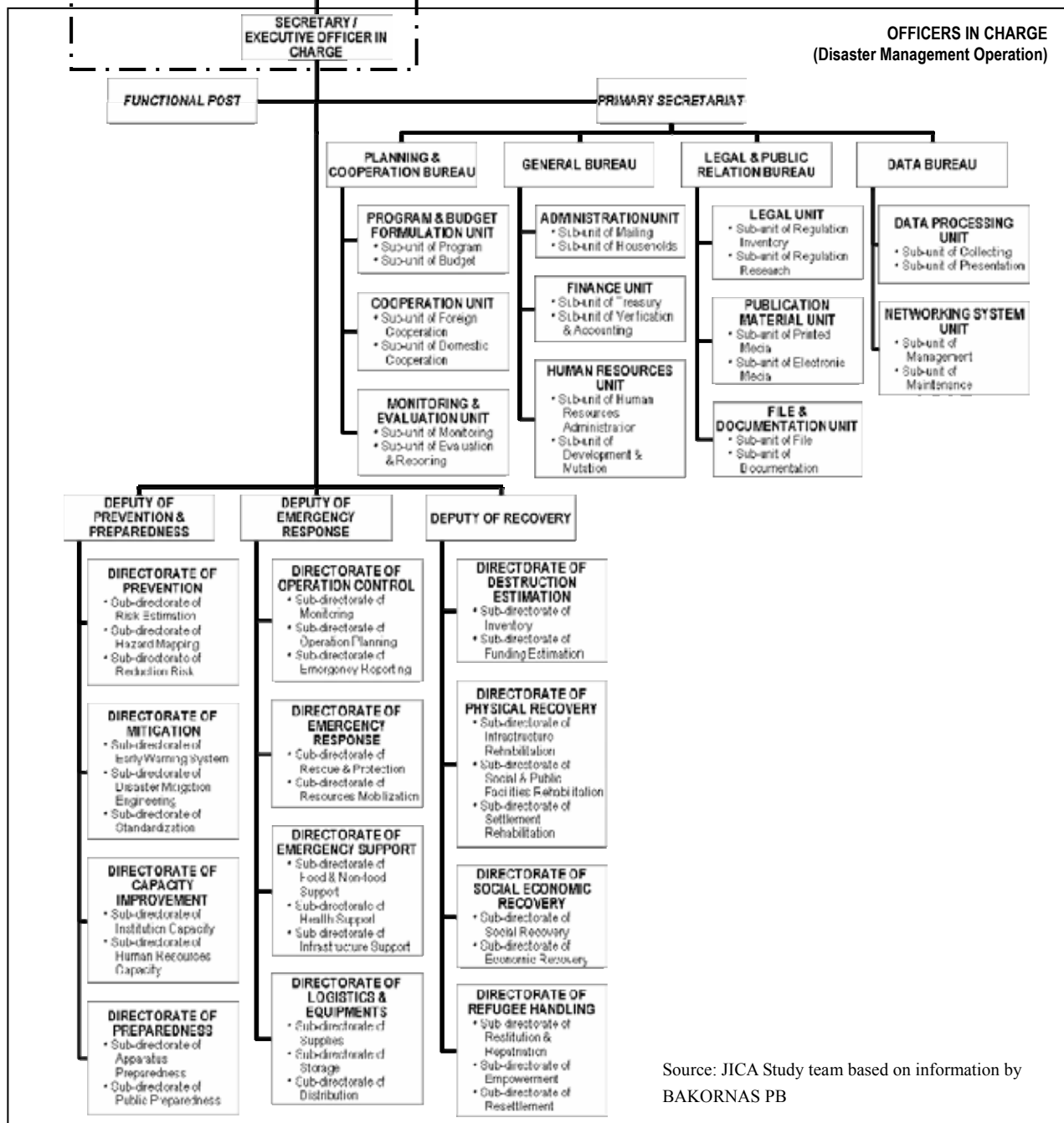
BAKORNAS PB was established by Keppres No. 106, in 1999, as a coordinating agency for disaster management. BAKORNAS PB itself had dual mandates, to coordinate both natural and man-made disasters as well as to handle refugees of those who lost their place to live through social conflicts. When a disaster was declared as a national disaster through a presidential regulation, a committee for decision making in BAKORNAS PB was formed including a chairman, secretary/ executive officers in charge, and members of line ministries (See Figure 2.1.4.1 top left). The members include 10 ministers from individual ministries, 2 state ministers, a commander of national armed forces, and two heads from the Indonesian police and Indonesian Red Cross. Line ministries include: i) finance, ii) energy and mineral resources, iii) transportation, iv) public works, v) health, vi) social services, vii) communication and informatics, viii) defense, ix) forestry and x) agriculture. State ministers were representing: i) environment and ii) research and technology. This committee for decision-making was supposed to function throughout the emergency response and recovery phase until the disaster was resolved.

Disaster management operation was implemented by permanent offices set in BAKORNAS PB. Main disaster management operation with responsibilities given to deputies was mandated to three lines: prevention and preparedness, emergency response, and recovery. In the line of prevention and preparedness, directorates of prevention, mitigation, capacity improvement, and preparedness were included. Emergency response line included directorates of operation control, emergency response, emergency support, and logistics and equipments. Finally, in the line of recovery, directorates from destruction estimation, physical recovery, and social economic recovery, as well as refugee handling were positioned. BAKORNAS PB also had a secretariat, which included bureaus of: i) planning and cooperation, ii) general, iii) legal and public relation, as well as iv) data. These bureaus were responsible for: i) budget allocation, cooperation and monitoring & evaluation, ii) administration, finance, and human resources, iii) legal, publication, file & documentation, as well as iv) data processing and networking system.

THE NATIONAL COORDINATING BOARD FOR DISASTER MANAGEMENT (BAKORNAS PB)

*) 15 members include:

1. Minister of Finance
2. Minister of Energy and Mineral Resources
3. Minister of Transportation
4. Minister of Public Work
5. Minister of Health
6. Minister of Social Services
7. Minister of Communication and Informatics
8. Minister of Defense
9. Minister of Forestry
10. Minister of Agriculture
11. State Minister of Environment
12. State Minister of Research and Technology
13. Commander of Indonesian National Armed Forces
14. Head of the Indonesian Police
15. Head of Indonesian Red Cross



Source: JICA Study team based on information by BAKORNAS PB

Figure 2.1.4.1 Organizational structure of BAKORNAS PB

2) Baseline of Capacity of BAKORNAS PB as of December 2007

Most personnel who had been assigned in BAKORNAS PB were assigned in the new agency, BNPB, and therefore, it is considered that the capacity seen from the view of (1) previous assignment (particular experiences in the past years) and (2) formation of the organization by assigning resources according to specialty (qualification assumed from final education) is the baseline for further capacity enhancement of BAKORNAS PB/BNPB and, leading to, of BNPB.

(1) Previous Assignment, Grade of Final Education

As of December 2007, there were 93 persons registered as the permanent government officers and staff/employee who had been belonging to BAKORNAS PB. They were previously assigned to other government agencies and/or institutions. Many of those were transferred to BAKORNAS PB in February 2007. It can be understood that the main role of BAKORNAS PB was to coordinate with other government agencies/institutions in making their policies for disaster management and therefore their qualification and educational background were higher than those officers working with other agencies. The Table below lists educational levels for 48 officers out of total 93, and it is said that among the balance of 45 persons, some are university graduates (S 1) and most are high school (SMA) graduates. The breakdown of 45 is 31 as Staff, 8 as Contract Staff, and 6 as employed guards.

It is remarkable that officers from State Secretariat have 40% of 48 officers since the recruitment of officers to BAKORNAS PB was mainly done by the State Secretariat. It reflected the characteristics of BAKORNAS PB, while officers from Life Line Infrastructure development agencies such as Public Works, Transport, Energy and Telecom were comparatively fewer.

It needs a much wider range of experienced specialists and experts, since the expected roles and activities of BNPB are much more than that of BAKORNAS PB.

Previous Assignment	S 3	S 2	S 1	SLTA	TOTAL
Coordinating Ministry for People's Welfare	1				1
State Secretariat (SETNEG)		10	9		19
Department of Public Works		5			5
Department of Labor and Transmigration		3			3
Department of Agriculture		3			3
Department of Health		2			2
Board of Research and Development Technology (BPPT)		2			2
Department of Home Affairs		1	2		3
Department of Law and Human Right		1	1		2
Coordination Board of National Survey and Mapping (BAKOSULTANAL)	1				1
Department of Industry		1			1
Department of Social Affairs			1	3	4
National Board for Human Resources (BKN)			1		1
Department of Transport			1		1
TOTAL	2	28	15	3	48

Note: **S.3:** Doctor Degree, **S.2:** Master Degree, **S.1:** Bachelor Degree, **SLTA:** High School

(2) Final Education and Current Assignment

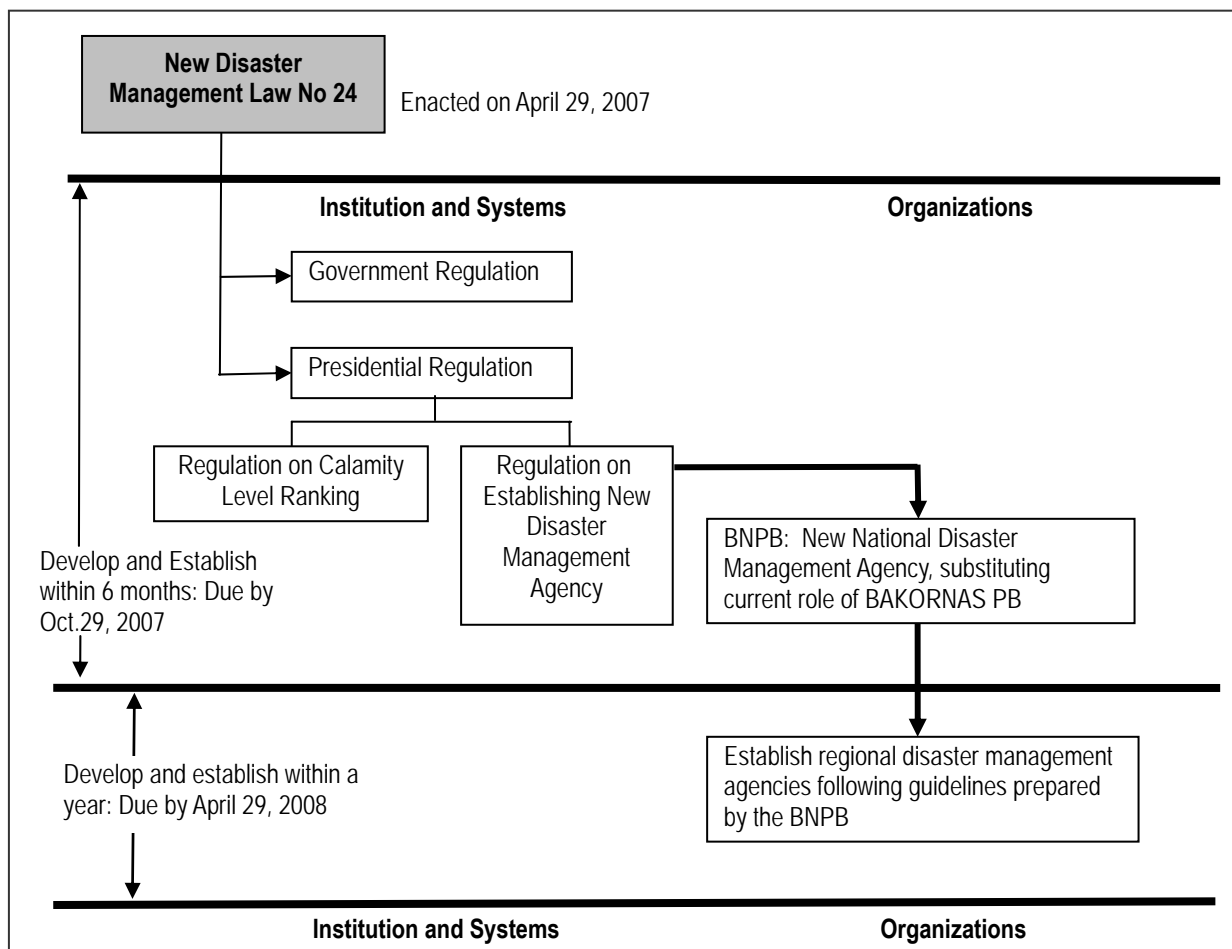
Final educational backgrounds of the 46 officers, except for the Head and the Secretary of BAKORNAS PB are shown in the following table. It can be said that BAKORNAS PB was the agency that coordinated things among government agencies/institutions, and therefore, major tasks of the higher ranking officials who were in charge of "Management", "Administration" and "Coordination" had "Social Science" as their educational qualification (76% out of specified 42). Personnel having the educational background of "Natural Science" such as Hydraulic and Geological Science and Engineering, Regional/Urban Planning and Remote Sensing Geology & Geography, were minority. The Secretariat Division was obviously bigger than any other of the three Divisions in terms of number of officers and staff, and it reflected the characteristics of BAKORNAS PB.

Final Education	Secretariat	Prevention & Preparedness	Emergency Response	Recovery	TOTAL
Management, Administration Business Marketing and relevant	7	2	6	6	21
Law and relevant	5		1		6
Political Science Social Politics Economy	1	1	1		3
Literature Human	1	1			2
SUB TOTAL	14	4	8	6	32
Ecology Science, Hydraulic Eng. Geological Eng. Water Resources Eng	2	2	1	1	6
Regional Planning Remote Sensing Eng.	1	1			2
Tropical Medicine Social Health		1		1	2
SUB TOTAL	3	4	1	2	10
Not Specified	3			1	4
TOTAL	20	8	9	9	46

3) Prospective BNPB –Institutional Reform through Enforcement of the New Law

(1) Institutional transition by Law No. 24

Law No 24 is designed to structure basic framework for the institutionalization of disaster management system in Indonesia. With the enforcement of the law, further legislative regulations through government regulation and presidential regulations were developed with some exceptions. In this Law No 24, presidential regulation stipulates two major mandates: a regulation to identify the calamity level and a regulation to establish a new disaster management agency, BNPB. Establishment of these two regulations was mandated to be finalized by 29th of October 2007, within 6 months from the time that law came into effect (See Figure 2.1.4.2). As of 15th of October 2008, the presidential regulation on the level of disasters has not yet been finalized. This law also mandates that regional disaster management agencies in entire nation need to be established within a year from the effective date of the law, by 29th of April 2008, however it has been still in progress as of 15th of October 2008. .



Source: JICA Study Team

Figure 2.1.4.2 Prospective Institutional Changes by the Law No. 24

(2) Duties and Functions of National Disaster Management Agency (BNPB)

A. Relevant articles of Disaster Management Law on BNPB

Disaster Management Law of the Republic of Indonesia ('Law No.24, 2007) stipulates the duties and institutional arrangement of BNPB in the part I of the Section IV.

The article 12 stipulates the duties of BNPB.

- Providing guidelines and directions on disaster management effort addressing fair and impartial disaster prevention, emergency response, rehabilitation and reconstruction;
- Stipulating disaster management organization standardization and needs based on regulations of law;
- Informing the public on activities;
- 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;
- Using and accounting for national and international donations/assistance;

- Accounting for use of funds sourced from state budget;
- Implementing other obligations in accordance with regulations of law; and
- Preparing guidelines on establishment of regional disaster management agency.

The article 13 lays down the functions of BNPB.

- Formulating and stipulating disaster and IDP management policies by acting rapidly and targeted and effectively and efficiently; and
- Coordinating implementation of planed, coordinated and comprehensive disaster management

In the article 14 they identify the functions of steering committee element that was defined in the article 11.

- Formulating national disaster management policy concept;
- Monitoring; and
- Evaluating organization of disaster management

The identical article stipulates the membership of the steering committee, which consists of relevant government officials and professional community members.

In the article 15 they lay down the functions and other institutional arrangement of the executing body element that was defined in the article 11.

- Power to establish the executing body lies with the Government (President)
- Executing body functions to coordinate command and implement organization of disaster management.
- Membership of executing body comprises professionals and specialists.

In the article 16, they stipulate that the executing body has an integrated duty that comprises pre-disaster, emergency response and post-disaster.

Finally it is said in the article 17 that those elements about the BNPB that are not stipulated in the Law²⁴ are regulated by the presidential regulation.

Those relevant articles in the Law on BNPB tell us that the newly established National Disaster Management Agency is the total authority of formulating and implementing disaster management policies in the government of Indonesia. The coverage of the disaster management policies of BNPB includes all the stages of the whole disaster management cycle.

B. Articles of the Presidential regulation on BNPB

Let us see more about BNPB by referring to the presidential regulation on BNPB.

BNPB consists of three (3) elements. Those are Head of BNPB, Steering Committee Element and Executing Body Element. Executing Body is disaster management policy implementing agency of BNPB.

Steering Committee is under the authority and responsible to the Head of BNPB. Its duty is to give recommendation and suggestion to the Head of BNPB on disaster management. The Steering Committee consists of 10 government officials and Nine (9) professional community members. Those 10 government officials are from Coordinating Ministry of Public Wealth, Department of Home Affairs, Department of Social Affairs, Department of Public Works, Department of Health, Department of Finance, Department of Transportation, Department of Energy and Mineral Sources, Police of Republic of Indonesia and Indonesia Armed Forces. Nine (9) professional community members are derived from expert/professional and/or community chief.

Executing Body is under the authority and responsibility of Head of BNPB and has the duty on disaster management efforts covering pre-disaster, emergency response and post disaster. In the identical Element there are Main Secretary, 4 Deputies (Prevention and Preparedness, Emergency Management, Rehabilitation and Reconstruction and Logistic and Equipment) and Main Inspector. Four (4) Deputies are not under the authority of the Main Secretary but under the authority of the Head of BNPB.

The Secretariat of the Main Secretary of the Executing Body is under the authority of the Head of BNPB and has the duties on 1) coordination, synchronization and integration, 2) coordination, plan and formulation on technical policy, 3) elucidation and services on administrative order, laws, regulations, organization, working order, staffing, finance, code, equipment and home affair, 4) facilitation of duty and function implementation of the Steering Committee and 5) coordination on report. The Secretariat of the Main Secretary has four bureaus in charge of planning, finance law & cooperation and general affairs. It is the section of general affairs and administrative issue in the BNPB.

On the other hand, four (4) Deputies are the implementing elements of disaster management policies. The Deputy of Prevention & Preparedness has the duty on coordination and implementation of disaster management policy for pre-disaster as well as community empowerment. It is in charge of those functions like formulation, coordination and implementation of disaster management policy for pre-disaster and community empowerment. It also has the mandate of monitoring, evaluating and analytical reporting on policy implementation on pre-disaster management and community empowerment. Under the Deputy, three (3) directors are assigned for disaster risk reduction, community empowerment and preparedness.

The Deputy for Emergency Handling and Management has the duty on coordination and implementation of emergency response and refugee handling. The Deputy's functions are formulation, coordination and implementation of disaster management policy on emergency response and refugee handling. The functions are the commandment of implementation of disaster management of emergency response, monitoring, evaluation and analytical reporting on

implementation for disaster management on emergency response and refugee handling. Under the Deputy there are three (3) directors for emergency response, emergency aid and assistance and emergency rehabilitation.

Functions of the Deputy of Rehabilitation and Reconstruction are formulation, coordination and implementation of disaster management policy on post disaster. It also has the function of monitoring, evaluating and analytical reporting on policy implementation for post disaster management. The Deputy has four (4) directors for damage assessment, recovery & physical improvement, recovery & socioeconomic improvement and evacuees handling and management.

The Deputy for Logistics and Equipment has the duty on implementing coordination and logistic support on disaster management. The functions are formulation of policy on logistic and equipment for disaster management, implementation of planning on logistic and equipment in disaster management and monitoring, evaluating and analytical reporting on policy implementation on logistic and equipment for disaster management. It has two (2) directors for logistics and equipment.

The Main Inspector is also under the authority of the Head of BNPB. It has the duty on monitoring on the implementation of duty and function of BNPB. The functions of the Main Inspector are monitoring policy formulation, performance, finance and specific issue based on the instructions of the Head of BNPB. It also has the function of compilation of monitoring report.

BNPB in the Executing Body could form two (2) centers as supporting element for duty and function of Executing Body for Disaster Management. It has established the Disaster Management Training Center and Center of Data, Information and Public Relations.

4) Pros and cons on establishment of new national agency

There are pros and cons regarding the course of institutional transformation (see Figure 2.1.4.3). Positive aspects include:

1. BNPB is a permanent body having authorities to decide and implement disaster management related activities. This is clearly seen in the Article 5 c in the Presidential Regulation in which it says that BNPB consists of the executer body of disaster management. BAKORNAS PB was designed as a coordinating agency, but with no authority and power for taking actions.
2. The position of non-permanent secretariat in BAKORNAS PB, was upgraded to the secretary of BNPB that is permanent.

There also are some recedings that need to be noted:

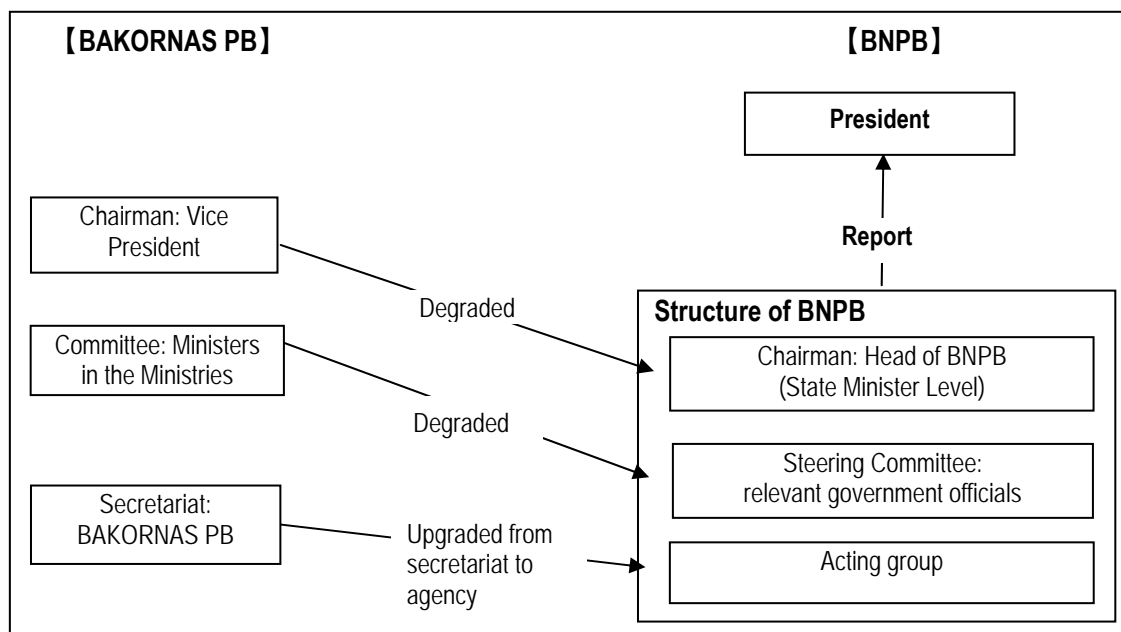
1. The post for chairman in BNPB is degraded to a level of state minister from vice president in the structure of BAKORNAS PB, which makes coordination for disaster management among line of ministries rather difficult.

2. Members of current council had been constituted by ministers; however, BNPB's steering committee would be degraded to any executive officers in relevant positions.

These last two issues listed reveal that leaderships and powers of BNPB may be hindered in comparison to the previous structure of BAKORNAS PB, particularly on activities related to mitigation and prevention phase where the good coordination among the relevant line ministries and government agencies are required

The national level disasters would require the President to take the initiative in the emergency response phase. It would give the spotlight to the President as the national leader. In this context, even if they do not have the appropriate coordinating scheme, the coordination among the line ministries for emergency situation would work well under the strong leadership of the President. But disaster management has to cover other phases than emergency response. Policies and measures for mitigation and preparedness phases are the critical for enhancing the capacity of the country and communities for disaster risk reduction and those for recovery are the most effective to make the more resilient society to natural hazards. Since those policies and measure for process need time and better coordination, they tend to attract small attention from the public. It is less likely for the politicians to take the strong leadership in those phases. Therefore a practical coordinating scheme is required in the disaster management system. Unfortunately the new Indonesian disaster management system based on the Law and Presidential Regulation raises certain concerns in this regard. The coordination works only when the chairmanship is associated with higher ranking than those who are coordinated by the chair.

Instead of having an ambiguous coordinating scheme, the new agency acquires a very effective tool; that is, the reporting to the President. This reporting covers not only emergency, but also non-emergency. By making most use of this function, the new agency could assist and advise the President to make appropriate policies and measures for disaster risk reduction.



Source: JICA Study Team

Figure 2.1.4.3 Structural Transformation from BAKORNAS PB to BNPB²

Some key personnel, however, perceive that new disaster management agency may enhance its capacity to take disaster management action, because the members of BNPB would be located directly below the President. As Law No 24 states, the new disaster management agency, BNPB, has an obligation to report their activities on disaster management to the President every month.

Figure 2.1.4.4 shows a comparative institutional structure between national administration and BNPB. National administrative structure is shown in the left, where there are a vice president and coordinating ministers below the President. Ministers are positioned below coordinating minister in a line ministry, and state ministers positioned below ministers, and department executive officers are located beneath. The structure of BNPB is shown on the right. BNPB includes a chairman, a steering committee, and an executing body. Chair of the BNPB has similar power and authorities as state minister, while steering committee members are a collective unit of higher government officials who are in positions relevant to disaster management. An executing body, however, is enhanced from the previous executive body of BAKORNAS PB as coordinating office to a group of members of ministers and ministry executive officers.

² In regard to relevant government officials found in the steering committee of BNPB, the term “relevant government officials” is originally written as *pejabat pemerintah terkait* in Indonesian. Direct translation of *pejabat* means important, *pemerintah* means government, and *terkait* means relevant, therefore, translated as is. A NGO named MPBI that has participated in a committee for the establishment of this law also had an English translation as “relevant government officials” for this term. However, many ministers, including coordinating minister, claim that *pejabat pemerintah terkait* will have similar power as equivalent to the department minister. A NGO named MPBI worked closely with UNDP in developing the National Action Plan for Disaster Reduction for disaster risk reduction.

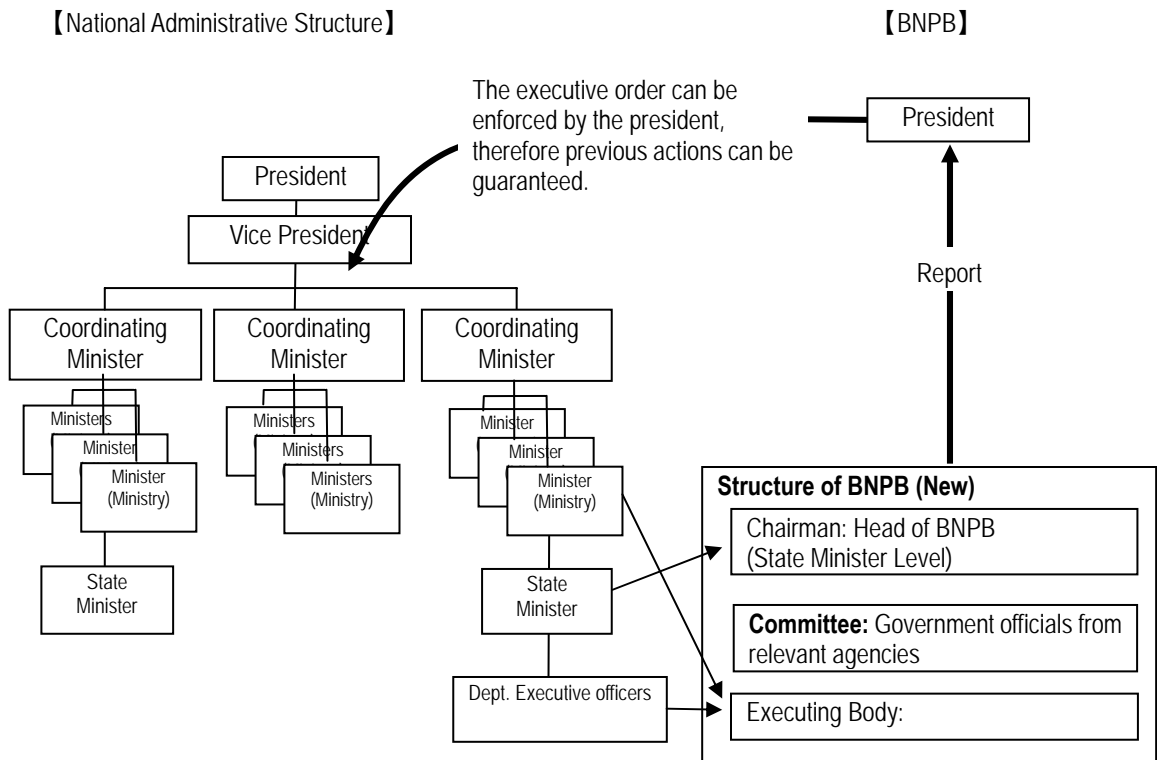


Figure 2.1.4.4 Comparative Institutional Structure between National Administration and BNPB

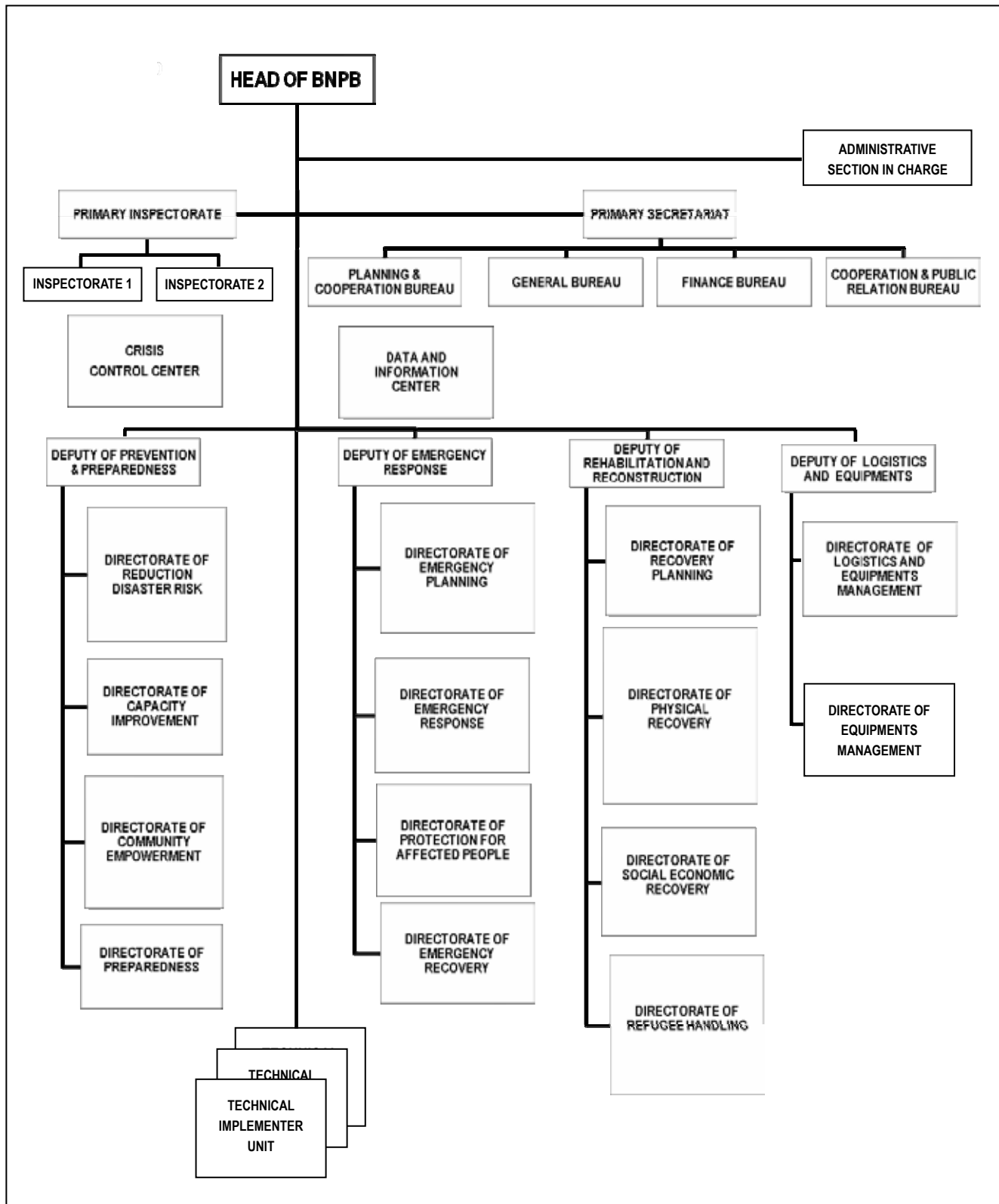


Figure 2.1.4.5 Organization Chart of BNPB

5) New disaster management concept in Indonesia

(1) Conceptual framework

There are three main tasks that Indonesian national government needs to work on: developing national system, institutionalizing mutual tasks with other bodies, and improving morals in the society, targeting all national, regional and individuals (See

Figure 2.1.4.6). Developing and institutionalizing national tasks are the current priority for the national government, which includes the effort to develop a system as guided by Law No 24.

Conceptually, the task of developing national system can be grouped into three categories by objective: to develop guidance, to develop plans and to come to up with plans for operation. In developing disaster management guidance, Law No. 24 came into effect together with the enforcement of government and presidential regulations, in parallel to setting up an institutional structure of Indonesia for disaster management. National disaster management agency was established in 2008.

The law has a section about disaster management scheme, to address phases such as preparedness, emergency response and post-disaster recovery. This disaster management scheme needs to be the basis for the disaster management plan, as the second group of tasks for BAKORNAS PB before and BNPB now. Type of disasters and potential risks at localities need to be included along with the disaster cycle in the plan. The third group of tasks is to develop plans for disaster management operation. Prospective outputs for this work include operation plans, disaster management manuals, programs and project lists, as well as action plans.

Institutionalizing mutual tasks with other bodies are another mandate that BNPB encounters. BNPB will need to coordinate and distribute systems and information between regional government, foreign agencies, private bodies, as well as the public. Although BNPB will not be mandated to be involved in detail with these bodies, cooperating and coordinating with these bodies in return with minimum support is helpful in disaster management.

Thirdly, BAKORNAS PB before and BNPB now needs to put effort into improving disaster management morals of Indonesian society. Work needs to include the concept of consensus building, accountability, transparency and credibility, by actively involving numbers of relevant people. By improving morals as well as raising awareness of disaster management, the turning of plans into action will be more practical.

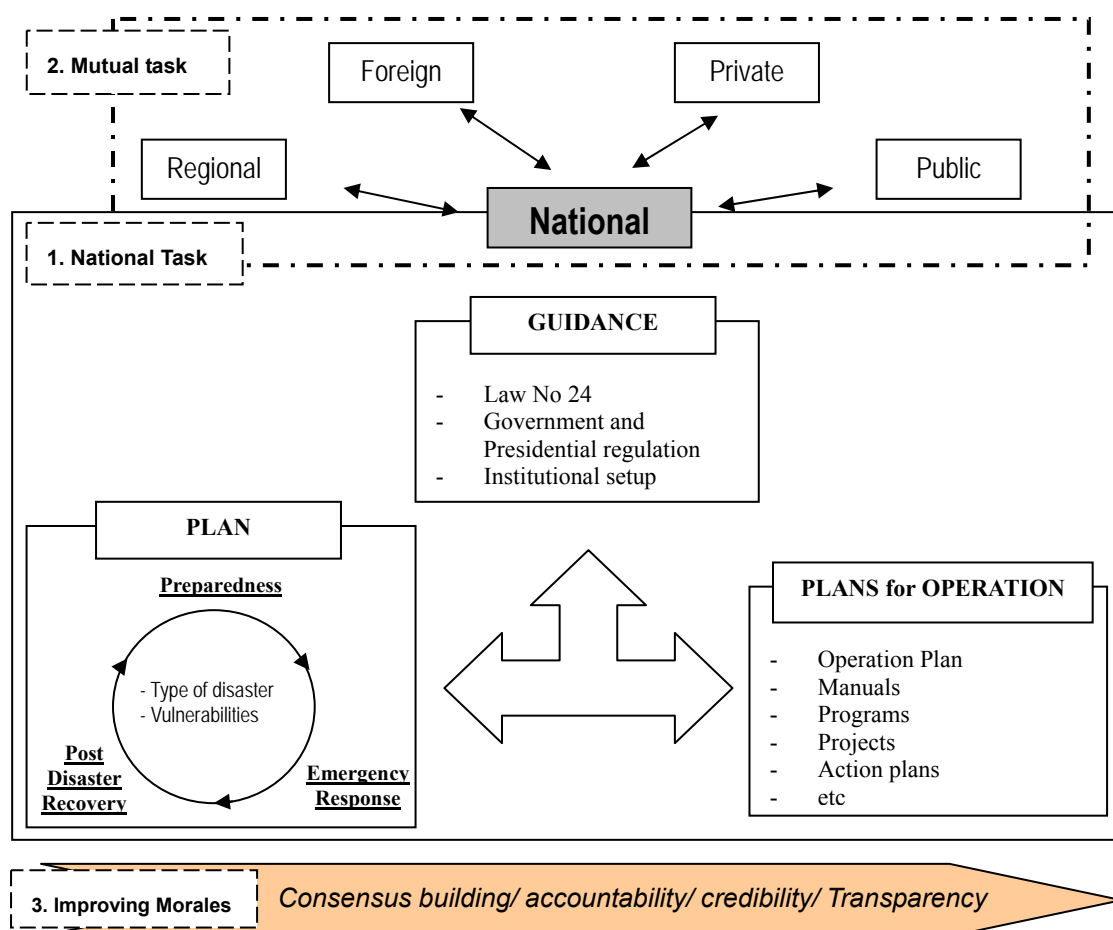


Figure 2.1.4.6 Disaster Management Scheme of Indonesian National Government

(2) Disaster data management

BAKORNAS PB has started to put effort on gathering and publicizing domestic disaster data for both natural and man-made. Data are usually collected at both central and local governments, but are kept independently and shared only for their needs. Consequently, understanding the entire national disaster data with accuracy in consecutive years was difficult.

First publication entitled “Data Bencana Indonesia Tahun 2002-2005 (Disaster Data of Indonesia, year 2002-2005)” was published in Jakarta in December, 2006. Data collected in this issue was provided from local SATKORLAKs and SATLAKs to BAKORNAS PB, while relevant ministries, i.e. social, health, public works, agriculture, energy and mineral resources, and forestry, cooperated to verify the collected data. This book counted an event as a disaster when there were casualties and losses of assets: however, it did not count an event if nothing was affected. The criteria between disaster and natural hazard are consistent to the ones of the Basic ACT on Disaster Countermeasures of Japan. When it is associated with damage, it is called disaster. When it is not, it is called a natural hazard. The data is mainly from the Kabupaten or Kotayadma level; however, some disasters that affected larger areas are not limited to this type of presentation.

In summary, there were more than 2,000 disasters in Indonesia in years between 2002 and 2005, with 743 floods (35% of the total), 615 draughts (28% of total), 222 landslides (10% of total), and 217 fires (9.9% of total), according to this publication. Cause of large death tolls between these years were 165,945 (97 % of total) from earthquake and tsunami, followed by 2,223 (1.29 % of total) from social conflict. On the other hand, floods caused people to lose their homes, which made victims become refugees that totaled 2,665,697 people (65% of total).

This publication is useful to browse conditions of Indonesia, and has contributed to develop networks from bottom-up and cross-sectors of national agencies. Such effort of disaster data management will need to be continued and expanded particularly after the establishment of BNPB. However, planning and budgetary aspects are recommended to be included in such publication to realize such opportunities.

2.1.5 International Cooperation to Indonesian National Disaster Management

BAKORNAS PB had been receiving international cooperation through bilateral and multi-lateral scheme. Such activities increased after the Indian Ocean Tsunami in late 2004. In 2006, “National Action Plan for Disaster Reduction, 2006-2009” was published as a joint work of UNDP, BAPPENAS¹ and BAKORNAS PB, which is understood as the basic scheme for the Indonesian disaster management for risk reduction. This paper includes list of programs which aim at risk mitigation/ alleviation of Indonesia as one of national commitments in responding to Hyogo Framework for Action (HFA). However, consistent follow-up on the implementation of listed programs and projects are not observed in the government budget allocation to the relevant departments/agencies in confirmed version 2008 as well as draft version 2009.

There are two major groups of activities found in the multilateral cooperation scheme for BAKORNAS PB in year 2007, with ACDM and APEC (See Table 2.1.5.1). Most of the activities found in this scheme are workshops and exercises in Asian countries, which reveal the aggressive participation of Indonesian government in disaster management as a member of Asian regions.

¹ Office of the State Minister for National Development Planning/ National Development Planning Agency

Table 2.1.5.1 List of BAKORNAS PB Multilateral Cooperation Activities

No	Country / Organization	Basis of Cooperation	Activities	Schedule
1	ACDM (ASEAN Committee on Disaster Management)	ASEAN Charter 1976	ACDM Meeting (PDR of Lao) ASEAN Exercise Design Workshop and First Planning Meeting of ARDEX-07 Ratification of ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Regional Standing Arrangement and Standard Operating Procedure (SASOP) Second ASEAN Regional on Disaster Exercise and Simulation (2nd ARDEX-07) 3rd ARDEX-07 ARDEX-07 and 10th ACDM Meeting Establishment of interim of ASEAN on Humanitarian Assistance Centre (AHA Centre)	09 March 2007 7-11 May 2007 July 2007 July 2007 August 2007 Sept-2007 26-Oct-07 Dec-2007
2	APEC	APEC Task Force on Emergency Preparedness	SOM II APEC APEC Task Force for Emergency Preparedness (TFEP) APEC Task Force on Emergency Preparedness Emergency Management CEO's Seminar	23-24 April 2007 June 2007 20-23 August 2007
3	ARF (ASEAN Regional Forum)		Attending the ARF's meetings regarding the ACDM activities	
4	SSC-DRR (South-South Cooperation on Disaster Risk Reduction)		Compiling the draft program of SSC-DRR and establishing the Secretariat located in Nam Centre Building	
5	UNHCR		Procurement of basic facility equipments for AHA Centre, which already handed over to BNPB on May 2008	
6	UNDP; SC-DRR Program (Safer Community through Disaster Risk Reduction)		Support on Legal & Organizational Capacity Building of BNPB programs which can't be funded by government budget (APBN).	
7	UNICEF		Facilitate the UNICEF's program that's related to preparedness & emergency respond.	

Source: BAKORONAS PB

Not only multi-international cooperation by international agencies as shown in Table 2.1.5.1, Bilateral cooperation is also active as shown in Table 2.1.5.2. There are four countries engaged to such activities: namely, the US, France, Australia, and Japan (See Table 2.1.5.2). Workshop and training are the main elements included in bilateral cooperation, yet, some of them are project-based. One of them is the project implemented by France, and another is this JICA study.

There are two elements by the French government that are currently being implemented: i) to develop national emergency management center (or called Crisis Center) in BAKORNAS PB, and ii) to develop and install equipments in comprehensive emergency control centers in Province level (DKI Jakarta, Aceh, Padang, Bali and Yogyakarta).

Table 2.1.5.2 List of BAKORNS PB Bilateral Cooperation Activities

No	Country / Organization	Basis of Cooperation	Activities	Schedule
1	USA USAID – OFDA (the office of US Foreign Disaster Assistance)	High Level Meeting between Bakornas PB and USAID-OFDA	Brief regarding ICS Training by USOFDA and NOAA BMG and Dep. of Home Affairs Workshop Meeting between Lakhar & Major of Hawaii Seminar of institutional policy analysis for disaster management ICS training in USA ICS training for basic/ intermediate in Indonesia Regional (SEA) CCR Workshop	March 2007 March 2007 March 2007 April 2007 April 2007 April-May 2007 July 2007
2	France (Government of France + France Red Cross)	Lettre Commune D'intensions Le Gouvernement de la Republique Francaise (Represente par la L'ambassadeur de France en Indonesie). Et Le Gouvernement de la Republique Indonesie (Represente par le Sectretaire Executif du Bakornas) Pour Le Renforcement Des Capacities De Gestion Des Catastrophes en Indonesie	Development of National Crisis Center at Bakornas PB Development & equipment installation at two (2) Provincial level Crisis Center (Jakarta & Bali) Development of provincial level Crisis Center (Aceh, West Sumatera, Jambi, Jakarta, Yogyakarta & Bali) Training of government official from selected province, district and central government agencies. Information dissemination and campaign to increase the public awareness & preparedness	April 2007 April 2007 Tentative Tentative Tentative
3	Australia (Emergency Management Australia - EMA)	Subsidiary Arrangement between Bakornas PB and EMA concerning Partnership in Disaster Management	<u>Workshop</u> Quick Response Team (concept Discussion) Future Direction in Indonesia Disaster Management CBDRM Workshop Media Role in Disaster <u>Training</u> Training of Trainers Course Media Training a Quick Response Team (QRT) training development a Quick Response Team (QRT)training package suitable to the Indonesia context Disaster Planning Course	27-Mar-07 11-13 Apr-07 May 2007 March 2007 April 2007 - - June 2007 June 2007

No	Country / Organization	Basis of Cooperation	Activities	Schedule
			Disaster Risk Management (DRM) Course Training Package for Post Disaster Assessment Course	June 2007 -
4	Japan (JICA)	Joint Committee Meeting Scope of Work on the Study of Natural Disaster Management of Indonesia was agreed upon between Bakornas PB & JICA (11-Dec-2006)	Disaster Relief and Mitigation (JAXA) Annual Meeting (ADRC) Visiting Researcher (ADRC)	- 25-27 June 2007 July –Dec 2007
			Drafting the National (NDMP) & Regional Disaster Management Plan (RDMP) in: District of Jember, Dist. of Padang Pariaman and Municipality (Kota) of Pariaman.	Will be ended on March 2009
5	Russian Federation (Civil Defense, Emergencies and Elimination of Consequences of Natural Disaster – EMERCOM)	Agreed Minutes of the Negotiation of MOU between BNPB & the Ministry of Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disaster (EMERCOM of Russia) in the field of Prevention and Response to Disaster (27-March 2008)	Compiling the draft MOU between BNPB & EMERCOM in the field of Prevention and Response to Disaster	
6	Hungary	Frame agreement regarding the Tied Aid Credit (21-Mai-2008)	The agreement was signed by the President of Indonesia & President of Hungary on May 21, 2008 in Jakarta regarding the procurement of Mobile Water Purification, Transportation and Mobile Command Center worth totally US\$ 10 million	
7	APRSAF (JPT)	Remote Sensing for Disaster Management	JPT Sentries Asia	-

Source: BAKORONAS PB

2.1.6 BAKORNAS PB/BNPB, JICA Study, and Capacity Enhancement

Several seminars, workshops, and meetings were held between BAKORNAS PB/BNPB and JICA study team to share information on disaster management status in Indonesia as well as Japan, as one of the efforts toward developing strategies for disaster management plan and enhancing capacity.

(1) Joint Seminar and Workshop

- First Joint Seminar and Workshop held on May 15th, 2007

A joint seminar and workshop were held, aiming to share prospective activities of JICA study team with BAKORNAS PB, SATKORLAKs and SATLAKs from Kabupaten Jember, Kota Pariaman, and Kabupaten Padang Pariaman. Workshop included information sharing and discussions among relevant agencies of Indonesia and Japan, which helped involved agencies to trigger disaster management efforts.

- Second Joint Seminar held on October 2nd, 2007

The second joint seminar was held on the specific agenda of: (1) Progress of JICA BAKORNAS PB joint study, (2) Activities for formulating Regional Disaster Management Plan for Kabupaten Jember, and (3) Further study schedule after October, 2007.

- Third Joint Seminar held on March 6th, 2008

The third joint seminar was held on the specific agenda of: (1) Intermediate output of JICA BAKORNAS PB joint study, (2) Introduction and explanation of Regional Disaster Management Plan in Kabupaten Jember, (3) Draft General Guideline for formulation of regional disaster management plan, and (4) Further study schedule after March, 2008 throughout the end of 2008.

- Fourth Joint Seminar on December 11th, 2008 was held on the specific agenda of: (1) Final output of JICA BAKORNAS PB/BNPB joint study, (2) Explanation of Draft Final National Disaster Management Plan, and Regional Disaster Management Plans in all districts/city, (3) Draft Final Guideline for formulation of regional disaster management plan, and (4) Further schedule of preparation of Final Report to be submitted in March 2009.

(2) Intensive strategic meetings

Intensive meetings between executive members of BAKORNAS PB/BNPB and JICA study team on the subject of policy and strategy for disaster management plan and institutional capacity enhancement referring to experiences of Japan.

- Policy and Strategy meeting held on July 24th, 2007
Discussion was to develop a basic consensus between BAKORNAS PB and JICA study team in strategies for disaster management plans, including study scheduling and identify the roles of both agencies in the process of institutional reform. Identifying and securing the role of JICA study within the new institutional and disaster management structure is one of the critical tasks for the study team.
- JICA study team's comments on Draft Government Regulations and Presidential Regulations prepared by BAKORNAS PB
The meetings were held on August 29th, 2007 and September 25th, 2007. The subjects of the discussion were the comments of JICA Study Team on the drafts of Government Regulation covering: (1) International Agency and NGO, (2) Fund Management, (3) Implementation, and Presidential Regulation (4) National Agency for Disaster management, and (5) Status and Levels. JICA Study Team introduced experiences and currently prevailing disaster management systems in Japan which might be referred and/or adopted to the drafts of the prepared regulations.
- Kick-off Meeting on National Disaster Management Planning on May 15th, 2008
As Disaster Management Law No.24, 2007 stipulates, Presidential Regulation No.8, 2008 was promulgated in February, 2008 and BNPB has been officially established. Subsequently, the head of BNPB and top level of BNPB officials have been appointed in May 2009, thus JICA, which has become again active in May, held a meeting on the subject of National Disaster Management Planning and relevant tasks to be jointly studied by JICA team and BNPB counterparts to JICA Team. All policy and strategy matters were discussed and confirmed.

(3) Counterparts Training

The counterparts training was conducted from August 25th through September 8th, 2007 in Japan. The participants are three high-ranking officers of BAKORNAS PB from Jakarta, and a total five officers from East java and West Sumatera provinces. (Refer to Chapter 4)

(4) Monitoring discussions on preparation of disaster management regulations

JICA team members attended meetings organized by BAKORNAS PB, participated by relevant government agencies and institutions on draft government regulations and presidential regulations prepared by BAKORNAS PB. Observations were reflected to the above mentioned Intensive Strategic Meetings, as well as recommendations on preparation of National Disaster Management Plan.

- August 9th and 10th, 2007 on overall subjects
- August 31st, 2007 on Fund Management of Government Regulation at BAPPENAS

- September 3rd, 2007 on Status and Level of Government Regulation at BAKORNAS PB
- September 4th, 2007 on International Agency and NGO of Government Regulation at Department of Foreign Affairs
- September 7th, 2007 on Implementation of Government Regulation at Department of Public Works

Eventually, Presidential Regulation No.8, 2008 and Government Regulations No.21, 22, 23, the year 2008 were promulgated in January 2008 and February 2008 respectively.

(5) Observing Activities of BAKORNAS PB

JICA study team participated and observed activities of BAKORNAS PB at international seminars and workshops. Especially, the team leader of JICA study team made a presentation of Disaster Management at the workshop held on July 10th and 11th, 2007 in Yogyakarta.

- UN, TNI BAKORNAS PB Joint Disaster Management Workshop held on June 6th, 7th, and 8th, 2007.
- International Seminar by URDI on Recovery from Yogyakarta earthquake, held on July 9th and 10th, 2007 in Yogyakarta. JICA study team made a presentation.
- Tsunami Drill held on December 24, 2007 in Banten Province, attended by the President of Republic of Indonesia

(6) National Disaster Management Planning

As previously mentioned herein, the Kickoff meeting was held between newly appointed BNPB executives and JICA Study Team on the subject of preparation of National Disaster Management Plan (NDMP). It was agreed and confirmed that the planning procedure will firstly have JICA Team provide draft plan underlying that of Japan, and it will be discussed between JICA Team and BNPB Team, then BNPB will make it applicable to the situation of Indonesia and finalize the plan.

Workshops and related meetings were held as follows:

- First Workshop on July 17, 2008
Total 36 participants including BNPB Counterpart Team, 18 officials from relevant departments/agencies, and JICA Team participated. The Chairman was Deputy-1 of BNPB. Subject: Confirmation of Objectives, Planning Procedure, and Goal, Introduction of Japanese Disaster management Plan, General Issue and Pre-Disaster Measures of NDMP. Prior to the Workshop of July 17, preliminary workshop was held between JICA Team and BNPB Team on July 14 to 16, and wrap-up meeting on July 18, 2008.
- Second Workshop on August 14, 2008
The Second Workshop on the subject of Emergency Response Measures of NDMP was held attended by total 25 participants including BNPB Team, 8 officials from relevant

departments/agencies and JICA Team. Similarly to the First Workshop, BNPB and JICA teams had intensive discussion prior to the Workshop on August 12, 2008.

- The Third Workshop on September 25, 2008

The Third Workshop was held for total 28 participants from BNPB Team, officials from 8 relevant departments/agencies, and JICA Team on the subjects of Post Disaster Measures of NDMP. Presentation was made by JICA Team which introduced Japanese Plan to be referred to the discussion of NDMP of Indonesia.

Prior to the Third Workshop on September 25, preliminary workshop between BNPB Team and JICA Team was held on September 23, 2008. Besides the main subject, Post Disaster measures, Draft Action Plan and special attention to Capacity Enhancement were presented by JICA Team to BNPB Team.

2.2 Disaster Characteristic at National Level

2.2.1 General Factors of Natural Disasters in Indonesia¹

Indonesia is frequented by various natural disasters such as earthquakes, local tsunamis, volcanic eruptions, floods/debris flows, landslides, slope failure and wildfires. Factors contributing to the frequency of natural disasters are summarized as follows.

Geographically Indonesia is an archipelago situated at a juncture of four tectonic plates, the Asian Plate, the Australian Plate, the Indian Ocean Plate and the Pacific Ocean Plate. The southern and eastern part of the country features a volcanic arc stretching from Sumatra - Java - Nusa Tenggara - Sulawesi. The remainder of the country features old volcanic mountains and lowlands partly dominated by marshes. They make for a high potential and proneness to disasters, including volcanic eruptions, earthquakes, tsunamis, floods and landslides. Data suggest that Indonesia has high seismicity among countries of the world, with an occurrence rate more than ten times that of the United States (Arnold, 1986).

Tectonic plate movement-induced earthquakes that happen under the sea often generate tidal waves. Being highly predisposed to tectonic plate movement, Indonesia often experiences tsunamis. Tsunamis in Indonesia are mostly generated by tectonic earthquakes occurring along subduction zones and other seismically active areas (Puspito, 1994). Between 1600 and 2000 there were 105 tsunamis of which 90% were generated by tectonic earthquakes, 9% by volcanic eruptions and 1% by landslides (Latief et al., 2000). Indonesia's coastal areas are prone to tsunamis. These areas include the west coast of Sumatra, the south coast of Java, the north and south coast of Nusa Tenggara, the Maluku islands, the north coast of Irian Jaya and the greater part of the coast of Sulawesi. The Maluku Sea is the most tsunami-prone area. Within the period 1600-2000, it experienced 32 tsunamis of which 28 were generated by earthquakes and four by undersea volcanic eruptions.

Lying in the tropical climate zone, Indonesia only experiences dry and rainy seasons that are characterized by fairly extreme changes in rainfall, temperature and wind direction. Combined with the specific surface topography and physically and chemically diverse rock types, this condition creates fertile soil, but at the same time potentially harmful consequences, particularly hydro-meteorological disasters such as floods, landslides, forest fires and drought. Along with time and growing human activities, more environmental damage was made and this has triggered a higher frequency and intensity of hydro-meteorological disasters (floods, landslides, drought), which have taken place in turns in many parts of Indonesia. Examples include the landslide and flash flood disasters in 2006 in Jember, Banjarnegara, Manado, Trenggalek and several other areas.

¹ National Action Plan for Disaster Reduction 2006 - 2009

2.2.2 Trend of Natural Disaster in Indonesia

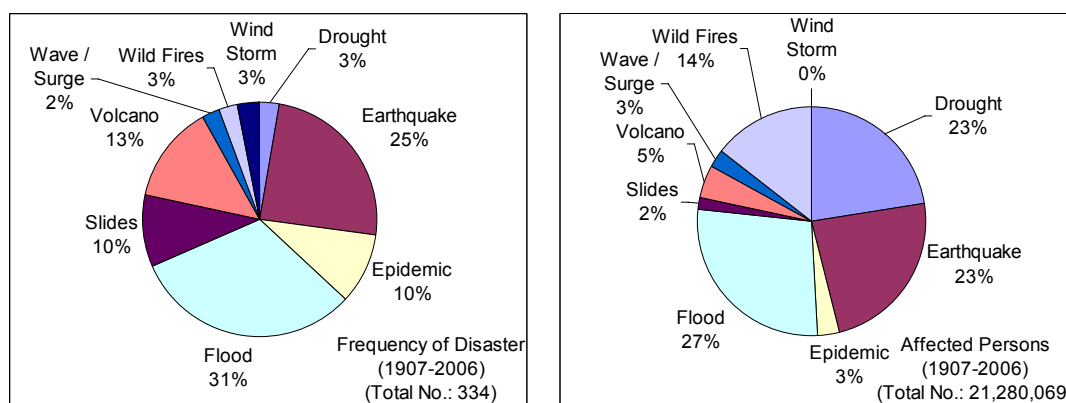
1) Type and Frequency of Disasters, and Influence to People in Recent Years

BAKORNAS PB has gathered and published domestic disaster data for both natural and artificial ones. According to the first publication titled “Data Bencana Indonesia Tahun 2002-2005 (Disaster Data of Indonesia, year 2002-2005)”, there were more than 2,000 disasters in Indonesia between 2002 and 2005, with 743 floods (35% of the total), 615 droughts (28% of total), 222 landslides (10% of total), and 217 wildfires (9.9% of total). Cause of large death tolls were 165,945 (97% of total) from earthquake and tsunami, followed by 2,223 (1.29% of total) from social conflict. On the other hand, floods caused people to lose their homes, which made the victims refugees (2,665,697 people or 65% of the total). This book counted an event as a disaster when there were casualties and losses of assets.

2) Long-term Trend of Disaster

The long-term trend of disasters in Indonesia is examined using EM-DAT: The OFDA/CRED International Disaster Database. This database contains the data of major disasters in the world, which are classified into many different types of natural disasters such as earthquake, flood, slides (landslide), wind storm, wave/surge (tsunami) and volcano, as well as epidemic disasters.

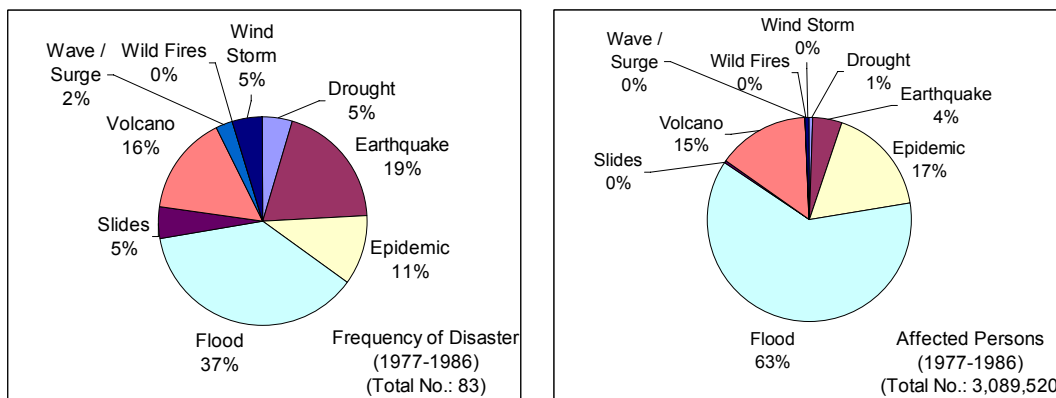
The following figure shows the frequency of disasters and affected persons by disasters during past 100 years in Indonesia based on the data of EM-DAT. As shown in the figure, high frequency disasters in Indonesia are flood, earthquake, volcano, slides and epidemic, and those which highly influenced people are flood, earthquake, drought and wildfires.



Source: EM-DAT: The OFDA/CRED International Disaster Database

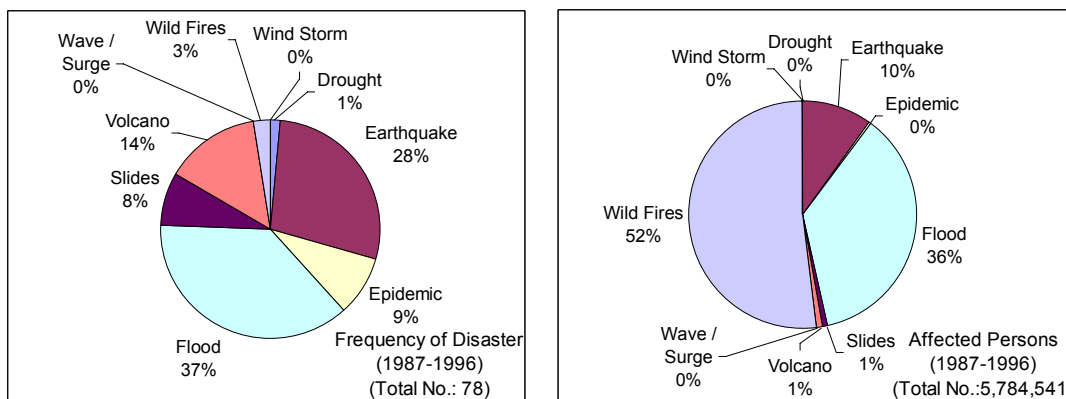
Figure 2.2.1 Frequency of Disasters and Affected Persons in 1907 - 2006

Figure 2.2.2 to 2.2.4 show the frequency of disasters and affected persons by disasters in 10 year periods from 1977 in Indonesia based on the data of EM-DAT. From the figures, it is clear that both of frequency of disasters and affected persons tend to increase over time. Disasters which frequently occur are almost same in each period. Flood, earthquake and volcano are high frequency disasters. On the other hand, the disasters most affecting people varied by period. Flood disasters occurred in 1977-1986, wildfires in 1987-1996, and earthquakes in 1997-2006. In addition, frequency of landslides and wildfires tended to increase over time, which may be caused by growing human activities such as logging.



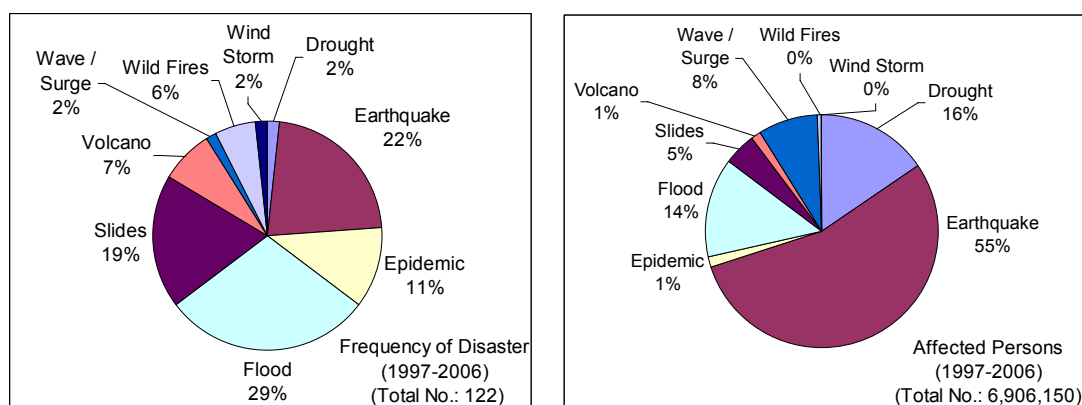
Source: EM-DAT: The OFDA/CRED International Disaster Database

Figure 2.2.2 Frequency of Disasters and Affected Persons 1977 - 1986



Source: EM-DAT: The OFDA/CRED International Disaster Database

Figure 2.2.3 Frequency of Disasters and Affected Persons 1987 - 1996



Source: EM-DAT: The OFDA/CRED International Disaster Database

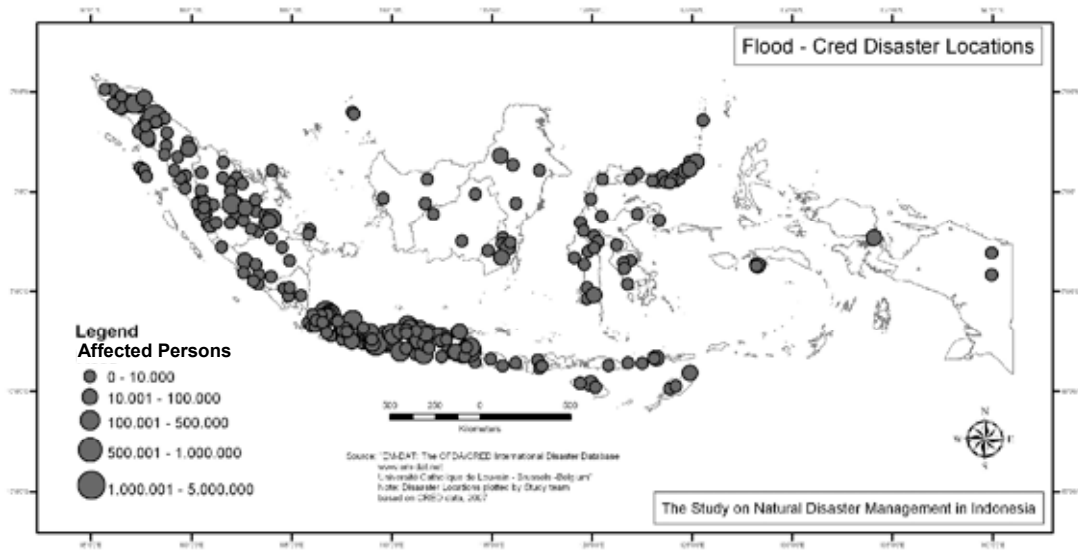
Figure 2.2.4 Frequency of Disasters and Affected Persons 1997 - 2006

3) Areal Distribution of Disaster

Figure 2.2.5, 2.2.7, 2.2.9 and 2.2.11 show the location and number of affected persons by target disasters of this Study (flood, landslides, earthquake and tsunami) during past 100 years based on the EM-DAT. Also, Figure 2.2.6, 2.2.8, 2.2.10 and 2.2.12 show the hazard area or location of past disasters, prepared using the data from the various sources. Figure 2.2.6 and 2.2.8 show the hazard area of flood and landslide, respectively. Figure 2.2.10 shows the seismicity location from 1973 to 2007 with magnitude and depth of hypocenter (red point indicates less than 60 km, yellow 60 - 300 km, and green more than 300 km). Figure 2.2.12 shows the location of past tsunami disasters with run-up height (red point indicates more than 5 m, yellow 1 – 5 m, and green less than 1m) and tsunami hazard zone.

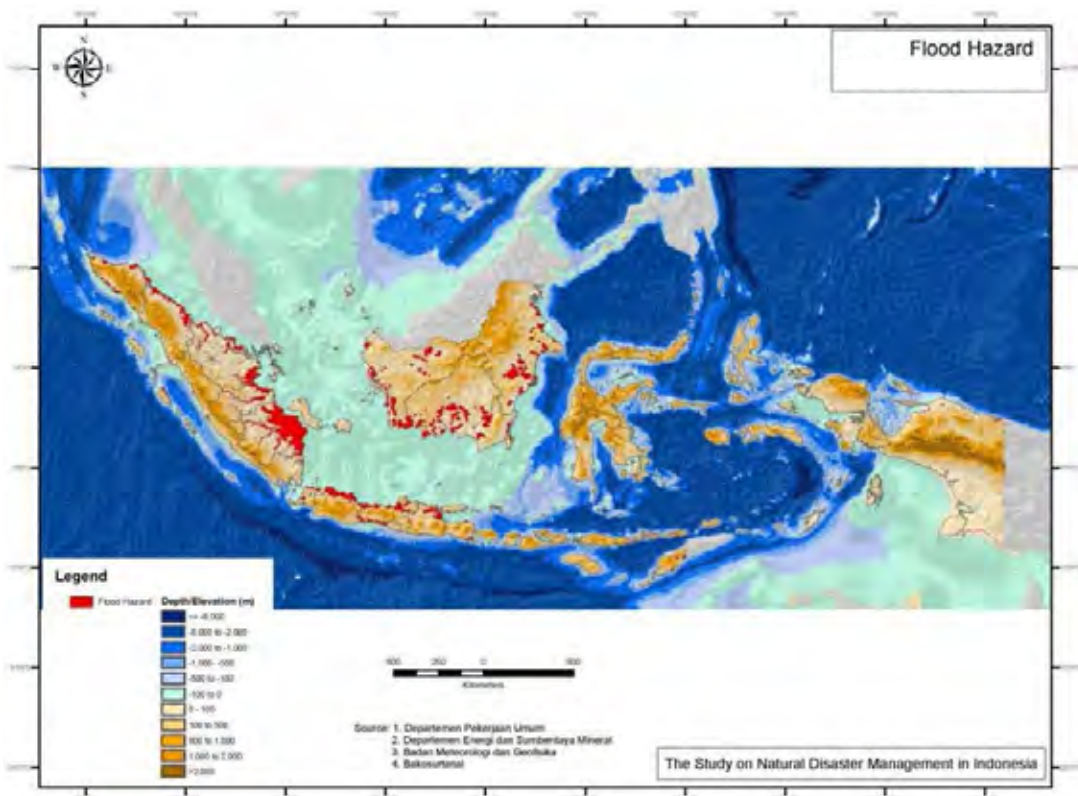
From the figures, highly disaster prone areas of each target disaster are summarized as follows.

- Flood: Sumatra, Central Java, Kalimantan, Sulawesi and Nusa Tenggara
- Landslides: North-western part of Sumatra, Java, Sulawesi and Nusa Tenggara
- Earthquake: Sumatra's west coast, Java's south coast, Sulawesi, Nusa Tenggara, Maluku and Papua
- Tsunami: Sumatra's west coast, Java's south coast, Sulawesi and Nusa Tenggara



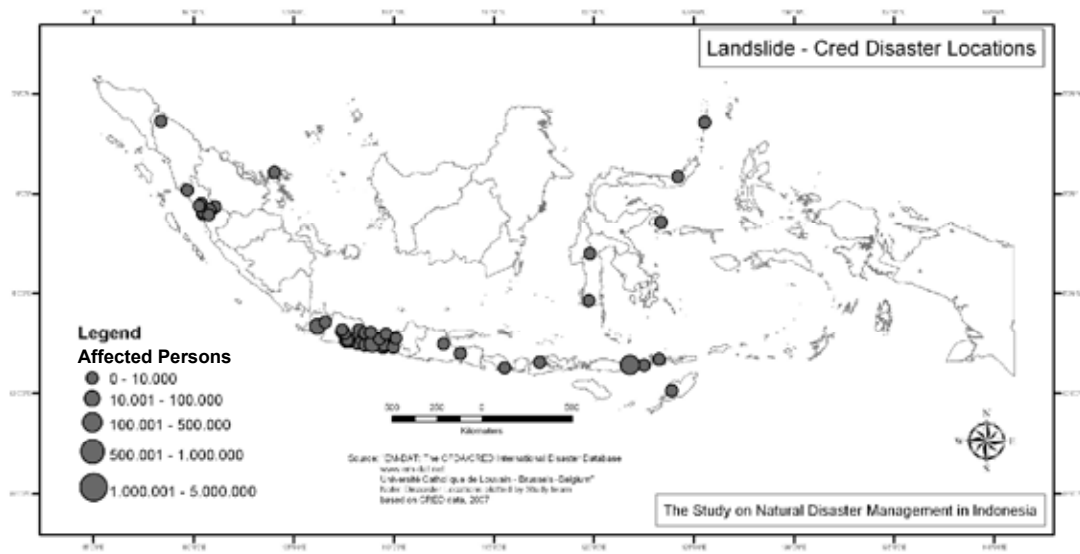
Source: EM-DAT: The OFDA/CRED International Disaster Database

Figure 2.2.5 Location and Number of Affected Persons by Flood



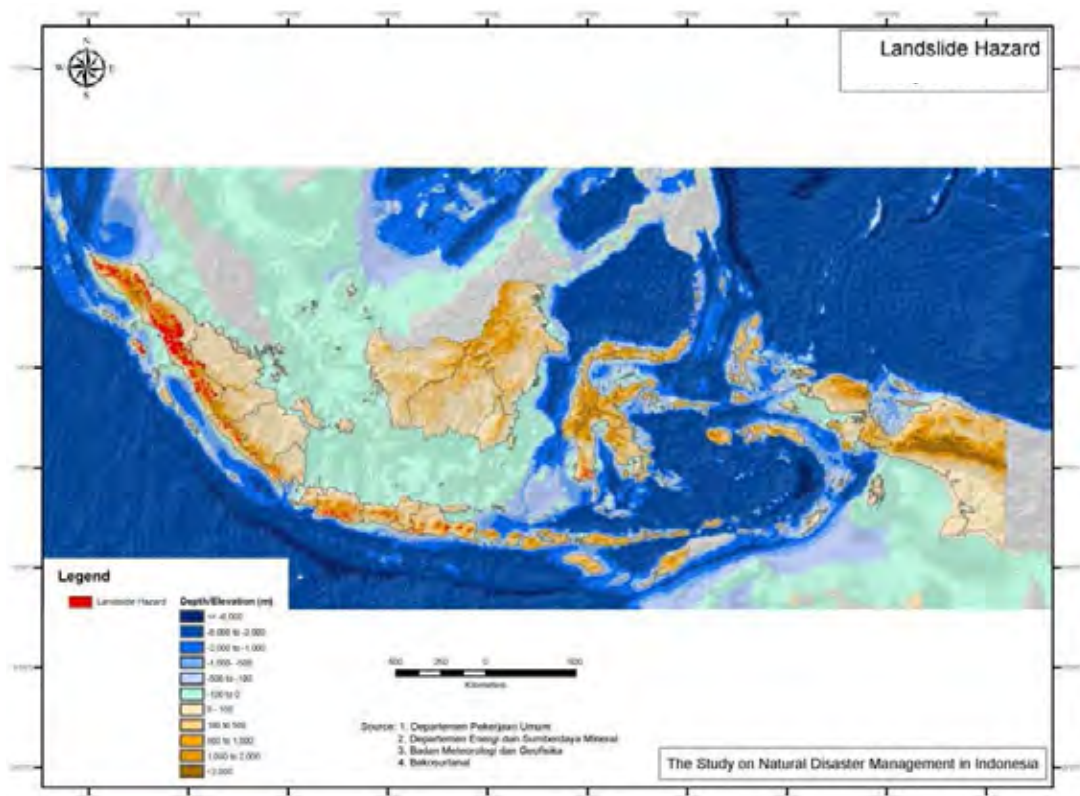
Source: Departemen Pekerjaan Umum, Departemen Energi dan Sumberdaya Mineral, Badan Meteorologi dan Geofisika, Bakosurtanal

Figure 2.2.6 Flood Hazard Area



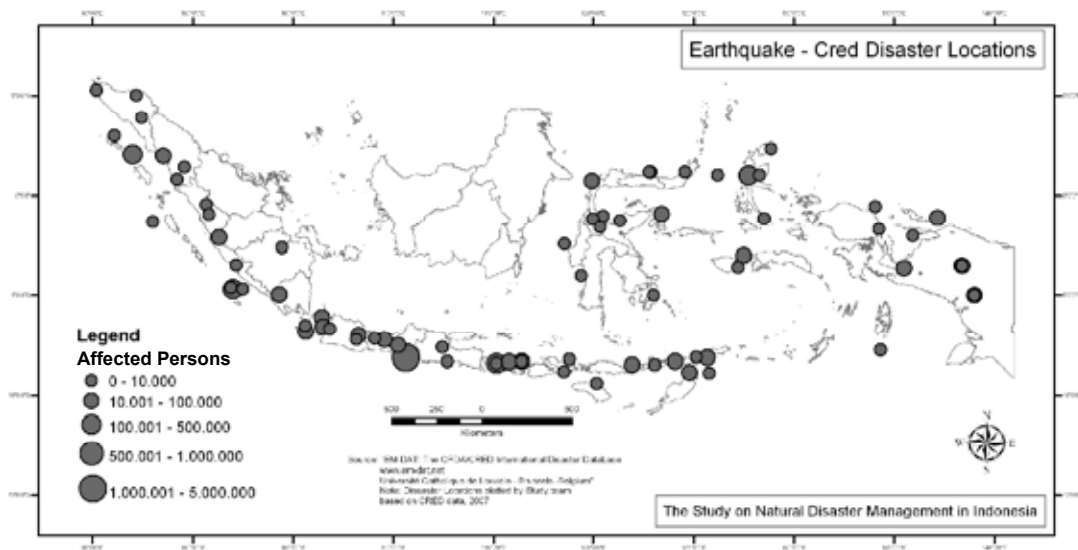
Source: EM-DAT: The OFDA/CRED International Disaster Database

Figure 2.2.7 Location and Number of Affected Persons by Landslide



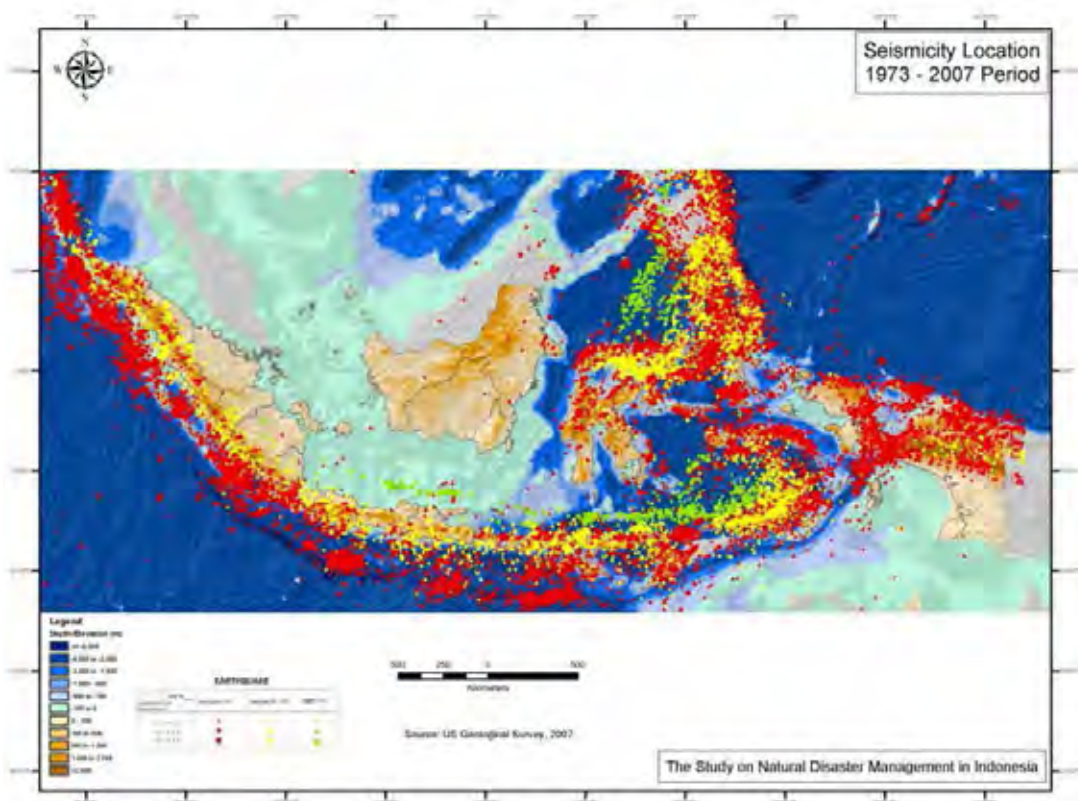
Source: Departemen Pekerjaan Umum, Departemen Energi dan Sumberdaya Mineral, Badan Meteorologi dan Geofisika, Bakosurtanal

Figure 2.2.8 Landslide Hazard Area



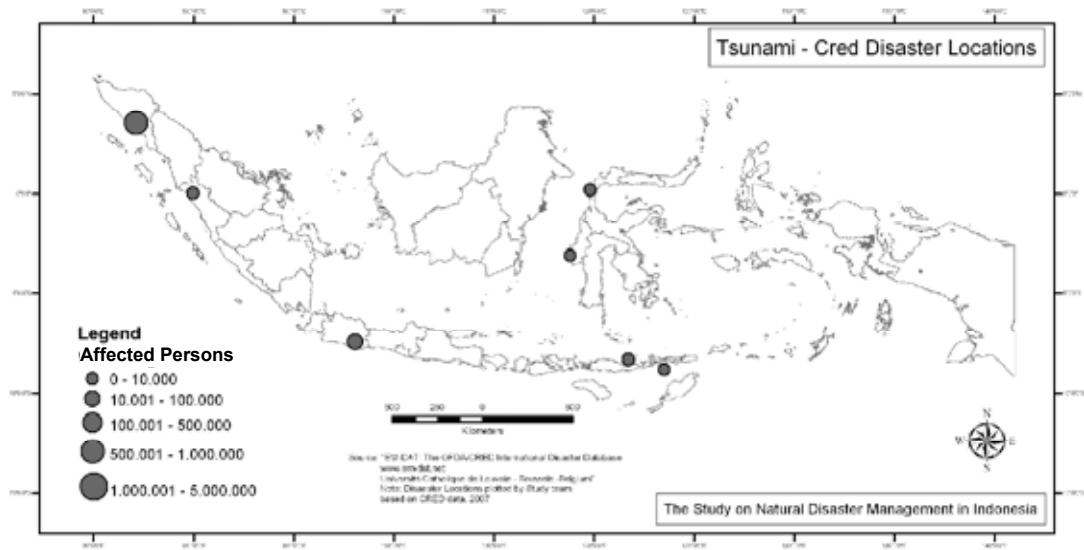
Source: EM-DAT: The OFDA/CRED International Disaster Database

Figure 2.2.9 Location and Number of Affected Persons by Earthquake



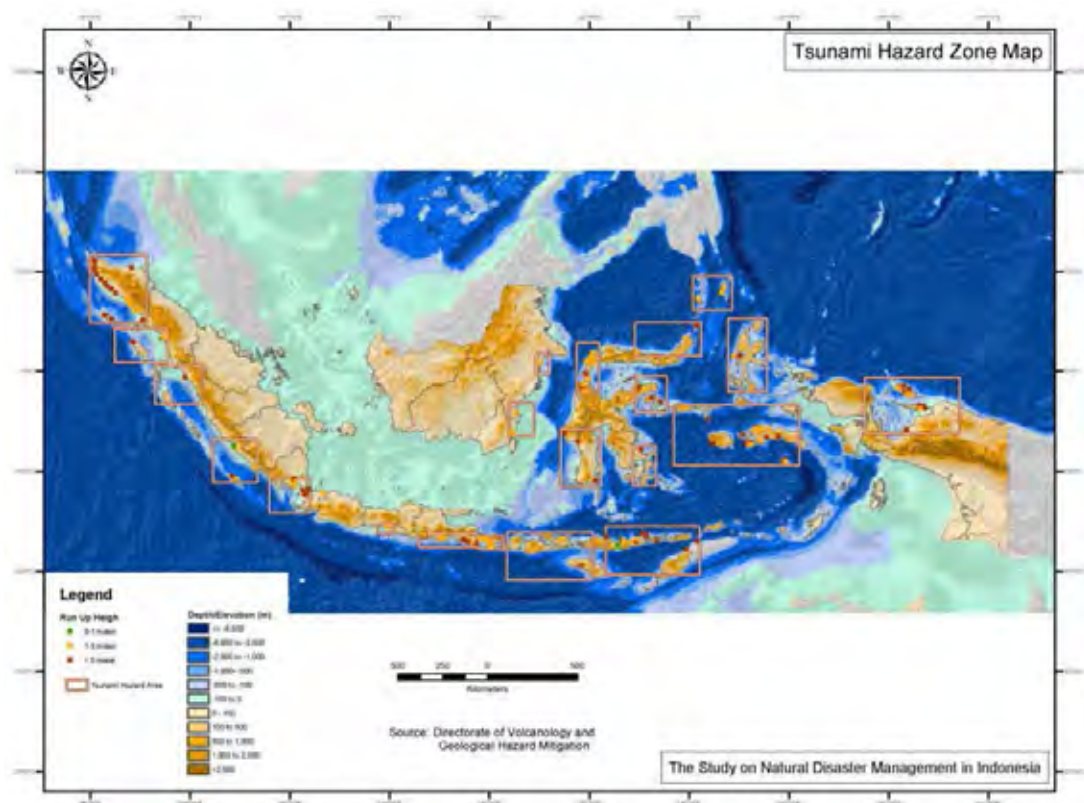
Source: US Geological Survey, 2007

Figure 2.2.10 Seismicity Locations



Source: EM-DAT: The OFDA/CREC International Disaster Database

Figure 2.2.11 Location and Number of Affected Persons by Tsunami



Source: Directorate of Volcanology and Geological Hazard Mitigation

Figure 2.2.12 Tsunami Hazard Zone Map

2.3 Public Awareness and Education

2.3.1 Current Framework for Public Awareness and Education for Disaster Risk Reduction in Indonesia

1) Law of the Republic of Indonesia No. 24

The Article 26-(1)-b & c of the Law of the Republic of Indonesia No. 24 stipulates public awareness and education for disaster reduction as part of social rights of every person.

(1) Every person is entitled to:

b. education, training, and skills in organization of disaster management;

c. access written and/ or verbal information on disaster management policies;

(extracts from the Article 26-(1))

The Article 37-(2)-c of the Law stipulates “promotion of a culture of disaster awareness” is one of the activities for disaster reduction which shall be implemented during pre-disaster phase. The Article 43 of the Law stipulates that disaster management education and training are implemented and stipulated by Government in accordance with regulations of law.

2) Government Regulation of Republic of Indonesia No. 21 Concerning Disaster Management Operations

The article 14 of the Government Regulation, which was stipulated in the Law of the Republic of Indonesia No. 24, clearly defines the below:

(1) Education and training as meant in Art. 5 para. (1) letter g purpose to increase awareness, care, capacity, and preparedness of public in facing disaster.

(2) Education and training as meant in para. (1) are operated by Government and regional government in form of formal, non-formal, and informal education which takes form of basic, advanced, technical trainings, simulations, and drills.

(3) Instrumentality/ institution/ organization linked to disaster management may operate disaster management education and training in accordance with its mandate and authority, based on guidelines which are enacted by Head of BNPB.

(Preliminary English translation)

3) National Action Plan to Reduce Disaster Risk 2006-2009

This Plan was developed for providing guidelines and information that will facilitate decision makers to pledge commitment to cross-sectoral and jurisdictional priority programs based on a strong and systematic foundation.

In the Plan, “use knowledge, innovation and education to build a culture of safety and resilience at all level” is defined as one of the five key priority areas. Further, “Information Management and

Information Exchange”, “Education and Training”, and “Public Awareness” are mentioned as part of the activities to fulfill the key area.

In addition, the matrix to make clear the status of planned activities categorized by the priority areas in the Plan shows the involvement of various organizations in the activities related to public awareness and education. They are BNPB (former BAKORNAS PB), LIPI, PMI, MPBI, etc.

2.3.2 Current Noteworthy Activities for Public Awareness and Education in Indonesia

Many disaster risk reduction education and public awareness programs have been taken place in Indonesia by various organizations such as BNPB, ITB, LIPI, Ministry of National Education, GTZ, NGOs, etc.

The information below was obtained through the surveys conducted from May to September 2008, as well as in July 2007.

1) BNPB (former BAKORNAS PB)

BNPB develops posters and leaflets on wide varieties of disasters such as floods, landslides, volcanic eruption, fires, drought and windstorms as well as man-made disasters for raising public awareness. These materials are distributed to provincial offices.



Figure 2.3.1 Leaflets and Posters on Natural Disasters

However their efforts for raising disaster awareness of the general public are limited and insufficient. BNPB is a new organization and is keen to further promote the public awareness and disaster risk reduction education from now on.

In terms of training programs, capacity development programs have been conducted by BNPB targeting for government officers. BNPB provides only basic disaster management training.

2) Ministry of National Education

In Indonesia, six years of primary education and three years of secondary education are compulsory. According to the statistics of UNICEF (“The State of the World’s Children 2007”), the school enrollment rates (nett rate) are 95 % (boys)/ 93% (girls), and 57%/ 57% respectively. In this regard, the Ministry of National Education focuses not only on formal education, but also on non-formal education.

Disaster risk reduction education is not included in the school curriculum of Indonesia. However, mechanism of earthquake occurrences has been taught through the subjects of physics or science, even though how to protect themselves from natural disasters is not focused at all.

The Ministry of National Education have been conducting some projects on disaster risk reduction education in cooperation with AusAID, Institute of Technology Bandung (ITB), GTZ, etc., mainly focusing on improving the competence of teachers in general teaching, as well as integrating disaster risk reduction education (See more details on the parts of ITB and GTZ). Officials of Ministry of National Education understand the needs of integration of disaster risk reduction education; however, they mentioned that there are many priorities before the promotion of disaster risk reduction education, such as (educational and teacher) quality improvement, access to education, education management, and relevancy of education and work.

3) Consortium for Disaster Education (CDE)

CDE was formed subsequent to 2006 Joint Commemoration of the International Day for Disaster Reduction with concerns from the participating institutions to work together for synergy or resources, coordination of activities, and networking and partnership for possible sustainability of disaster education program in Indonesia. Main participating institutions are as follows.

- UN agencies: UN/OCHA, UNICEF, WHO
- Indonesian government organizations: LIPI, Ministry of National Education
- NGOs: PMI, MPBI, YTBI (Yayasan Tanggul Bencana di Indonesia), NU (Nahdlatul Ulama), CWS (Church World Service) Indonesia, ASB (Arbeiter-Samariter-Bund Deutschland e.V.), MDMC (Muhammadiyah Disaster Management Centre) , etc.

4) LIPI (Lembaga Ilmu Pengetahuan Indonesia/ Indonesian Institute of Science)

LIPI is a scientific body for scientific research in Indonesia. The activities for public awareness on natural disasters have been conducted even before the Tsunami disaster in 2004. In 2005, the Vice-Presidential Decision Directive was issued and LIPI became to be involved in disaster preparedness through imparting the scientific knowledge that LIPI has accumulated for a long time to the general public. Many studies on disasters, especially focusing on earthquake and tsunami have been done in LIPI. LIPI has published several educational materials like booklets, posters, guidebook for community work, and newsletters based on their scientific knowledge.

Recognizing the importance of local empowerment on disaster risk management, LIPI has made efforts on media campaign, promotion of children's education, implementation of tabletop exercises and drills in cooperation with local governments, schools, and NGOs. LIPI has been organizing the Community Preparedness Exhibitions on the day of the International Disaster Risk Reduction Day (second Wednesday of October) since 2005 and inviting many musicians for attracting the general public.

Meanwhile, studies on floods and landslides remain the areas to be addressed more energetically.

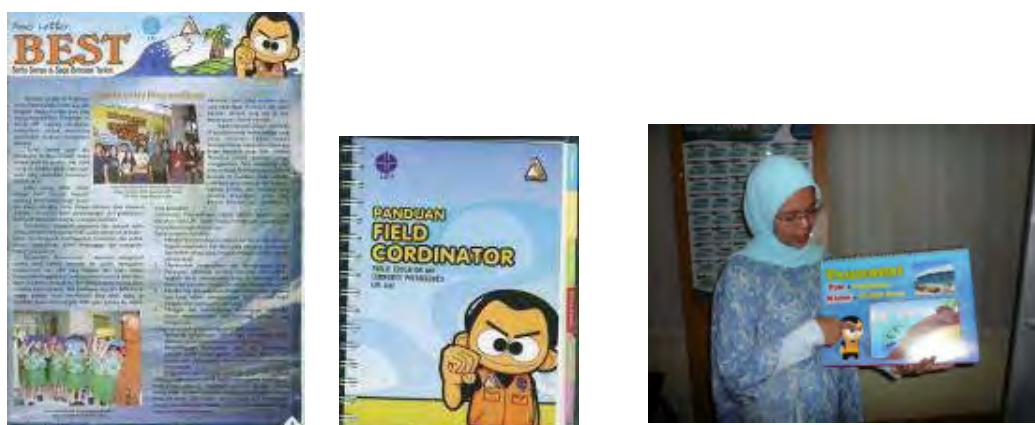


Figure 2.3.2 Newsletter, Guidebook for Community Work, and Picture-Story Show of Tsunami

5) ITB (Institute of Technology Bandung)

ITB has been conducting school disaster education program called “School Readiness Program against Earthquake Disasters” with the Ministry of National Education since 1999, funded by USAID, UNSCO, UNICEF, etc. This project aims at enhancing awareness of their vulnerability on natural hazards and appropriate behaviors to minimize risks through teacher training. Then teachers will try what they learnt in the training at schools for raising the awareness of children, as well as develop school action plans. The number of trainees every year is small, but their efforts have been continued almost 10 years. ITB also developed teachers manual, teachers supplemental

information book and student’s workbook. These booklets were carefully developed, revised three times so far.



Figure 2.3.3 Teachers Manual, Teachers Supplemental Information Book and Students Workbook

6) PMI (Palang Merah Indonesia/ Indonesian Red Cross)

PMI initiated disaster preparedness activities since 2004 by realization of importance for ensuring community preparedness before disaster events to reduce negative impact of disasters. Of course, PMI has long history to have conducted disaster relief and response activities in communities and produced successful results.

Aiming at reducing vulnerability through improving community capacity related to disaster risk reduction, PMI has conducted programs for capacity development which include a series of activities such as participatory rural appraisal/ vulnerability and capacity assessment, risk mapping, action plans development & implementation, arrangement of regular community meetings, promotion of communication between local government and community members.

In addition, they have developed various kind of printed & multimedia publication, including newsletters, posters, leaflets, merchandises, school children manual & game pad for better understanding of disaster risk management at community level.



Figure 2.3.4 Foldable Poster on Landslide/Maze Game for Disaster Study

7) GTZ

GTZ has been conducting the Disaster Awareness Project in Primary Schools from 2005 to 2008, following the next steps: (1) Development of training modules, informational material and teacher's handouts by the Science Education Quality Improvement Project (SEQUIP), (2) Training of teachers, head teachers and other people involved, using training units developed beforehand and adapted to the local situation, (3) The teachers apply their newly-acquired knowledge in class, thereby enhancing the pupil awareness of danger and providing them with appropriate behaviour strategies when natural disasters are foreseeable.

This project is targeted for 35,000 primary schools in Indonesia and focused on teacher training.

They have developed teachers manual and posters for disaster preparedness. The training that GTZ developed will be institutionalized by the Ministry of National Education into the general teacher training of Indonesia (The MoU was signed between GTZ and the Ministry of National Education).



Figure 2.3.5 Teachers Manual and Poster for Disaster Preparedness

8) MPBI (Masyarakat Penanggulangan Bencana Indonesia/ Indonesian Society for Disaster Management)

MPBI is a non-profit and non-government organization which was established on 3 March 2003.

As one of those activities, MPBI has annually organized events related to the International Day for Disaster Reduction designated by UN/ISDR in cooperation with governments and other related organizations in Indonesia since 2003. They include a rally for disaster reduction campaign, a disaster prevention exhibition, workshops for disaster reduction, and others. They have also conducted the National Symposium for Community-based Disaster Management every year for promoting the disaster reduction activities at community level.

In addition, they also conduct capacity building programs for community in some areas of Indonesia. They are including leaders training program in Nias in cooperation with UNESCO,

contingency planning training in West & Central Java in cooperation with the Save the Children, and others.

MPBI has specifically focused on the development of awareness/educational materials for disaster reduction and published various kinds of materials. They have translated useful publications of UN/ISDR in Indonesian language, such as public awareness video “Everybody Business”, press kit of “Disaster Risk Reduction Begins at School Campaign”. In addition, they developed attractive disaster education booklets and posters in collaboration with UN agencies.

MPBI is also proposing the establishment of training center for disaster risk management for enhancing the efforts all over the Indonesia.



Figure 2.3.6 Mini Booklets for Disaster Reduction (landslides, volcano, and earthquake versions)/ translation booklets “Hyogo Framework for Action”/ translation booklet “Disaster risk reduction begins at school” by UN/ISDR

9) RISTEK (State Ministry of Research and Technology)

RISTEK is a state ministry to coordinate tsunami-related works in Indonesia. On 26 December 2008, they are planning to organize the national tsunami drill (simulation exercise) in cooperation with UNESCO/IOC with the participation of President of Indonesia, government officials, NGOs, communities, and relevant actors. In 2009, RISTEK and IOC will conduct this training with the Indian Ocean Countries.

10) UNESCO

Public awareness raising activities have been conducted through the website of Jakarta Tsunami Information Centre (www.jtic.org), in cooperation with various agencies such as RISTEK, LIPI, USAID, GTZ, etc. Disaster related materials collected from various organizations have been posted on the website. The Tsunami Information Centre is funded by CIDA.

This year, UNESCO Jakarta office in cooperation with CIDA focuses on school disaster education. They will conduct earthquake/tsunami evacuation drills at 10-15 pilot schools of various levels. UNESCO closely collaborates with district officers in charge of education to promote this project. UNESCO provides the basic guideline of how to evacuate safely from

earthquake/tsunami to pilot schools, and then the pilot schools are expected to transfer the knowledge to other schools.

Since Dec. 2007, 2000 sets of the Tsunami packets including the Tsunami Glossary, Tsunami Warning Comic, etc. have been distributed to various people including local residents. UNESCO also developed tsunami DVD for teachers, mass media and public-private sector to show manual and guides for tsunami disasters.

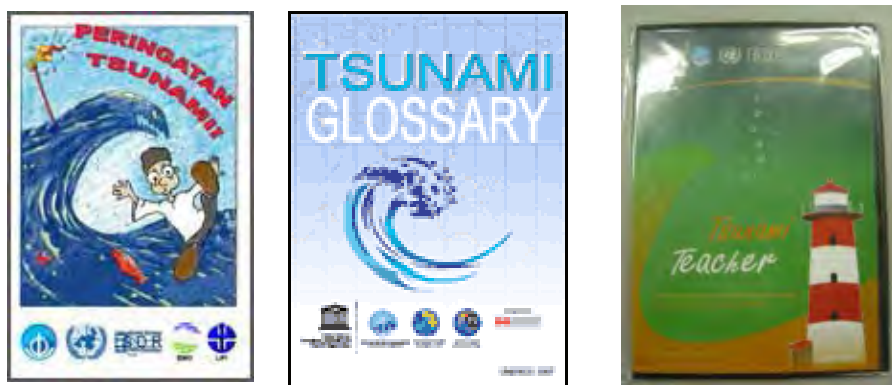


Figure 2.3.7 Tsunami Warning Comic, Tsunami Glossary and Tsunami Teacher

11) Child Disaster Awareness for Schools and Communities, Muhammadiyah Disaster Management Centre (MDMC)

This is an Indonesian Islamic non-profit organization. With support from AusAID, MDMC has been conducting a disaster education project for school communities since 2007. This program has targeted Muhammadiyah (Islamic) schools. Through this project, they have developed various materials such as supplementary textbooks, games, DVDs, hazard maps, etc. The supplementary textbooks are unique and arranged to be used in existing subjects such as arts, mathematics, Bahasa Indonesia, etc.

They also conducted programmes for raising community awareness, making hazard maps and disaster preparedness clubs of communities.



Figure 2.3.8 Supplementary Textbooks (from Grade one to six), Community's Hazard Map, and Maze Game

2.3.3 Identified Actions for Promoting Public Awareness and Disaster Risk Reduction Education in accordance with the National Disaster Management Plan

As introduced in the section 2.3.2, there are many activities for public awareness and education that have been conducted by various organizations in Indonesia. However, most of the activities have been conducted on a project-basis and contain problems with sustainability.

For better public awareness and disaster risk reduction education in this country, the actions below were identified for promoting public awareness and disaster risk reduction education, reflecting the National Disaster Management Plan.

- **Designation of Disaster Risk Reduction Day/Week/Month:** There is no nationwide Disaster Risk Reduction Day in Indonesia, although 26 December is considered as the Tsunami Memorial Day in some parts of Indonesia. If the Disaster Risk Reduction Day/Week/Month was designated in Indonesia, various activities on disaster risk reduction such as trainings, drills, poster contests, exhibitions can be conducted in coordinated manner, in cooperation with various organizations such as relevant governmental agencies, international organizations, NGOs, Mass media, schools etc.
- **Integration of disaster risk reduction into school system (formal, non-formal and informal education):** It is effective to disseminate the information on disaster risk reduction through school education (including formal, non-formal and informal education). Through school education, children can learn about natural hazards and how to protect themselves from the hazards regularly. From the learning, their body will also learn how to respond to natural hazards and will remember it even they grow up. Children tend to tell what they have learnt at school to their parents, therefore school education also contribute to raising the awareness of parents. Through school disaster risk reduction education, school communities can be also educated.

It seems to be already occupied if there is another subject added to the school curriculum in Indonesia, however it won't be too difficult to integrate disaster risk reduction into the current subjects such as Bahasa, physics, social studies, integrated subjects, etc. BNPB and the Ministry of National Education (in cooperation with the Consortium of Disaster Education) are encouraged to work together to integrate disaster risk reduction into school system in the aim of safer school and communities.

- **Community Organizations for Disaster Preparedness:** First responders to natural hazards are always individuals and community. If people know how to respond to natural hazards, they could save many of lives before official rescuers will arrive. Especially since there is no established system of rescue and fire fighting in Indonesia, community people

themselves need to be well prepared for natural hazards. Utilizing existing community groups such as religious groups, women group, etc., disaster-related community groups are recommended to be organized. BNPB and local governments need to closely work together on the organization.

- **Promotion of Disaster Risk Reduction Activities by Corporations:** Companies need to prepare for natural disasters, making contingency plans as well as Business Continuity Plan (BCP), securing employee safety, and providing supports to disaster victims in the event of a disaster. They are also encouraged to conduct evacuation drills with employees.
- **Cooperation with Mass Media for Raising Awareness of People:** In order to disseminate the disaster risk reduction information effectively to wider audience, the cooperation with mass media such as TV, radio, community radio, newspapers, and magazines are crucial.
- **Inclusion of Gender/Disaster-vulnerable's Point of Views:** All the above activities or efforts need to integrate the point of view of gender and disaster-vulnerables.

2.4 Environmental Assessment Process

2.4.1 Basic Environmental Laws and Regulations

The original basic law on environment was promulgated by the Government of Indonesia (GOI) in 1982 (Law/UU No.4/1982). This law was updated in 1997 to become the new basic environmental law of the times (law concerning environmental management) as Law No.23/1997.

This new basic environmental law (No. 23/1997) under Article 15 stipulates the conduct of environmental impact analysis for projects with significant impacts. Consequently Government Regulation No.27/1999 (PP27/1999) was published on the process of the conduct of Environmental Impact Assessment (EIA/AMDAL).

2.4.2 EIA/AMDAL Regulations and Processes

The EIA process in Indonesia known as AMDAL (Analysis Mengenai Dampak Lingkungan) is characterized by its absence of IEE (Initial Environmental Examination) in a formal/legal sense and the EIA is basically project based.

The AMDAL process was originally included in law through Government Regulation No. 29 of 1986 (PP29/1986), promulgated under Law No. 4/1982 as noted above. Accordingly AMDAL process has already been well established in Indonesia since 1986. It is noted that Law No. 4/1982 has been replaced with Law No. 23/1997 and PP29/1986 with PP27/1999 as also referred above.

Basically, Environmental Impact Management Agency of the respective province or regency concerned (Badan Pengendalian Dampak Lingkungan Daerah; BAPEDALDA/*Badan Pengendalian Dampak Lingkungan; BAPEDAL*) is the responsible agency for the guidance and management of AMDAL study. Since the promulgation of Law No.22/1999 (UU No.22/1999) on Regional Autonomy that has recently been revised to be Law No.32/2004, responsibility of the AMDAL process has been delegated to the respective BAPEDALDA/BAPEDAL (Environmental Agency) of the concerned province if the project plan involves or potentially affects more than one regencies (Kabupaten) of the province concerned. On the other hand if the project plan completely falls within one regency then it is under the responsibility of BAPEDALDA/Environmental Department (*or Department of Sanitation/Cleansing and Living Environment/ Dinas Kebersihan dan Lingkungan Hidup*) of the concerned regency (Kabupaten) only.

Still the AMDAL Division of the Ministry of Environment (Central Government Level) is responsible for the AMDAL process for projects encompassing more the one Province, and also for projects of strategic significance like energy sector, national security/defense and offshore projects.

Other significant regulations (decrees) and guidelines that have to be followed in the conduct of AMDAL (EIA) study are given below.

1. Decree of the Minister of State for Environment No.2/2000 on Guidance on the Evaluation of the EIA (AMDAL) Document.
2. Decree of the Minister of State for Environment No.5/2008 on Guidance on the Working Procedure of the EIA Commission.
3. Decree of the Minister of State for Environment No.6/2008 on Guidance on the Standardization of Commission for the EIA Evaluation in Regency/City.
4. Decree of the Minister of State for Environment No.42/2000 on Guidance on the Formation of Evaluation Team and Technical Team Members for the EIA.
5. Decree of the Minister of State for Environment No.11/2006 on Types of Business and /or Activities that are Required to be Provided with EIA.
6. Decree of the State Minister of Environment No.8/2006 on Compilation Guidelines on Preparation of the EIA Document.
7. Decision of the Environmental Impact Management Agency No.8/2000 on Guidance on Public Participation and Information Disclosure of the EIA Process.

It is noted that for the conduct and evaluation of EIA/AMDAL study, a qualification/licensing system with two types of certification for the expertise has been developed: one is certification to formulate AMDAL Document (AMDAL Preparatory certification) and the other to be evaluator of AMDAL Document.

The most significant aspect of Decree No. 8/2006 (Item 6 of above) on guidelines for the preparation of EIA document is its explicit requirement to conduct disaster analysis and disaster risk analysis (as a component of significant impact evaluation) if the proposed project is located in such a disaster prone area. Accordingly it is presumed that both natural and man-made disaster (like terrorism) risk assessment has been incorporated in the EIA process of Indonesia as a requirement (refer to Chapter VI on Significant Impact Evaluation in Attachment II of Decree No.8/2006).

Moreover, the Decree No.11/2006 (Item 5 of above) specifies project activities subjected to mandatory EIA (AMDAL) Study principally based on the scale of a project. This Decree is basically reviewed at least once in 5 years and updated to account for the changes over time and currently this remains obviously as the latest valid Decree since it became effective only in 2006. This decree categorizes a project/business activity into 13 sectors ranging from Sector A to Sector M with Sector A being Defense Sector and Sector M being Genetic Engineering Sector.

Moreover, the Decision No.8/2000 (Item No.7 of above) mandates public consultation and community (stakeholder) participation in the process of conducting an AMDAL study from the

very beginning of the formulation of TOR of AMDAL study (KA-AMDAL) that also includes the screening and scoping of the EIA study as well.

Moreover, this Decision No.8/2000 defines the objectives of public consultation in the AMDAL process into the following 4 items.

1. To protect the public interest.
2. To empower the community in decision making on activity plans that potentially would cause significant impacts on the environment.
3. To secure transparency in the whole process of AMDAL of the activity plan.
4. To create equal partnership climate among all concerned parties thereby respecting rights of all parties to obtain information and requiring all parties to provide information that must be known by other parties who are affected.

2.4.3 Land Acquisition and Compensation Regulations

Land acquisition and related compensation for housing and other lost properties for the provision of public sector facilities have been a contentious issue in Indonesia until recently that has resulted in conflict between the affected property owners and the relevant public sector institutions. The major contention was the perceived unfair compensation when land and other properties are acquired for public sector projects based on the reason that the project is for greater public needs and interest and hence the affected property owners shall forgo their properties to a discounted compensation that would be determined based on the land tax value (known as Tax Objective Sale Value or *Nilai Jual Objek Pajak/NJOP*) of the property with no consideration to the market value. In general, NJOP is about 50% of the market value.

However, in recent years (since 2005) two Presidential Regulations (Presidential Regulation of 2005 and its amendment in 2006) and the subsequent most recent Decision No.3/2007 by the National Land Administration Agency (*Badan Pertanahan Nasional/BPN*), all at national level covering the entire territory of Indonesia, specifies NJOP will only the initial basis for the negotiation with affected property owners on compensation and the actual compensation could be market value of the affected properties, thereby facilitating the provision of fair compensation for the project affected persons (PAPs) and hence eliminating the most contentious issue concerning land acquisition for public sector development projects.

The relevant Presidential Regulations (2005 and 2006) and the BPN Decision No.3/2007 are as follows:

1. Regulation of the President of Indonesia No.36/2005 concerning Land Procurement for Implementation of Development for Public Interest.

2. Regulation of the President of Indonesia No.65/2006 concerning amendment on Presidential Regulation No.36/2005.
3. Decision of the Head of National Land Administration Agency No.3/2007 concerning the Implementation of Presidential Regulation No.36/2005 and its Amendment No.65/2006 on Land Procurement for Implementation of Development for Public Interest.

2.4.4 Conclusions and Recommendations

It is concluded that the project-based EIA process in Indonesia incorporates disaster risk assessment as a requirement. Hence it is important to ensure that this requirement is duly followed in the formulation of EIA documentation. In this respect it is recommended that any natural disaster prone nature of a project area shall be initially duly identified and evaluated under (existing/baseline) environmental condition and such natural disaster prone baseline condition shall be further used for significant impact evaluation including disaster risk assessment as specified in Chapter VI on Significant Impact Evaluation of Attachment II of Decree No.8/2006.

Moreover, the EIA process in Indonesia is only project-based and hence does not cover spatial development plans, policies and programs that essentially form the basis of subsequent project formulations. Accordingly, it is recommended that the natural disaster risk assessment of such plans and policies shall be conducted by the newly formed respective disaster risk management agency at central, provincial, district (Kabupaten) or city (Kota) administrative level (BNPB, BPBD Province, BPBD Kabupaten or BPBD Kota as the responsible disaster management agency at local level) depending on such factors like the scale, complexity, sensitivity of such plans, conforming to the Presidential Regulation on National Agency for Disaster Management No.8/ 2008 and also the Law on Regional Autonomy (Law No.32/2004).

2.5 Principle and Strategy for Formulation of National Disaster Management Plan for Selected Natural Disaster of Indonesia, and Efforts for Formulation of the Plan

2.5.1 Principles and Strategy for Formulation of National Disaster Management Plan

The National Disaster Management Plan of Indonesia is the basis for disaster management policy of Indonesia and its implementation. National Disaster Management Agency (BNPB) is the total authority that is responsible for formulating the Plan. The Agency is supposed to take the initiative and to lead the relevant government agencies and local authorities for implementing the efforts which are stipulated in the Plan.

JICA Study Team proposed that BNPB should apply the Disaster Management Plan of Japan when it formulates the National Disaster Management Plan of Indonesia since the characteristics of natural hazards, geographic conditions and administration system for disaster management have a lot in common in both Indonesia and Japan. Because this National Disaster Management Plan of Indonesia includes earthquake, tsunami, flood and sediment disasters, BNPB will formulate and add the parts for the other types of disasters in the Plan. The format of the Disaster Management Plan of Japanese will enable BNPB to add the parts for other disasters. The proposal by JICA Study Team was formally approved in the meeting with the Head and the other senior officials of BNPB on May 15th 2008. The BNPB was established in January 2008 and the Head of BNPB was assigned in May 2008.

The National Disaster Management Plan of Indonesia was formulated in collaboration with the JICA Study Team, BNPB and the relevant government agencies. After the assignment of JICA Study Team, the Plan needs to be further reviewed and checked in detail by BNPB and the relevant government agencies from wider perspectives including administration and financial system. It is assumed that the Plan will be finalized in the official format of Government of Indonesia and formulated through the necessary official process.

The principles and strategy for formulating the National Disaster Management Plan of Indonesia are hereby confirmed based on the above mentioned rationale.

- 1) National Disaster Management Plan of Indonesia will be drafted based on the discussions and reviews of Disaster Management Plan of Japan. During the effort of drafting the Plan, the characteristic of Indonesia that are different from those of Japan are supposed to be incorporated. To be more precise, the JICA Study Team introduces and elaborates the Disaster Management Plan of Japan to BNPB. The Team drafts the plan that incorporates the particular elements of Indonesia that the Team got to know. The draft Plan will be reviewed and discussed in the meetings chaired by BNPB and participated in relevant

government agencies. Through those coordination processes, it will be finally drafted as the practical and implementable plan in Indonesia.

- 2) Though National Disaster Management Plan of Indonesia should include the parts for the accidents and man-made disasters in addition to disasters as shown in the Figure 2.5.1 “Component of Disaster Management Plan in Japan”, we focus on four disaster types including earthquake, tsunami, flood and sediment disasters in this Study. It is advised that in the future BNPB would formulate the parts for other types of disasters and to accommodate the Plan for those disasters that are not dealt with in this draft.
- 3) The structure of the Plan is the same as that of the Disaster Management Plan of Japan, which has a part for each disaster type. Each part has several sections which, along with the disaster management cycle, fundamentally consist of three sections including (1) Pre-Disaster Measures, (2) Emergency Response Measures and (3) Post Disaster Measures for rehabilitation and recovery. This structure enables BNPB to a) describe the appropriate and practical plan which incorporates the characteristics of each disaster type for each disaster management cycle and b) formulate and add the other disaster types that are not included in the draft Plan. This JICA Study includes the four types of disasters and in the part for Earthquake Disaster Measures; the earthquake and tsunami measures are discussed and in the part for Rain and Storm Disaster Measures; the flood and sediment disasters are discussed. Figure 2.5.2 shows you the structure for National Disaster Management Plan of Indonesia formulated based on the principles.
- 4) They took the following background into account in the three sections. (1) In the first section for Pre-Disaster Measures, Government of Indonesia successfully allocated a certain amount of budget for the efforts of disaster preparedness and prevention by the relevant government agencies since the Government of Indonesia has played a proactive role to disaster management when they faced the huge socio-economic losses and impacts due to the tsunami disaster in Aceh 2004 and the consecutive big disasters. (2) In the second section for Emergency Response Measures, they assume and expect that BNPB will play the leading role in the emergency response. (3) In the third section for Post Disaster Measures, they assume that disaster management efforts for this stage should be elaborated in the “Recovery Plan”, which is formulated by the national and/or local governments in collaboration with the organizations and institutes for disaster management based on the characteristics of the disaster affected area, magnitude of disaster impact and disaster types. Therefore the JICA Study Team assumes that the description of the section for Post Disaster Recovery should be limited to the fundamental items. It also understands that some of the efforts for recovery and rehabilitation should substantially contribute to enhancing the capacity for disaster preparedness.

- 5) The National Plan has the similar format to that of the “Regional Disaster Management Plans” that the JICA Study Team started to formulate from May 2007 for Kabupaten Jember in East Java Province in collaboration with SATKORLAK and SATLAK, which are both regional disaster management authorities. The common structures for both national and regional disaster management plan enable them to make the comparison and reference among the national and regional plans and make the coordination more effective and appropriate when they implement the disaster management efforts by the national and regional authorities. The regional disaster management plans for Kabupaten Padang Pariaman and Kota Pariaman in the West Sumatra Province that they started to formulate in May 2008 have some particular items which reflect the regional characteristics but basically share the same structure.
- 6) This National Disaster Management Plan was formulated under Disaster Management Law No.24-2007 approved in April 2007. The Plan was formulated with the recognition that the Plan would complement and enhance the items stipulated in the Presidential Regulation No.8-2008 and Government Regulation No.21-2008. The Presidential Regulation No.8-2008 approved in January 2008 stipulates the responsibility and mandate of BNPB. The Government Regulation No.21-2008 stipulates the roles and missions for disaster management taken by the relevant stakeholders and regional authorities.
- 7) The National Disaster Management Plan needs to have such flexibility that enables the relevant government agencies to incorporate the unique mission and mandate for the disaster management efforts of the agencies since those agencies would find it difficult to stipulate the mission and mandate in the National Plan. In other words, the National Plan is supposed to facilitate each relevant government agency to formulate its own Disaster Management Operation Plan. Disaster Management Operation Plans formulated by the relevant government agencies based on the single National Disaster Management Plan are expected to facilitate the cooperation among the government agencies in terms of their responsibilities and functions for disaster management.
- 8) Additionally they need to check and review the once-formulated National Disaster Management Plan for keeping consistency and avoiding gaps between the National Plan and the Local Plans. This process would fill the vacancy of the mandate and responsibility for disaster management efforts where no national and local authorities deem to have their own.
- 9) The Disaster Management Plan of Japan has been reviewed and revised seven times including two times of fundamental revision. The National Disaster Management Plan of Indonesia as well needs to be reviewed by BNPB and the relevant government agencies. It needs to be reviewed periodically once in five years as is requested in the regulation.

Especially when a big disaster happens, they have to review it if necessary. The National Disaster Management Plan is formulated on the basis that it would be reviewed in such ways that were mentioned above.

2.5.2 Efforts to formulate National Disaster Management Plan

The JICA Study Team formulated the National Disaster Management Plan based on the aforementioned principles and the study results in the past sections.

The Plan was formulated by the joint effort of the JICA Study Team and BNPB Task Team that was the counterpart in BNPB of the JICA Study Team. The Plan has been discussed in the series of workshops in which BNPB and relevant government agencies for disaster management participated. The report of the discussions in the workshops is described in Chapter 4. The drafted National Disaster Management Plan formulated in this Study is included in the Volume 2-2 of this report.

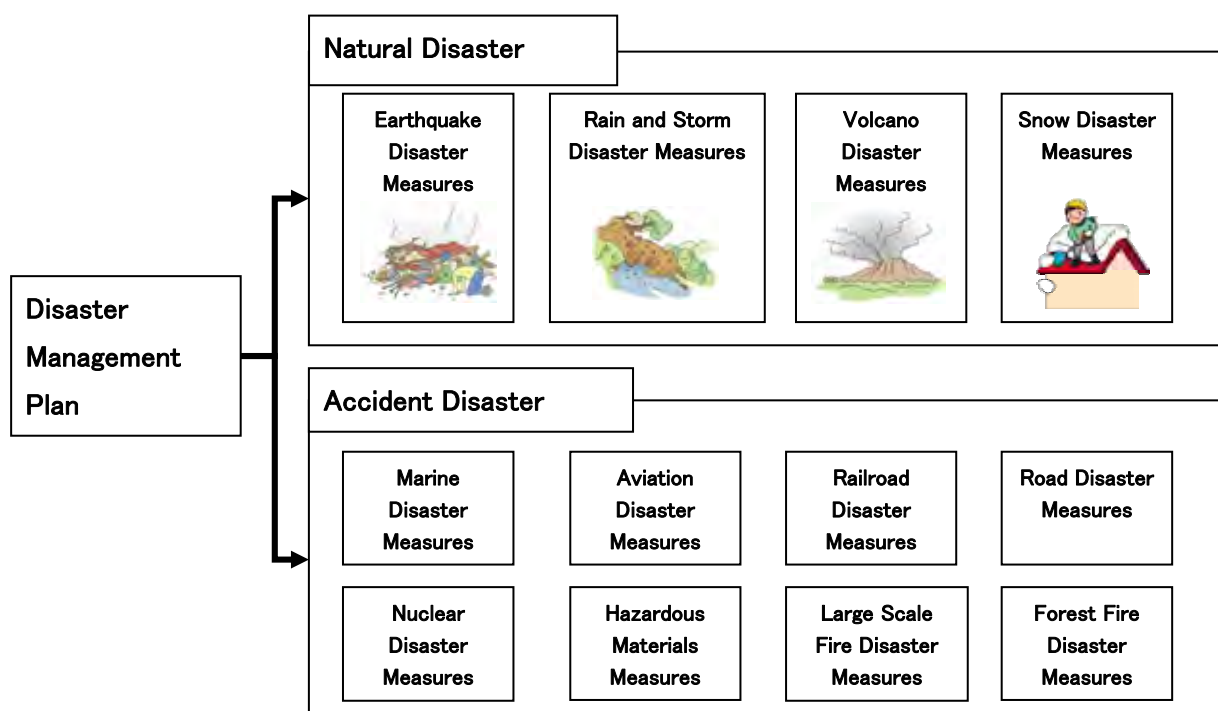


Figure 2.5.1 Components of Disaster Management Plan in Japan

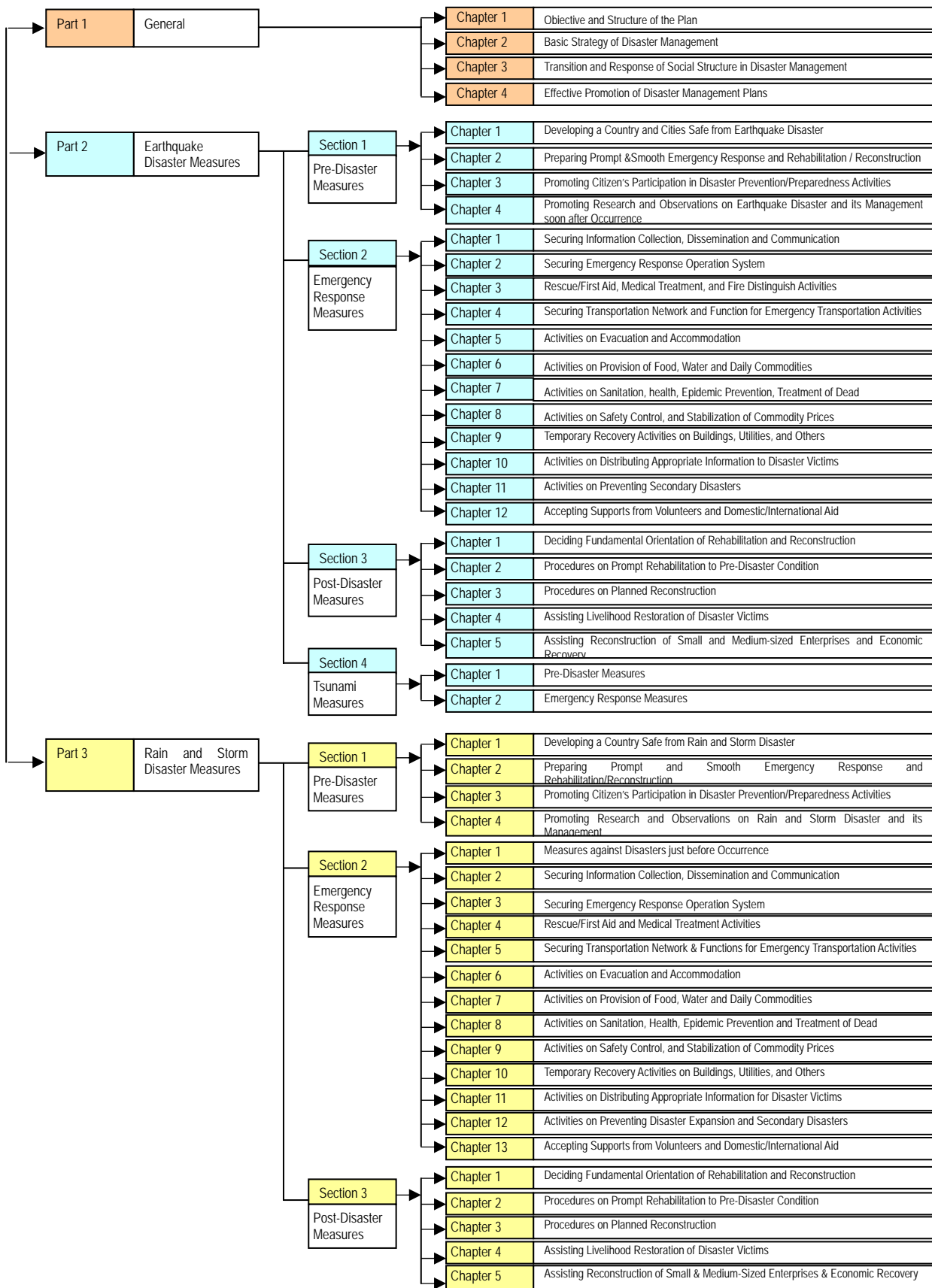


Figure 2.5.2 Structure of National Disaster Management Plan

2.6 Action Plan for Capacity Enhancement

2.6.1 Introduction

In the course of the joint study by BNPB Team and JICA Team as well as discussions with relevant government agencies, the following areas have been identified for further developments and enhancement of capacity of disaster management mostly at the national level.

Major actions to be commenced (partially already on going) mostly under the initiative of the newly established BNPB are listed below. The implementation of each action will be mostly done by the relevant agencies and institutions, coordinated by BNPB. If it is regional (Local) level, BPBD will act similarly to BNPB.

1. Legal and Institutional Development
2. Human Resources Development (HRD) and Capacity Development
3. Nation-wide Communication Network Development for Sharing Disaster Information
4. Data Digitization Development for Disaster Management Information
5. Other Actions to be taken immediately after the authorization of National Disaster Management Plan

The activities in the above listed areas will be implemented within five (5) years. It is expected that this first five-year implementation will construct a strong foundation for disaster management of Indonesia. Assumed responsible agencies, indicated with underlines in this Action Plan, and assumed term of each implementation (commencing year and completion year are indicated for each action) will be defined through further discussions among concerned government agencies under the initiative and coordination of BNPB, especially in consideration of institutional and financial aspects.

2.6.2 Disaster Management Action Plan, 2009 – 2013

The Action Plan is shown in the Table below.

1	<p>Legal and Institutional Development</p> <p>After the legislation of Disaster Management Law No.24, 2007 in April, 2007, National Disaster Management Agency (BNPB) was established under Presidential Regulation No.8, 2007 in January 2008, and subsequently Government Regulations No.21, 22, and 23, 2008 were promulgated in February, 2008. Those Law with Regulations will be applied as bibles of disaster management of Indonesia, however they should be more elaborated into certain details as actually applicable measures to regulate activities of government agencies with relevant institutions for smoother and more effective disaster management. Those legal and institutional developments should be given the highest priority of the government activities. It is the basis of capacity enhancement of disaster management of Indonesia as a whole,</p> <p>Upon authorization of National Disaster Management Plan, it is recommendable to legalize "Statutory Period of Disaster Management Development" in order to enhance motivation of all those concerned to start up implementation of all higher priority "Action Plans". The period will be one year, or designate 2009 as "Disaster Management Development Year".</p>
1.1	<p>National Disaster Management Plan (NDMP)</p> <p>The results of joint study by BNPB and JICA Teams with relevant Government Agencies will be completed in March 2009. It will be thoroughly reviewed, adjusted to meet with the situation of Indonesia, and authorized in official formats. It will become "Standard National Disaster Management Plan". The structure of the plan will be applied to these disaster events of "Natural Disaster in Indonesia" like Volcanic Disaster, Forest Fire Disaster, etc that are not covered by currently discussed NDMP.</p> <p>1.1.1 Authorization of NDMP, Earthquake & Tsunami, and Rain & Storm Disasters</p> <p>The joint study by BNPB and JICA Team will be completed in March, 2009. <u>BNPB supported by concerned government agencies</u> will finalize the plan in the official format and the plan will be authorized as the supplemental regulations to Government Regulations No.21,2008 as well as Disaster Management Law No.24, 2007.</p> <p>----- [Implementation Term: 2009 – 2009]</p> <p>1.1.2 Preparation and Authorization of Guidelines/Manual for NDMP outside Earthquake & Tsunami, and Rain & Storm Disasters</p> <p>Based on the authorized NDMP for Earthquake & Tsunami, and Rain & Storm, <u>BNPB</u> will formulate Guidelines/Manual for preparation of disaster management plans of other disaster events such as Volcanic Disaster, Forest Fire Disaster and so on.</p> <p>----- [Implementation Term: 2009 – 2009]</p> <p>1.1.3 Preparation and Authorization of NDMP outside Earthquake & Tsunami, and Rain & Storm Disasters</p> <p>In compliance with the authorized Guidelines/Manual for preparation of NDMP on other disaster events, the relevant government agencies such as <u>Department of Health for Epidemic Disaster</u>, and <u>Department of Energy, Mineral Resources for Volcanic Disaster</u>, and <u>Department of Forestry for Forest Fire Disaster</u>, coordinated by <u>BNPB</u> will prepare the plans.</p> <p>----- [Implementation Term: 2009 – 2009]</p>
1.2	<p>Regional (Local) Disaster Management Plans (RDMP)</p> <p>In principle, each local government is responsible for its own RDMP, but there should be some standardized measures to be applied to 33 provinces and 483 districts for smoother coordination and cooperation among local governments as well as between local governments and national government represented by BNPB in disaster management activities.</p> <p>1.2.1 Authorization of RDMP: Jember District, Padang Pariaman District, Pariaman City: Earthquake & Tsunami, and Rain & Storm Disasters</p> <p>Similarly to BNPB/JICA joint study on preparation of NDMP, joint studies by the local government counterparts and JICA Team are being conducted in Jember District, East Java Province, Padang Pariaman District and Pariaman City in West Sumatra Province. The results of the study will be reviewed by <u>BNPB</u> and authorized in an official formats by the pertinent <u>local governments</u> in official formats.</p> <p>----- [Implementation Term: 2009 – 2009]</p>

	1.2.2	<p>Preparation and Authorization of Guidelines/Manual for Planning of RDMP: Earthquake & Tsunami, and Rain & Storm Disasters</p> <p>Based on the authorized RDMPs for two districts and one city, Guideline/Manual will be prepared by <u>BNPB</u> in coordination with <u>BPBDs of the pertinent districts and the municipalities</u>. The authorized Guideline/Manual will be applied to preparation of RDMP of other local governments in Indonesia</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>						
	1.2.3	<p>Preparation and Authorization of Guidelines/Manual for Regional (Local) Disaster Management Plans outside Earthquake & Tsunami, and Rain & Water Disasters</p> <p>It is similarly to National Disaster Management Plan; <u>BNPB with BPBD of Jember District, Padang Pariaman District, and Pariaman City</u> will prepare Guidelines/Manual for Regional Disaster Management Plans outside Earthquake & Tsunami, and Rain & Water Disasters.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>						
	1.2.4	<p>Preparation and Authorization of RDMP outside Earthquake & Tsunami, and Rain & Storm Disasters</p> <p>In compliance with authorized Guidelines/Manual for RDMP outside Earthquake & Tsunami and Rain & Storm Disasters will be prepared by <u>BPBD</u> of every local government (33 provinces and 483 districts/cities. Due to imparity among those local governments in terms of economy, capacity, etc, as well as natural and cultural difference, the preparation of plans will not be implemented simultaneously and the total completion of all local governments will take probably longer time.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>						
	1.3	<p>Regional (Local) Disaster Management Agency (BPBD)</p> <p>In compliance with Disaster Management Law No.24, 2007, BPBD should be established by every local government. The Law indicates the timing of establishment is to be one year after April 2007, but no BPBD has been established with very limited exception. The establishment of BPBD is very much essential as a fundamental of disaster management not only regional (local) level but also national level.</p> <tr> <td data-bbox="217 1200 256 1379"></td> <td data-bbox="256 1200 320 1379">1.3.1</td> <td data-bbox="320 1200 1463 1379"> <p>Preparation and Authorization of Guidelines for Establishing BPBD</p> <p><u>BNPB</u> has prepared Draft Guidelines for establishing BPBD and the draft is being reviewed by <u>the Authority</u>. Earlier formal conclusion is expected, which enables every local government to commence the establishment of BPBDs at both provincial and district/city levels.</p> <p>-----</p> <p>[Implementation Term: 2008 – 2009]</p> </td> </tr> <tr> <td data-bbox="217 1379 256 1615"></td> <td data-bbox="256 1379 320 1615">1.3.2</td> <td data-bbox="320 1379 1463 1615"> <p>Establishment of BPBD (total 33 Provinces and over 483 Districts. Prioritization needed)</p> <p>Upon the authorization of Guidelines/Manual for establishing BPBD, every local government will establish BPBD. Due to imparity among those local governments in terms of economy, capacity, etc, as well as natural and cultural difference, the preparation of plans will not be implemented simultaneously and the total completion of all local governments will take probably longer time.</p> <p>-----</p> <p>[Implementation Term: 2008 – 2010]</p> </td> </tr>		1.3.1	<p>Preparation and Authorization of Guidelines for Establishing BPBD</p> <p><u>BNPB</u> has prepared Draft Guidelines for establishing BPBD and the draft is being reviewed by <u>the Authority</u>. Earlier formal conclusion is expected, which enables every local government to commence the establishment of BPBDs at both provincial and district/city levels.</p> <p>-----</p> <p>[Implementation Term: 2008 – 2009]</p>		1.3.2	<p>Establishment of BPBD (total 33 Provinces and over 483 Districts. Prioritization needed)</p> <p>Upon the authorization of Guidelines/Manual for establishing BPBD, every local government will establish BPBD. Due to imparity among those local governments in terms of economy, capacity, etc, as well as natural and cultural difference, the preparation of plans will not be implemented simultaneously and the total completion of all local governments will take probably longer time.</p> <p>-----</p> <p>[Implementation Term: 2008 – 2010]</p>
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| | 1.4 | **National Disaster Management Operation Plans (NDMOP)** Government Regulation No.21, 2008 stipulates "Operation" for (1) Pre-Disaster, (2) Emergency Response, and (3) Post-Disaster. However, the regulations are overall and comprehensive. NDMP, based on the Regulation No.21,2008, being prepared is not yet in detail enough for actual operation to be taken in place by various concerned government agencies with relevant institutions and organizations. Disaster Management Operation Plan (NDMOP) of each concerned relevant government agency will be prepared so as to enable an agency for smooth and effective operation individually as well as organically in coordination with other concerned agencies. It is considered that the Operation Plans are the supplemental regulations to NDMP as well to the Government Regulation No.21, 2008. | | 1.4.1 | **Preparation and Authorization of Guidelines/Manual for NDMOP** | |

	<p><u>BNPB</u> will prepare Guidelines/Manual for NDMOP: Particular Issues, and distribute to relevant government agencies and institutions.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
1.4.2	<p>Preparation and Authorization of NDMOP: General Issues</p> <p><u>BNPB</u> will prepare NDMOP: General Issues, which defines the necessity, objectives, framework, and outline of operation plans.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
1.4.3	<p>Preparation and Authorization of NDMOP: Particular Issues</p> <p>Based on the Guidelines/Manual prepared by <u>BNPB</u> and authorized by authorities, the Particular Issues of NDMOP will be prepared by every concerned agency such as <u>Department of Public Works</u>, <u>Department of Health</u>, <u>Department of Social Affairs</u>, <u>Indonesian National Armed Forces</u>, and so on. <u>A committee</u> will be established headed and coordinated by <u>BNPB</u>.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
1.5	<p>Regional (Local) Disaster Management Operation Plans (RDMOP)</p> <p>A part of National Disaster Management Plan being prepared is an indication of relationship between National Disaster Management Plan and RDMP.</p> <p>In the Joint Study by RDMP, Coordination Unit (SATKORLAK and SATLAK) and JICA Team for RDMP for Jember District of East Java Province, Padang Pariaman District and Pariaman City of West Sumatera Province, it is discussed that some items of operational activities are to be coordinated with <u>BNPB</u>. The relationship between Regional (Local) and National levels will be clarified and defined in RDMOP.</p>
1.5.1	<p>Preparation and Authorization of Guidelines/Manual for Regional (Local) Disaster Management Operation Planning</p> <p>By reviewing RDMP, <u>BNPB</u> will identify the relationship between National and Local levels, and prepare Guidelines for Regional (Local) Disaster Management Operation Planning. Special attention is to be paid to define roles and responsibilities between <u>BNPB</u> and <u>BDPB</u>, as well as between National Government Agencies and Local Government Agencies.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
1.5.2	<p>Preparation and Authorization of RDMOP</p> <p><u>BPBD with relevant local government agencies</u> will prepare RDMOP. <u>BNPB</u> will coordinate with <u>BPBD</u> especially on the definition of roles and responsibilities of National Government to be identified in RDMOP.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
1.6	<p>National and Regional (Local) Level Contingency Plans</p> <p>One of essential parts of "Emergency Response Measures" is "Logistics for supplying required staff and goods". National and Regional (Local) levels Contingency Plans which regulate prompt and efficient operational activities of logistics for disaster affected areas, and mitigate further disaster damages.</p>
1.6.1	<p>Preparation and Authorization of Guidelines/Manual for National Level Contingency Planning</p> <p><u>BNPB</u> will prepare Guidelines for National Level Contingency Planning. <u>Indonesian National Armed Forces</u> and <u>Indonesian National Police</u> will act as important coordinators in the preparation of Guidelines.</p> <p>-----</p> <p>[Implementation Term: 2008 – 2009]</p>
1.6.2	<p>Preparation of Contingency Plans by National Government Agencies</p> <p><u>Every concerned relevant agency</u> will prepare NDMOP for its own use and for the purposes of coordination with other agencies. Contingency Plan is an elaboration of "Emergency Response" in NDMOP of each agency. Every agency will follow the authorized Guidelines/Manual prepared by <u>BNPB</u>. The preparation is under the coordination by <u>BNPB</u>.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>

	1.6.3	<p>Preparation and Authorization of Guidelines/Manual for Regional (Local) Level Contingency Planning</p> <p>Every BPBD will prepare guidelines/Manual for Regional (Local) Level Contingency Planning. It will be much more in detail compared with National Level Contingency Plan, but clarify and define the relationship between National and Region (Local) at an occurrence of natural disaster particularly when BPBD recognizes necessity of a support by BNPB is required.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
2	Human Resources Development (HRD) and Capacity Development	
	<p>Simultaneously with establishing Legal and Institutional matters, capacity enhancement of government agencies concerned to disaster management will be urgently planned and implemented by Human Resources Development (HRD) including Manpower Training. Moreover, not only for government officials but also for general public through schools and local communities will be targeted including enhancement of people's awareness of disaster management. Without knowledge and training of those officials and people, any Disaster Management Plans and related Operation Plans are not workable.</p>	
2.1	HRD at National and Regional (Local) Levels	
	<p>Firstly, capacity of BNPB personnel will be enhanced, and simultaneously capacity of government officials in charge of disaster management at both national and regional (local) levels will be developed. There are totally approx. 65 national government agencies (departments, state ministries, and agencies), 33 provinces and 483 districts/cities. One department has 4 to 5 directorate generals. So, government officials of total approx. 670 units or more will be targeted for capacity enhancement program. If one unit requires at least 10 well trained officials, total number of those persons will be 6,700 or more.</p>	
2.1.1	Programming and Planning of Comprehensive HRD	
	<p><u>BNPB with relevant agencies</u> will prepare program and plan of a comprehensive HRD for disaster management by concerned government officials, primarily targeting the above indicated 6,700 or more persons. Besides government agencies, such Guidelines/Manual will be prepared for some important organizations such as life-line infrastructure corporations which will be involved in disaster management. In principle, Laws and Regulations of disaster management, either National or Regional (Local) Disaster Management Plan, and phenomenon of each natural disaster are common subjects to be studied by all trainees, and Disaster Management Operation Plans of either National or Regional (Local) level are particularly learned by each agency individually.</p> <p>Identification of competent experts who will be lectures/trainers is important as one of the first steps of programming and planning. Training program and plan for potential people to be lectures/trainers is secondly important. Involvement of <u>academic sector (R & D institutions and universities, etc)</u> that may have manuals of HRD is supportive. Indonesian National Armed Forces and Indonesian National Police, and National Research and Rescue Agency will be much involved in programming and planning particularly at "Emergency Response". Text books will be prepared.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>	
2.1.2	Preparation of Guidelines/Manual for HRD of National Government Agencies and Institutions	
	<p>For materializing the Program and Plan of Comprehensive HRD, <u>BNBP with relevant agencies</u> will prepare Guidelines/Manual for HRD actually implemented by every concerned relevant agencies and organizations.</p> <p>[Implementation Term: 2009 – 2009]</p>	
2.1.3	Implementation of HRD and Manpower Training for Government Agencies and Institutions	
	<p>Under supervision and/or coordination by <u>BNPB</u>, HRD will be implemented for <u>each agency</u>.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>	
2.1.4	Preparation of Guidelines/Manual for HRD and Manpower Training of Life-line Infrastructure Corporations	

	<p>Similarly to the ones for government officials, <u>BNPB</u> coordinated with government agencies which are supervising life-line infrastructure corporations such as <u>Department of Energy and Mineral Resources</u> for Electric and Gas Supply Companies, <u>Department of Communications and Informatics</u> for telecom. companies, <u>Department of Public Works</u> for water supply companies will prepared Guidelines/Manual for staff of life-line infrastructure corporations.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
2.1.5	<p>Implementation of HRD of Life-line Infrastructure Corporations</p> <p>According to Guidelines/Manual prepared by <u>BNPB</u> and government agencies, <u>every life-line infra. Corporations</u> will conduct and implement HRD.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2011]</p>
2.1.6	<p>Preparation of Guidelines/Manual for HRD of Local Governments and Concerned Organizations</p> <p>It is considered that capacity enhancement of Regional (Local) Government is under responsibility of <u>BNPB</u> at least at provincial level (existing SATKORLAK). <u>BNPB</u> will prepare standard Guidelines/Manual for HRD targeting officials of BPBD.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
2.1.7	<p>Implementation of HRD of Local Governments and Concerned Organizations</p> <p><u>Each BPBD</u> will customize Guidelines/manual to make applicable to each specific characteristics of the pertinent regional (local) situation, and will conduct HRD for themselves and concerned government officials.</p> <p><u>Each BPBD</u> will put efforts to expand HRD to outside government officials at least within government related institutions and organizations. Among those institutions and organizations, persons who will be responsible for "Rescue and Relief" are priority target of HRD. They are, for instance, persons from Fire Brigade, Police, Hospitals, and so on.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2011]</p>
2.1.8	<p>Establishment of Certification/Qualification Systems of Disaster Management Expert</p> <p>It is recommendable to establish Certification/Qualification Systems by <u>BNPB and relevant government agencies supported by relevant academic and research institutions</u>. <u>BNPB and/or BPBD</u> will issue certification/qualification to whom has passed examination conducted by <u>BNPB and BPBD</u>. The number of certification/qualification holders will be indicative of the capacity of disaster management at national level, at provincial level and district/city level, and it will be referenced to further improvement of disaster management programming and planning.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
2.2	<p>Human Resources Development (HRD) at School Education</p> <p>It is desirable to start enhancing people's awareness about disaster management from primary education level, and it will be continued step by step to intermediate and higher education levels. Within this first Five-Year Action Plan, all pupils and students at every education level will be simultaneously given certain education and training. However, prior to the education and training, it is needless to say but teachers and lecturers will be firstly educated and trained.</p>
2.2.1	<p>Programming and Planning of School Education on Disaster Management from Primary to High Education Levels</p> <p><u>BNPB</u> and <u>Department of National Education with concerned universities and institutions</u> will prepare overall program and plan of HRD firstly for school management/operation side, and secondly for pupils/students sides.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
2.2.2	<p>Preparation of Guidelines/Manual for School Education on Disaster Management at each level</p>

		<p>Guidelines/Manuals will be prepared by <u>Department of National Education</u>, coordinated by <u>BNPB</u>, probably for three levels, i.e., primary, intermediate, and higher educations. Guideline/Manual will indicate for forming curriculum and text books of disaster management. It is particularly considered to establish a department of disaster management within appropriate faculty (either Natural Science or Social Science) or independently at relevant universities.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
	2.2.3	<p>Implementation of School Education on Disaster Management at each level</p> <p>After the preparation of Comprehensive Program and Plan of School Education on Disaster Management, as well as authorization of Guidelines/Manual, <u>every school and/or university</u> will implement its education on disaster management. It is time to time monitored by <u>BNPB and BDPB</u> following progress of capacity enhancement at national and regional (local) levels.</p> <p>-----</p> <p>[Implementation Term: 2010 – 2013]</p>
	2.3	<p>Enhancement of People's Awareness of Disaster Management</p> <p>Majority of people of the nation are outside government officials and school pupils/students. They should be targeted people for capacity enhancement. However, due to various constraints and restrictions, it is hardly performed to conduct similar HRD for government officials and school pupils/students. Enhancement of awareness about natural disaster management to general public will be still possible and inevitable factor for national and regional (local) disaster management operation.</p>
	2.3.1	<p>Programming and Planning of Comprehensive Enhancement of People's Awareness of Disaster Management</p> <p>There are a few ways for enhancement. They are (1) to develop and disseminate Disaster Management Information to general public, and (2) to plan and conduct Disaster Management Drills at national and regional (local) levels. Basis of dissemination materials and basic scenario of drills will be prepared by <u>BNPB with relevant agencies</u> but detail programming and planning will be supported by various government agencies and related organizations including mass media corporations. Also, in the planning, it will be considered that the participation of local resident's communities, NGOs, and Volunteers.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
	2.3.2	<p>Implementation of Production and Dissemination Tools of Disaster Management Information to General Public</p> <p>According to prepared program and plan, dissemination tools such as booklets, leaflets, posters, calendars, and so on will be produced and disseminated to general public through appropriate government facilities, publishers, mass media such as <u>TV and Broadcasting, Newspaper, Magazines and Journals</u>, etc. Immediately after the programming and planning, it is considered that special campaign for awareness of disaster management will be carried out for a certain period (1month or 3 months) in order to initiate various activities of disaster management being listed herein.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
	2.3.3	<p>Implementation of Disaster Management Drills, at National Level, Local Government Level, and Community Level</p> <p>According to prepared scenario, disaster management drills (earthquake, tsunami, flood and sediment) will be conducted at national, regional (local) and community levels, and also at each organization of government office and institution, school, university and private corporation. Those drills will be held as parts of above mentioned special campaign. Besides, it is recommendable to designate "Disaster Management Development Year", "Disaster Management Month", "Disaster Management Week" and/or "Disaster Management Day" either in comprehensive manner or individually on the different disaster. National level designation will be by Presidential or Government Regulation, Regional (Local) level will be by Governor's Decision and/or Decision of Head of District/Mayor of City. And/or, each government agency at national and local level will designate such month, week and day. It will be applied to any other organization including schools, corporations, and local communities.</p> <p>-----</p> <p>[Implementation Term: 2009– 2013]</p>

3	Nation-wide Communication Network Development for Sharing Disaster Information	
<p>Together with Legal and Institutional Development and HRD and Capacity Enhancement, a comprehensive real-time Information Sharing Systems will be inevitable particularly as Emergency Response Measurement which ensures prompt and appropriate information exchange by reliable communication means and systems among those well trained people of various agencies and institutions especially at an occurrence of heavy natural disaster. BNPB supported by BPBD and various concerned agencies and institutions will develop a nation wide comprehensive communication network for disaster management.</p>		
3.1	Development of Disaster Information Sharing System for Emergency Response	
<p>Not only Warning information, information at every stage (Pre-Disaster, especially Emergency Response, and Post Disaster). As National Disaster Management Plan being studied in 2008 urges the development of securing effective communication systems for sharing information among those concerned. It will appear, for instance, Chapter 1. Securement of Information Gathering, Dissemination, and Communication, and Chapter 10. Appropriate Information Dissemination to Disaster Victims as Emergency Response Measures.</p>		
3.1.1	Master Planning Study on Disaster Information Sharing System for Emergency Response (DISSER)	
<p><u>BNPB</u> will conduct a study of Master Planning of nation wide communication systems. It will involve survey of existing cable and radio telecommunication infrastructure development, effectiveness of those means at emergency occurrences, reliability of two-way communication (warning, commanding, reporting, etc), and so on. In the course of the study, first urgent priority project will be identified, and its technical as well as financial feasibility will be studied.</p>		
<p>-----</p>		
<p>[Implementation Term: 2009 – 2010]</p>		
3.1.2	Implementation of Development of DISSER	
<p>With allocated available fund after the conclusion of the above mentioned Master Planning study, DISSER Project will be implemented. It will be implemented for multi-years. Temporary but effective communication systems will be established among <u>BNBP and a few selected priority BPBDs</u> for examining the systems being studied, as a pilot project.</p>		
<p>-----</p>		
<p>[Implementation Term: 2010 – 2013]</p>		
3.2	Development of Regional Depot	
<p>A first prompt action is essential in order to gather information of disaster being occurring, instantly analyzing damages of both happened and predicted, deciding and commanding mobilization of every necessary staff and goods to the affected area within the shortest time, and so on. Depot which store such necessary first-aid staff and goods will be developed targeting all over Indonesia (12 regional depots). Emergency transportation means which are well-equipped with communication and information high-tech instruments will be provided at every depot. Depot will probably act as a regional first-aid center as well as regional information center in coordination with Crisis (Operation) Centers of BPBDs.</p>		
<p>-----</p>		
<p>[Implementation Term: 2008 – 2010]</p>		
4	Data Digitization Development for Disaster Management Information	
<p>For analysis of disaster damages, experiences referred data being accumulated and systematically filed are very much useful. An accurate analysis guides to appropriate decision on taking exactly right actions at the time of Emergency Response. All documents, maps, plans, and any information concerning to disaster management will be digitized and filed systematically.</p>		
4.1	Survey and Database Development	
<p>The national government will take initiative to survey all the existing major facilities (Major Transportation Facilities, Lifeline Infrastructure facilities, and Public Facilities) and systematically file the results of survey in database to be developed. Available maps, plans, drawings, and any useful information will be referred to the survey results and composited in the database.</p>		
4.1.1	Development of Data Standardization for Digital Maps, GIS-base Database, Information Formats, etc	

		<p>As it is observed at present, many agencies/institutions have developed GIS for each one's specific use and the data formats are different from each other, and therefore their data are not exchangeable and not can be shared. The Government will develop and establish Data Standardization for Digital Maps, GIS-base Database, Information Formats, etc to be used among government agencies and institutions. The responsible agencies for the development are <u>Department of Communications and Informatics</u>, <u>Department of Public Works</u>, <u>National Survey and Mapping Coordinating Agency (BAKOSURTANAL)</u>, <u>Research and Application of Technology Agency (BPPT)</u>, etc, and <u>BNPB</u> acts as the coordinator. GIS-based database is one of the most effective tools for disaster management.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
	4.1.2	<p>Survey and Database Development (1) Major Transportation Facilities, to be inputs to Hazard Mapping and Spatial Planning</p> <p><u>Department of Transport</u> will conduct survey of existing transportation facilities. The facilities are including major roads and express toll roads, railroads and stations, airports, and seaports, and so on. Actual survey will be performed by pertinent corporations. Prior to the actual survey, an implementation plan will be prepared for programming and scheduling survey works with prioritization and phasing, etc. The survey is mainly for identification of vulnerable parts of facilities against earthquake/tsunami and flood/sediment attacks. The surveyed data/information will be filed systematically and stored in database for the use of preparation of "hazard Maps" and "Spatial Plan". The data will be used for "repair and maintenance" of the pertinent facilities.</p> <p>-----</p> <p>[Implementation Term: 2010 – 2013]</p>
	4.1.3	<p>Survey and Database Development (2) Lifeline Infrastructure Facilities, to be inputs to Hazard Mapping and Spatial Planning</p> <p><u>Department of Energy and Mineral Resources</u>, <u>Department of Pubic Works</u>, and <u>Department of Communications and Informatics</u> will conduct survey of existing life-line infrastructure facilities. The facilities are including electrical power supply, water supply, telecommunication network, and so on. Actual survey will be performed by <u>pertinent corporations</u>. Prior to the actual survey, an implementation plan will be prepared for programming and scheduling survey works with prioritization and phasing, etc. The survey is mainly for identification of vulnerable parts of facilities against earthquake/tsunami and flood/sediment attacks. The surveyed data/information will be filed systematically and stored in database for the use of preparation of "hazard Maps" and "Spatial Plan". The data will be used for "repair and maintenance" of the pertinent facilities.</p> <p>-----</p> <p>[Implementation Term: 2010 – 2013]</p>
	4.1.4	<p>Survey and Database Development (3) Public Facilities, to be inputs to Hazard Mapping and Spatial Planning</p> <p><u>All government agencies and institutions</u>, without exception, will survey and check every building and heavy structure including office buildings, assembly halls, city halls, religious facilities, etc. Prior to the actual survey, an implementation plan will be prepared for programming and scheduling survey works with prioritization and phasing, etc. The survey is mainly for identification of vulnerable parts of facilities against earthquake/tsunami and flood/sediment attacks. The surveyed data/information will be filed systematically and stored in database for the use of "Earthquake Resistance Reinforcement", and for preparation of "Hazard Maps" and "Spatial Plans".</p> <p>-----</p> <p>[Implementation Term: 2010 – 2013]</p>
	4.2	<p>Hazard Maps</p> <p>A hazard map using GIS-based database is one of the most effective tools for disaster management. In principle, hazard maps will be produced for whole the national's territory. It is for local level (regency, district/city, and province) and for national level. Standardization is essential. National Survey and Mapping Coordinating Agency (BAKOSURTANAL), coordinated by BNPB will act as the leading agency for production of hazard maps.</p>
	4.2.1	<p>Preparation and Authorization of Guidelines/Manual for Hazard Mapping at District Level (based on Hazard Maps prepared for Jember District)</p>

	<p>The joint study by Regional (Local) Disaster Management Coordinating Agency (SATLAK) and JICA Team at Jember District are concluding Jember Disaster Management Plan including production of Hazard Maps of Jember District. The system of mapping and formats will be authorized not only by <u>Jember District Government</u> but also by <u>the central government</u> as a pilot model of "Hazard Map" to be diffused to all other districts/cities in Indonesia. Systems and formats for the Hazard Maps being prepared at <u>Padang Pariaman District</u> and <u>Pariaman City</u> will be also authorized as pilot models. By standardized systems of Hazard Mapping, communication between central and local, between Province and District/City, as well as among Districts, it will be drastically improve accurate information exchange and appropriate coordination. <u>Department of Home Affairs</u> will coordinate for diffusion of the systems.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
4.2.2	<p>Preparation of Hazard Maps for Priority Areas</p> <p>BNPB will select the most vulnerable districts/cities against earthquake/tsunami disaster and flood/sediment disasters, and particularly supervise <u>the selected district governments</u> for preparation of more accurate and appropriate Hazard Maps for smoother communication and coordination between BNPB and the pertinent district government.</p> <p>(Special attention is paid to highly populated cities. "Large City's Disaster Management Measures on Earthquake Disaster" is described at 4.4 herein.)</p> <p>-----</p> <p>[Implementation Term: 2010 – 2012]</p>
4.2.3	<p>Preparation of Consolidated Master Hazard Map of Indonesia based on the Latest Information and Data as of 2012</p> <p>Upon completion (assuming that 80% of completion will be by 2012) of every hazard maps at district/city level, every province will consolidate district level hazard maps and prepare summarized provincial hazard map. Then <u>BNPB</u> will consolidate all provincial level hazard maps and prepare summarized National Master Hazard Map.</p> <p>-----</p> <p>[Implementation Term: 2012 – 2013]</p>
4.3	<p>Spatial Plans</p> <p>Spatial plans are prepared by Department of Public Works and every local government. On the occasion of nation-wide campaign of Disaster Management, all existing spatial plans will be updated by implanting the latest data and information as well as disaster management measurement to be integrated.</p>
4.3.1	<p>Preparation of Guidelines for Updating Spatial Planning, reflecting Hazard Mapping and Disaster Management Information</p> <p>Guidelines for up-dating spatial plans will be prepared by <u>Department of Public Works</u> and <u>National Survey and Mapping Coordinating Agency (BAKOSURTANAL)</u>, assisted by <u>Department of Communications and Telematics</u> and <u>BPPT</u>, and coordinated by <u>BNPB</u>.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
4.3.2	<p>Updating Existing Spatial Plans at Provincial and District Levels reflecting Hazard Mapping and Disaster Management Information</p> <p>Based on authorized Guidelines, up-dating spatial plan will be implemented by <u>every provincial and district/city level</u>, coordinated by <u>BPBD</u>. The existing spatial plans will be up-dated by having inputs of the latest data and information (survey results, etc.), as well as by integrated with hazard maps.</p> <p>-----</p> <p>[Implementation Term: 2010 – 2013]</p>
4.4	<p>Large City's Disaster Management Measures on Earthquake Disaster to be considered at National Level</p> <p>A large city, with high population and high density, is vulnerable against a big natural disaster. Special attention will be paid to those large cities in Indonesia. The <u>metropolitan Jakarta</u> with <u>adjacent cities (so called JABOTABEKB)</u>, the second largest city <u>Surabaya</u>, located in earthquake/tsunami prone region, <u>Medan</u> and <u>Padang</u>, and million cities, <u>Bandung</u>, <u>Semarang</u>, <u>Makasar</u>, etc. Conjecturing magnitude of damages if happened, disaster management measurements for those large cities are to be considered at national Level.</p>
4.4.1	<p>Preparation of Framework and Methodology and Guidelines for Large City's Disaster Management Measures</p>

		<p>All concerned agencies and institutions of national government and representatives from those cities will form a committee lead by <u>BNPB and BAPPENAS</u> to set up Program and Plan, and prepare Methodology and Guideline for Large City's Disaster Management focusing on, among aspects of legal, institutional and financial matters, preparation of hazard maps. The survey and data gathering of existing conditions will be more detailed compared to other areas outside large cities.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2010]</p>
	4.4.2	<p>Preparation of Hazard Maps which indicate every physical structure including roads, bridges, buildings (both permanent and temporary) , public facilities and open spaces actually surveyed.</p> <p>Every municipality of designated large city will firstly survey existing conditions to be put in hazard maps. The survey will be coordinated by <u>BPBD of each city</u>. <u>National Survey and Mapping Coordination Agency (BAKOSURTANAL)</u> will also act as coordinator and supervise the survey and mapping.</p> <p>-----</p> <p>[Implementation Term: 2010 – 2012]</p>
	4.4.3	<p>Analysis of Earthquake Disaster Impact and Prepare Risk Map</p> <p>In association with hazard maps, Risk Maps will be prepared by each municipality in accordance with Methodology and Guidelines prepared and authorized by the above mentioned committee. Risk Maps will be produced on GIS-base associated by various applications to analyze disaster phenomenon and risk damages.</p> <p>-----</p> <p>[Implementation Term: 2011 – 2013]</p>
5	Other Actions to be taken immediately after the authorization of National Disaster Management Plan	
	Besides the mentioned actions, there are a few important actions to be taken immediately after authorization of National Disaster Management Plan.	
	5.1	Enhancement of Awareness of Earthquake Resistant Structure
		<p>The information of results of research and development and various studies regarding Earthquake Resistance Buildings and Structures will be disseminated to general public through relevant public and private organizations. The newly build buildings and structures will be approved by authorities prior to and during construction. <u>The government</u> will prepare visual materials and disseminate them by putting efforts on enhancing reinforcement for existing buildings and structures.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2009]</p>
	5.2	Reporting Systems Development, and Publishing of Disaster Management Information
		Information formats, filing systems, circulation systems and so on will be developed by relevant agencies and institutions. In principle, <u>BNPD at the national level</u> and <u>BPBD at the regional (local) level</u> will comprehend any information (data, report, and so on) regarding to disaster management informed by any other agencies, institutions and organizations.. Such information will be digitized put in database, and shared among relevant agencies, institutions, and organizations. The information will be disseminated, distributed and exchanged through DISSER.
	5.2.1	Reporting Systems
		<p>Using the established information formats and circulation systems, information (reports) will be disseminated, distributed, and exchanged among relevant agencies, institutions and organizations. Substantial reporting is (1) Analysis and Assessment of disaster occurred, to be referred to preparation of Pre-Disaster Measures, and (2) Commanding/Requesting information and action at Emergency Response. All the information will be digitized and disseminated, circulated, delivered on line and be shared among those concerned to disaster management at either national and local levels.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2013]</p>
	5.2.2	Publishing Disaster Management Information

		<p><u>BNPB</u> will conduct compile and edit all major activities of disaster management taken place in the previous fiscal year and report to President. The same report with associated detail will be published as "Disaster management White Paper of the Year". The report will be including not only activities taken and those assessments, but also the policy and strategy of Disaster Management for coming years. All are to be known by general public by publishing books as well as on Websites.</p> <p>-----</p> <p>[Implementation Term: 2009 – 2013]</p>
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CHAPTER 3 STUDY ACTIVITIES AND FINDINGS AT REGIONAL LEVEL

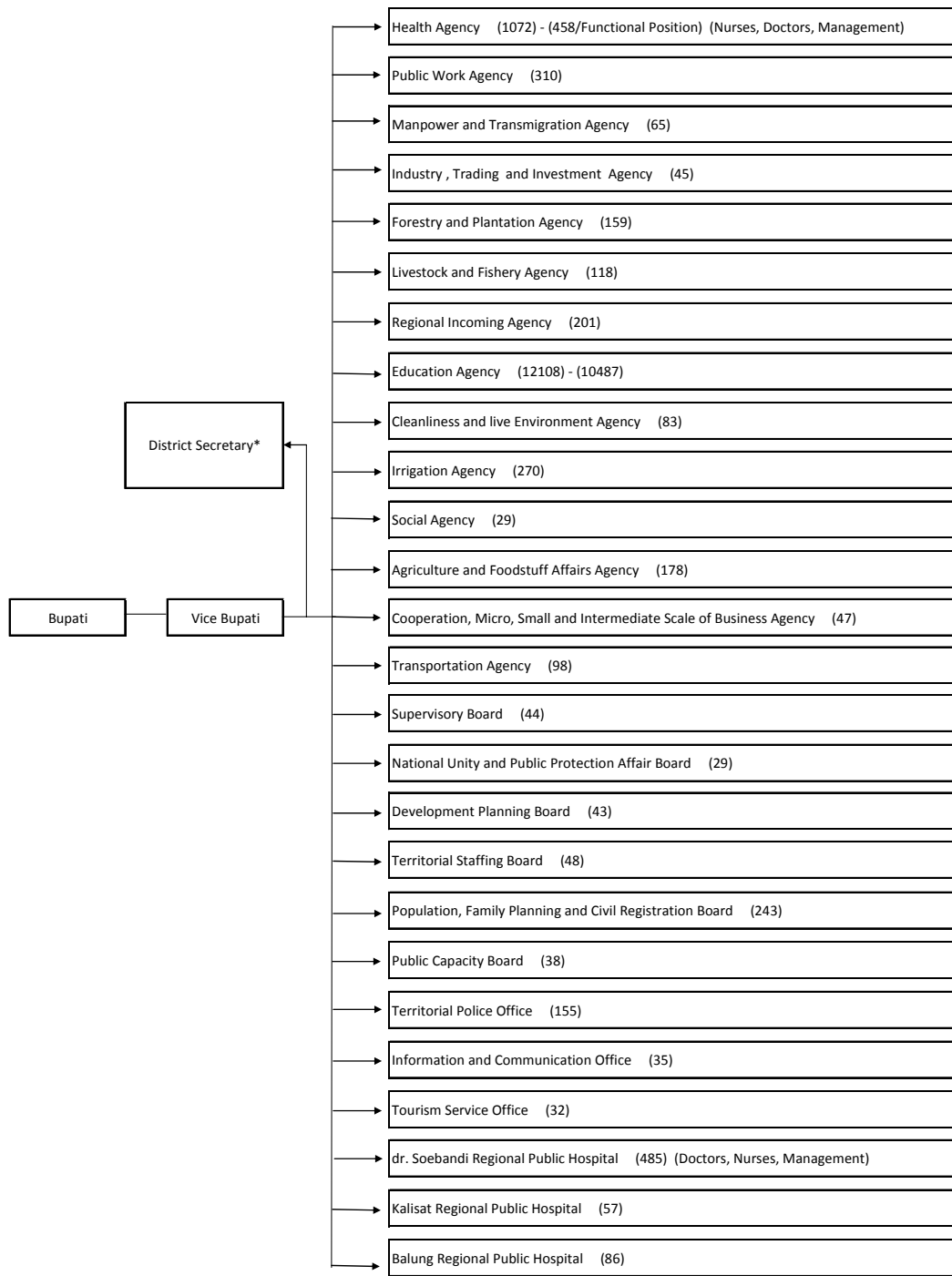
3.1 Disaster Management System at Regional Level

For disaster management, local governments including Kabupaten and Kota have the mandate to protect citizen's life against possible disasters. In this sense, local government such as Kabupaten and Kota bear most of the responsibility on related activities that are the closest to citizens. For effective disaster management, the disaster management cycle must be considered, a good balance of pre-disaster, emergency response and post-disaster measures considered carefully, and necessary efforts planned. Especially in recent years, the importance of pre-disaster efforts has gained recognition since efforts made before the occurrence of disaster greatly helps to reduce risks of possible disasters. In this study, pilot area for local level disaster management, Kabupaten Jember at East Java Province and, Kabupaten Padang Pariaman and Kota Pariaman at West Sumatra Province are selected.

In this section, findings and current situation of Disaster Management System in Kabupaten Jember, and evaluation of the current system are described to explain general characteristics of disaster management at Kabupaten and Kota levels.

3.1.1 Existing Structure of Kabupaten Jember

Figure 3.1.1 shows the organizational structure of the government of Kabupaten Jember. Numbers shown next to name of agency indicate number of officers, whereas number of officials of Health Agency and Education Agency include doctors, nurses, and teachers. Figure 3.1.2 shows the details of district of secretary, which were not described in Figure 3.1.1.



*Details of District Secretary is described in the chart of district secretary.

Figure 3.1.1 Organizational Chart of Kabupaten Jember Office

Source: Kabupaten Jember, 2007

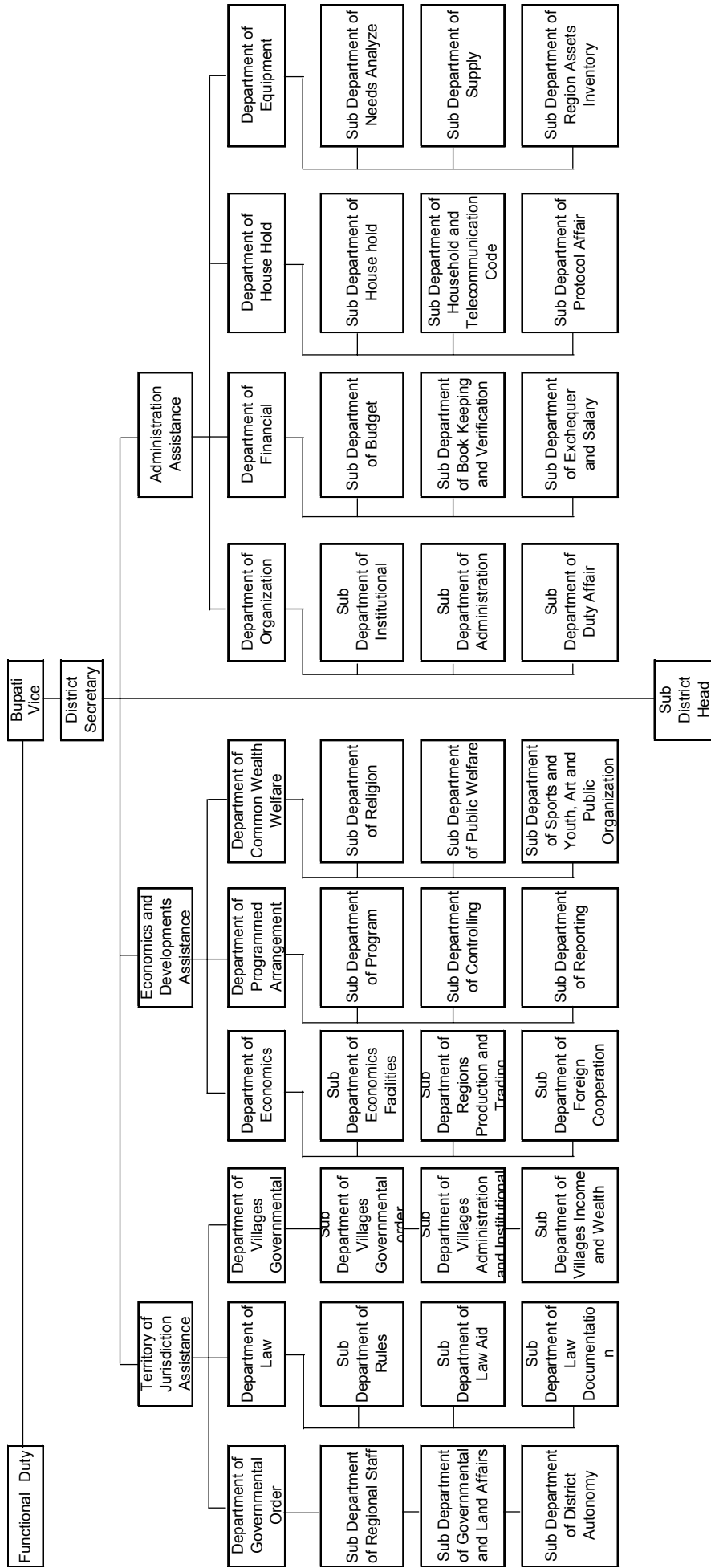


Figure 3.1.2 Structure of District of Secretary, Government of Kabupaten Jember

Source: Kabupaten Jember, 2007

Table 3.1.1 explains tasks of each agency in Kabupaten Jember.

Table 3.1.1 Tasks of Each Agency in Kabupaten Jember

No.	Organization	Main Task
II. 1	Regional Secretariat	<ol style="list-style-type: none"> 1. Administration creation 2. Organization and administration 3. The enforcement of technical service of administration to other organization in Kabupaten Government in order to conduct the government tasks
II. 2	DPRD Secretariat (Representative Regional House)	<ol style="list-style-type: none"> 1. Accomplishing the tasks in holding meetings domestic, affairs, finance, law and public relations 2. Holding meetings and making report of the meetings held by DPRD
III. 1	Health Agency	<ol style="list-style-type: none"> 1. The enforcement of home affair needs in health sector 2. Keeping and increasing quality health service 3. Smooth and reachable, increasing family healthcare 4. Preventing and fighting for disease, enhancing environment health and supporting public health.
III. 2	Public Work Agency	<ol style="list-style-type: none"> 1. The enforcement of some part of region home affair in sector of Bina Marga, Cipta karya, settlement and regional facilities 2. Conduct the task that is given by Government that is followed by financing, facilities and accessibilities and also human resource. 3. Formulation of the planning of technical operational development, management, creation and licensing in the sector of Bina Marga, Cipta karya, settlement and Region infrastructure 4. Analyzing and evaluating the function and status of road, bridge, building/housing, settlement and region infrastructure
III. 3	Manpower and Transmigration Agency	<ol style="list-style-type: none"> 1. Organize training and manpower values, placement the manpower and working expansion, industrial relation and prescription of work, control of manpower and transmigration
III. 4	Industry, Trading and Investment Agency	<ol style="list-style-type: none"> 1. Organize home affairs in the sectors of industry, trading and capital investment 2. The enforcement of sector programs and technical guide in sector of agriculture and forestry industry, machine industry, chemistry metal and many kinds of trading business and also meteorology
III. 5	Forestry and Plantation Agency	<ol style="list-style-type: none"> 1. The enforcement of technical policy in sector of forest planning, planology of forest, land and forest rehabilitation and also conservation of soil and water
III. 6	Livestock and Fishery Agency	<ol style="list-style-type: none"> 1. The enforcement of public creation in sector of livestock and fishery 2. The enforcement of all activities in water works area of Kabupaten including watering arrangement and management, exploration, conservation and supervision to the sea resource use
III. 7	Regional Incoming Revenue Agency	<ol style="list-style-type: none"> 1. The implementation of coordination, planning, enforcement and control in sector of incoming revenue 2. Formulating the technical policy in sector of incoming revenue 3. Managing the administration of agency
III. 8	Education Agency	<ol style="list-style-type: none"> 1. The implementation of coordination, planning, controlling and enforcement in sector of education, youth, sports and culture
III. 9	Cleanliness and Live Environment Agency	<ol style="list-style-type: none"> 1. Formulating operational policy for preventing and handling pollution environmental destruction and ecological quality recovery 2. Conducting prevention and handling coordination on pollution and ecological recovery

No.	Organization	Main Task
III. 10	Irrigation Agency	<ol style="list-style-type: none"> 1. Arrangement of policy planning in irrigation management and development of irrigation network 2. Providing irrigation distribution and implementation of construction, exploitation and also maintaining the irrigation network
III. 11	Social Agency	<ol style="list-style-type: none"> 1. Organize regional efforts for households that consist of social welfare, social rehabilitation and social assistance 2. Implementation of the policy in the sector of social welfare, social rehabilitation and social assistance
III. 12	Agriculture and Foodstuff Affairs Agency	<ol style="list-style-type: none"> 1. Formulation of technical policy of food crop agriculture and foodstuff sustainability sector 2. Coordination of the formulation of policy, planning, implementation and control of food stuff sustainability program
III. 13	Cooperation, Micro, Small and Intermediate Scale of Business Agency	<ol style="list-style-type: none"> 1. Formulation of operational policy in planning, creation, cooperation and development in micro, small and intermediate scale business 2. The enforcement of creation and institution development and also the administration of cooperation
III. 14	Transportation Agency	<ol style="list-style-type: none"> 1. Coordinating monitoring and controlling and evaluating the task application on land, sea, air transportation, and post and telecommunication 2. Performing staffing, finance, equipment, law, protocol air and public relationship, administration and home affairs of transportation agency
IV. 1	Supervisory Board	<ol style="list-style-type: none"> 1. Conduct general auditing of General Government affairs
IV. 2	National Unity and Public Protection Affair Board	<ol style="list-style-type: none"> 1. Arranging treatment plan, managing, providing the guidance and to perform the coordination, inter institutional synchronizing, national integration in case of national stability keeping in national unity sector 2. Performing mediation and synchronizing in case on strategic study treatment facility 3. Conducting monitoring, publicity, evaluation, human rights protection 4. Formulating the decision-making planning in case of political party, public organization, foundation and non -governmental organization (LSM)
IV. 3	Development Planning Board	<ol style="list-style-type: none"> 1. Arranging general planning of regional long term development planning, regional midterm development and regional development 2. Conducting planning coordination among other organizational unit in regional government range, vertical institution district existing in Kabupaten Jember region 3. Arranging regional budget and income calculation planning together with financial section in coordination with district secretary of the region 4. Conducting coordination in development planning sector in region
IV. 4	Territorial Staffing Board	<ol style="list-style-type: none"> 1. Assist head of region in conducting staffing management in regency government due to law enforcement in staffing sector

No.	Organization	Main Task
IV. 5	Population, Family Planning and Civil Registration Board	<ol style="list-style-type: none"> 1. Decision making arrangement of development planning and population administration, family planning and civil registration management 2. Communal treatment in population, family planning and civil registration sector 3. Planning arrangement of decision making, founding and licensing in communal welfare, due to the policy established by Bupati
IV. 6	Public Capacity Board	<ol style="list-style-type: none"> 1. Planning and organizing program application of materials arrangement 2. Treatment of technological founding of public capacity and family welfare 3. Founding and women empowering treatment
V.1	Territorial Police Office	<ol style="list-style-type: none"> 1. Perform control operations in order to create security and orderliness 2. Curbing regional regulation infraction
V.2	Information and Communication Office	<ol style="list-style-type: none"> 1. Working application as regency government spokesman 2. Controlling and monitoring application in information and communication treatment 3. Making foundation to technical organizer unit in information and communication sector
V.3	Tourism Service Office	<ol style="list-style-type: none"> 1. Planning and application of Tourism Policy 2. Making guideline and tourism business foundation
VI.1	dr. Soebandi Regional Public Hospital	<ol style="list-style-type: none"> 1. Providing health service usefully and successfully by focusing on the attempt to heal and recover that is done harmoniously, integrated with the enhancement and prevention attempt, and also giving recommendations 2. Providing highly qualified service, with the appropriate standard of hospital service
VI.2	Kalisat Regional Public Hospital	
VI.3	Balung Regional Public Hospital	

3.1.2 Existing Structure of Disaster Management System

The existing structure of disaster management system was clarified based on interviews and discussions with relevant officials from Kabupaten Jember. In Kabupaten Jember, the largest disaster in recent times was Banjir Bandang (Flash Flood) at Kecamatan Panti that occurred in the beginning of 2006; hence overall, this region has not experienced large-scale disaster in the past. Therefore, disaster management system is designed for small-scale disasters, especially for landslide and flood disasters. Since most of areas in Indonesia have risks of occurrence of large-scale earthquakes, the disaster management system should also consider about large-scale disaster such as Earthquake and earthquake related Tsunami. Therefore, series of workshops were held with relevant officials from Kabupaten Jember and experience of Japanese disaster management system explained and discussed to formulate Regional Disaster Management Plan fit for the region.

Figure 3.1.3 shows structure of government and disaster management establishment in Indonesia especially focused on local level.

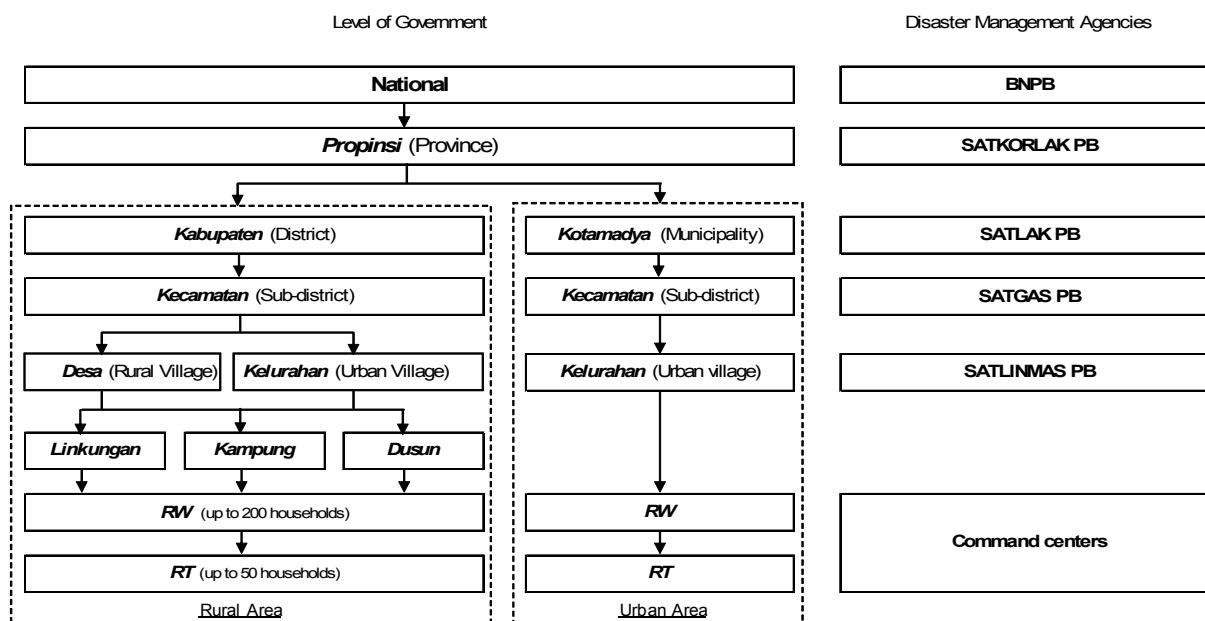


Figure 3.1.3 Level of Government and Disaster Management Establishment in Indonesia

Source: JICA Study Team formulated based on Interviews, 2007

In this section, existing structure of disaster management system is explained.

1) Local Disaster Management Body (SATLAK PB: Disaster Management and Refugee Handling)

SATLAK PB has formulated an overall handling of disaster management in Kabupaten and Kota level. Members of SATLAK PB cover the relevant organizations and its structure is similar to Japanese local disaster management system (Disaster Management Council headed by Mayor). Structure of SATLAK PB has been modified to be capable to respond for mitigation and preparedness stages of disaster management, based on a guideline by the national government prepared and distributed to all provinces and regions of Indonesia on Dec. 24, 2003. As for SATLAK PB Jember, the current structure follows to the newest amendment on Bupati (Head of Kabupaten) regulation enforced in February 2007. Although SATLAK PB Jember existed for quite a long time prior to this restructuring, their actual activities are still confined to emergency response and rehabilitation as post-disaster response.

Figure 3.1.4 is an excerpt from a guideline prepared by Ministry of home affairs by the national government. This “Guideline of disaster management and refugee enhancement (PEDOMAN PENANGGULANGAN BENCANA DAN PENANGANAN PENGUNGS DI DAERAH, DIREKTORAT PERLINDUNGAN MASYARAKAT/ DIREKTORAT JENDERAL KESATUAN BANGASA)” came into effective in Dec. 24, 2003. The structure shows the general suggested structure of SATLAK PB to all provinces and regions throughout Indonesia.

In Jember, the newest structure of SATLAK came in effective by the Bupati Regulation, 2007, amending the former regulation No. 63, 2006, and no. 46, 2005. Figure 3.1.5 shows the most updated structure of Jember SATLAK PB formed after February, 2007.

Due to enacting of Law No.24 regarding Disaster Management, the existing SATLAK PB will be restructured as Kabupaten BPBD in the near future.

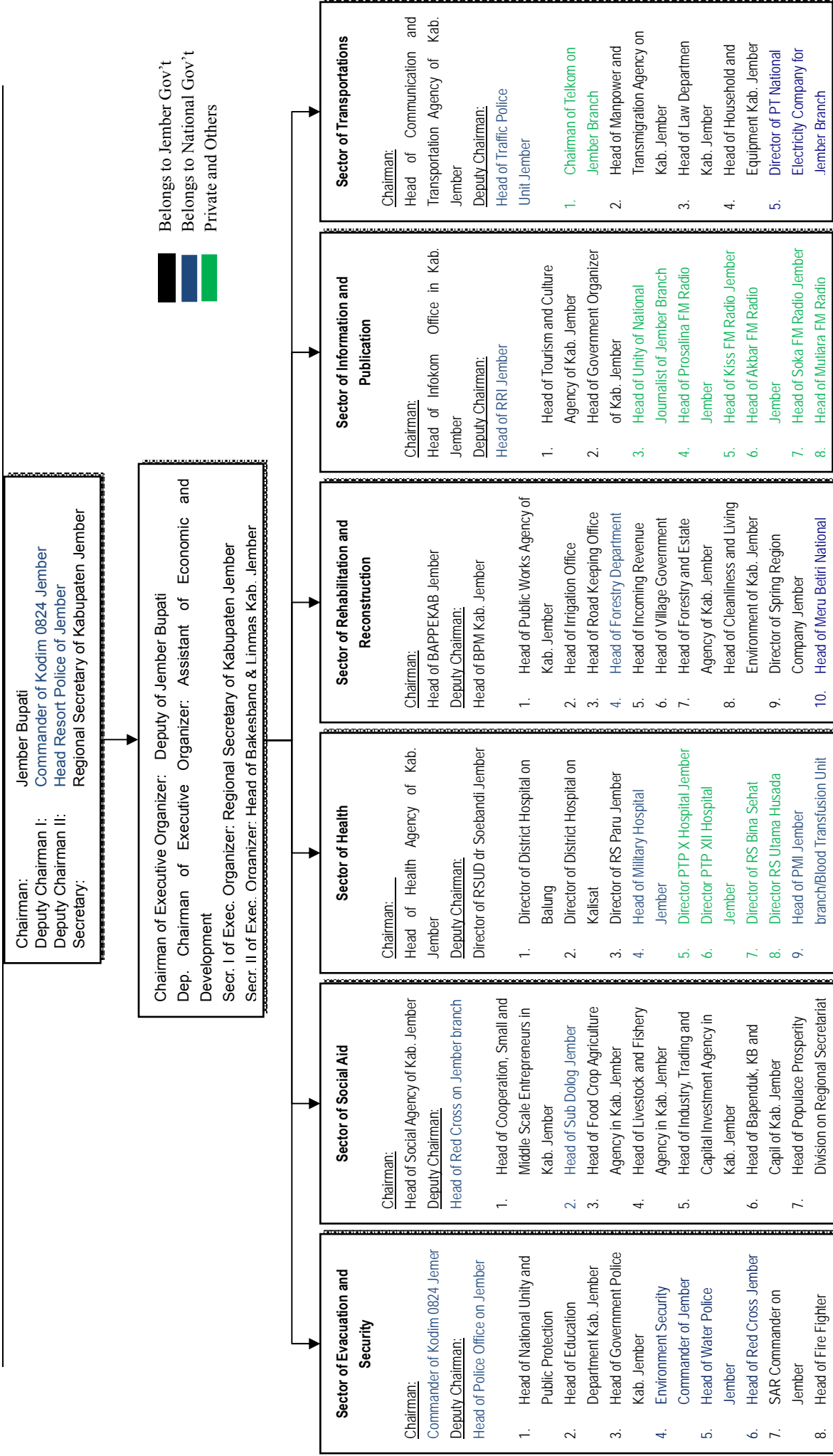


Figure 3.1.5 Organizational Structure of Executive Unit of Disaster Countermeasures and Refugee Handling at Jember (SATLAK PB)

Source: JICA Study Team formulated from Disaster Countermeasures and Refugees Handling Established Procedure (PROTAP PBP) of Jember Regency, 2007

2) Emergency Response Headquarters (Rupusdalops PBP)

In case of occurrence of disaster or in high risk of the occurrence of disaster, Bupati have authority to establish Rupusdalops PBP to handle disaster emergency response activities. The criteria to establish this Rupusdalops PBP is based on forecasting from BMG or directly from the area where actual disaster could occur considering the scale of damages expected. Member of Rupusdalops PBP are basically the same as the ones in SATLAK PB. In case of the recent disaster in Kecamatan Panti, Rupusdalops PBP was established after occurrence of disaster (damages). Rupusdalops PBP was established adjacent to the affected area and emergency response activities were implemented. After sometime, during recovery phase, Rupusdalops PBP was moved to main office building and continued recovery and reconstruction work.

Establishment and operation procedures are not documented but these procedures are implemented in every disaster; also, since there is no certain area in the office of Kabupaten Jember to establish Rupusdalops PB, therefore, establishment may cause a delay. Figure 3.1.6 shows basic procedure of establishment and operation of Rupusdalops PBP.

In emergency response, promptness without panic is the most important factor together with an accurate information gathering system. The procedure for establishment and operation of Rupusdalops PBP is an indispensable factor for successful disaster management.

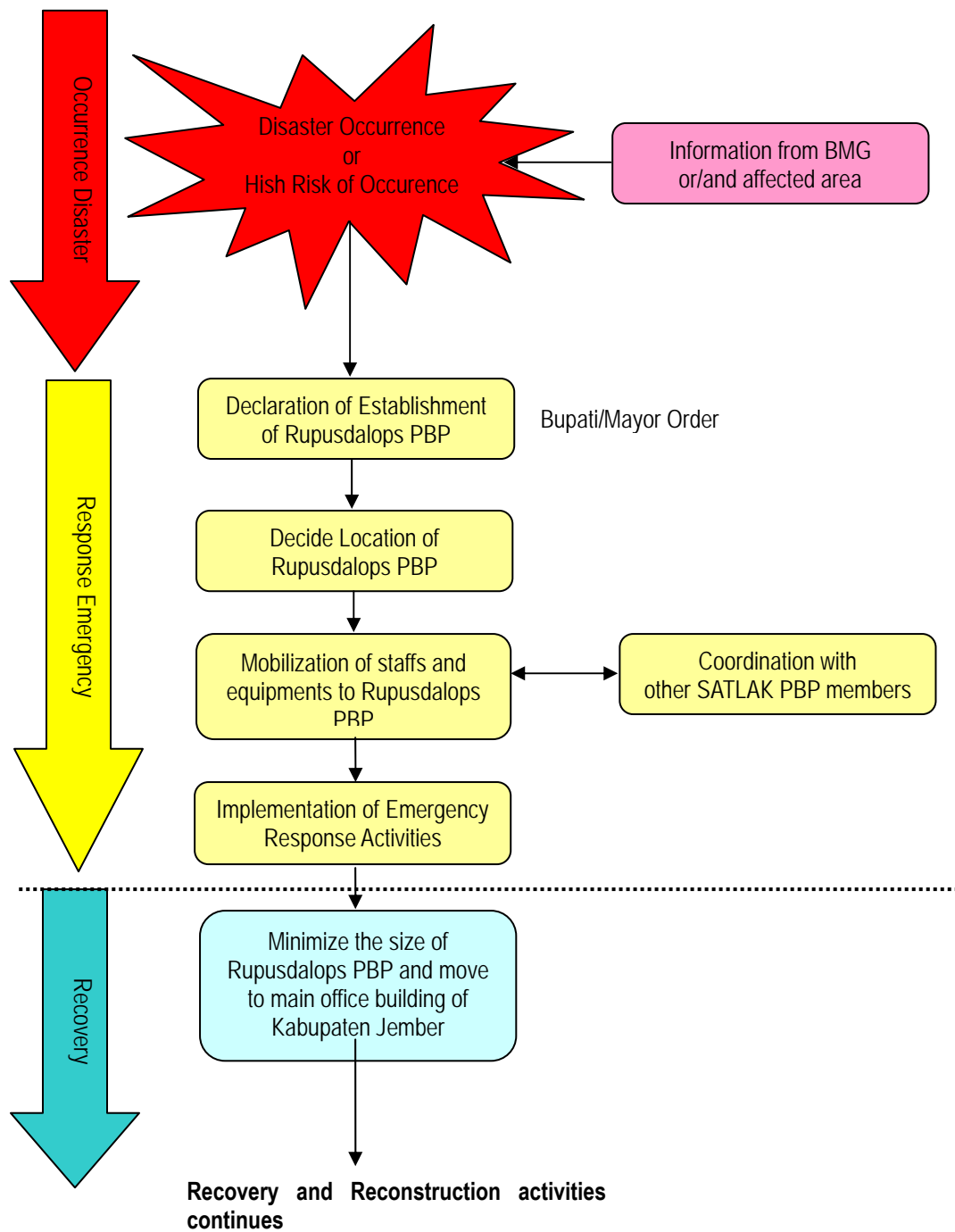


Figure 3.1.6 Procedure of Establishment of Rupusdalops PBP

3.1.3 Existing Regional Disaster Management Plan

Disasters cannot be prevented; however, with necessary preparation, damages from disasters can be minimized. In this sense, pre-disaster activities have a great effect to mitigate damages, and together with effective and prompt emergency response system, damages can be minimized. The difficulty of disaster management is coordination among relevant organizations, since many organizations are involved in disaster management, and appropriate coordination is also necessary to avoid unnecessary panic during the occurrence of a disaster. Therefore, formulation of a regional disaster management plan is necessary to clarify all the tasks and activities in one document, including all phases of disaster management, such as pre-disaster, emergency response, post-disaster, in an appropriate way.

Kabupaten Jember recently formulated “Disaster Countermeasures and Refugees Handling Established Procedure (PROTAP PBP) of Jember Regency”, which mentions the structure, members, and roles of SATLAK PB, and activities and items for disaster management in all phases including pre-disaster. This document was prepared based on “Disaster Countermeasure and Refugee Handling at Local Region guideline” prepared as “Decree of Internal Affairs Minister, Republic of Indonesia, Number 131, Year 2003”.

There are many Kabupaten and Kota in Indonesia where this kind of plan is not prepared yet; however, Kabupaten Padang Pariaman and Kota Pariaman have formulated similar documents especially focused on emergency response. Therefore, in this sense, Kabupaten Jember, Kabupaten Padang Pariaman, and Kota Pariaman are more advanced in disaster management.

1) Components of “Disaster Countermeasures and Refugees Handling Established Procedure (PROTAP PBP) of Jember Regency”

The Plan (PROTAP PBP) is composed of several chapters as shown in Table 3.1.2. In this plan, organization and the roles and tasks of SATLAK PB, which is the main governmental body to handle disaster management, is clearly mentioned.

Table 3.1.2 Components of Jember PROTAP PBP

Chapters	Sections	
Chapter 1 Introduction	A	General Description of Jember Regency
	B	Principle
	C	Understanding and Principle
	D	Scope of Interest
	E	Mechanism
Chapter 2 Job Description	A	Regency Level
	B	Sub-District Level
	C	Village Level

Chapters	Sections		
	D	Institution and Vital Project	
Chapter 3 Disaster Countermeasures and Refugee Handling	A	Organization	
		1. Organization of SATLAK PB	
		2. Task and Function of SATLAK PB	
	B	Disaster Countermeasures Action	
		1. Pre-Disaster (Prevention, Mitigation, Preparedness)	
		2. Emergency Response	
		3. Post-Disaster	
	C	Disaster Management Actions	
		1. Emergency Responses Phase	
		2. Recovery Phase	
		3. Rehabilitation Phase	
	D	Reporting Profile	
	Chapter 4 Closing		

In SATLAK PB, sectors of disaster management are divided into 6 sectors as follows:

- 1. Evacuation and Security**
- 2. Social Aid**
- 3. Health**
- 4. Rehabilitation and Reconstruction**
- 5. Information and Publication**
- 6. Transportation**

They are mainly concerned about emergency response and rehabilitation and reconstruction phases, but not focused on pre-disaster phases. However, there is some indication of pre-disaster countermeasures in Chapter 3 B 1: Pre-disaster (Prevention, Mitigation, Preparedness). Therefore, responsibilities of Pre-disaster measures are not clear in the plan. Also, the weakest point is that for each of items mentioned in Disaster Countermeasures Action in chapter 3, main players of each action are not mentioned and since the indication is only in a few words, the detail of each item is not clear. In Disaster Management Plan, contents should be indicated in chronological order and each action should include description of tasks and responsible players. As a result, the essence of the plan has been reflected to the Jember Disaster Management Plan which has been formulated together with relevant officials from Kabupaten Jember, and the plan has been formulated in the more detail. Table 3.1.3 shows tasks assigned for each role by sector.

Table 3.1.4 shows disaster countermeasures actions to be taken by SATLAK PB in the emergency response cycle. Table 3.1.5 also shows disaster countermeasures actions in emergency response, recovery and rehabilitation phases. These are indicated in the PROTAP PBP.

Table 3.1.3 Tasks of SATLAK PB

No.	SATLAK PB Sector	Task
1	Head of Executive Organizer	1. Taking over and coordinating the disaster countermeasures and refugees handling actions.
2	Deputy Head of Executive Organizer	1. Assisting the task of the head of executive organizer in the disaster countermeasures and refugees handling actions.
3	Secretary I	1. Planning and coordinating disaster aid contribution / logistic to the disaster victims. 2. Coordinating and facilitating medical aid /healthcare distribution to the disaster victims. 3. Coordinating and facilitating the victim's rehabilitation and reconstruction of facilities.
4	Secretary II	1. Coordinating and facilitating rescuing action and evacuation task to the disaster victims. 2. Coordinating and facilitating the security of disaster area and refugee evacuation and relocation of the disaster area. 3. Coordinating and facilitating the communication and transportation facilities to succeeding with the disaster countermeasures actions and publication as well as information dissemination to the public.
5	Secretary III	1. Making correspondence and reporting as well as data collecting. 2. Recording the acceptance, storing and distributing, and responsibility for monetary and material aid. 3. Facilitating documentation of the disaster countermeasures and refugees handling action.
6	Evacuation and Security	1. Coordinating all victim searches and rescuing. 2. Coordinating / securing disaster and refugee evacuation area and blocking off the danger area to mitigate number of victims. 3. Preparing temporary evacuation area / tent at a secure and accessible area. 4. Obtaining suggestions of disaster countermeasures based on its departments. 5. Conducting other tasks which are recommended by the head of SATLAK PB.
7	Social Aid	1. Planning and arranging the data of logistic supply and supporting facilities. 2. Arranging data of the needs of materials, facility and equipment. 3. Preparing and distributing logistic aid and all materials needed. 4. Forming and operating the public logistics on the needed area. 5. Doing other tasks recommended by the head of SATLAK PB
8	Health	1. Preparing the facility of MCK (restroom and so on) and medical / physical actions for the disaster victims and preparing accommodation supported by standard medical equipment and transfer victims to hospitals.

No.	SATLAK PB Sector	Task
		<ol style="list-style-type: none"> 2. Coordinating medical supporting service to the disaster victims. 3. Doing other tasks recommended by the head of SATLAK PB.
9	Rehabilitation and Reconstruction	<ol style="list-style-type: none"> 1. Arranging the plan rehabilitation caused by the disaster 2. Preparing all kinds of supporting facilities in the temporary accommodation and repairing the needed facilities. 3. Coordinating all the emergency actions as well as rehabilitation and reconstruction actions. 4. Obtaining suggestions of disaster countermeasures to the departments concerned. 5. Doing other tasks recommended by the head of SATLAK PB.
4	Information and Publication	<ol style="list-style-type: none"> 1. Planning, preparing, and coordinating the information expanding and publicizing to the public about the cause concerning with the disaster through newspaper, electronic media to the public directly. 2. Documentation and publication of disaster countermeasure actions. 3. Obtaining suggestions of disaster countermeasures to the departments concerned. 4. Implement training and educating the people around the sensitive disaster area along with the other departments. 5. Doing other tasks recommended by the head of SATLAK PB.
5	Transportation	<ol style="list-style-type: none"> 1. Arranging the facility and communication / transportation equipment. 2. Coordinating the use of communication and transportation equipment. 3. Obtaining suggestions of countermeasures policy to the departments concerned. 4. Doing other tasks recommended by the head of SATLAK PB.

Table 3.1.4 Disaster Countermeasures Actions

Phase	Sub Phase	Task
Pre Disaster	Prevention	<ol style="list-style-type: none"> 1. Mapping the disaster area (Hazard Mapping) 2. Making and activating the danger signs 3. Arranging the general planning of infrastructure 4. Arranging the regional rules on the security, building, controlling of waste condition, and so on 5. Supplying the disaster countermeasure operational equipment 6. Making the established procedures, action directory, disaster countermeasures technique directory.
	Mitigation	<ol style="list-style-type: none"> 1. Honoring the established rules 2. Learning to recognize the danger signs / disallowance signs 3. Building the security unit, the controlling unit 4. Securing facilities and retrofitting critical facilities (embankment, dam, tarsier and so on).
	Preparedness	<ol style="list-style-type: none"> 1. Conducting training and drills on the disaster countermeasures area. 2. Publication of the history of disasters and the way to avoid and to mitigate them 3. Activated radar / ranger unit
Emergency Response		<ol style="list-style-type: none"> 1. Sounding the danger alert when the disaster is coming. 2. Controlling emotions, managing the violence to the people to reduce victims. 3. Recommending the emergency response team of SATLAK PB to the disaster stricken area in not less than 24 hours after the disaster has occurred. 4. Mobilizing the Emergency Response Action Unit to give assistance to disaster victims. 5. Searching and rescuing for lost victims. 6. Assisting the evacuation action (civil and property evacuation). 7. Securing the disaster stricken area, especially the possessions of the refugees. 8. Supplying the support facilities needed with food, clothes, drugs, temporary accommodations and so on. 9. Accepting government or public aid and distributing it to the disaster victims through the Emergency Response Action Unit, Control unit (Pusdalops PBP).
Post-Disaster		<ol style="list-style-type: none"> 1. Being aware of the possibility of the next disaster occurrence or the following disaster. 2. Recording data on victims and property damaged. 3. Rehabilitation of the mental and physical condition of the victims to enable them to return to their previous lives by repairing the damaged public facilities to work again. 4. Arranging a program and reconstructing accessibility, settlement, social and public facilities to combat the disaster so that either the life or the people and their welfare become better. 5. Prepare report of the disaster story and applied effort in the disaster countermeasures and the report of acceptance and distribution of disaster aid to the head of SATKORLAK PB.

Table 3.1.4, Disaster Countermeasures Actions for Pre-disaster including Prevention, Mitigation, and Preparedness are indicated; however, the contents of most items are not clear and have not been implemented yet. Therefore, actual short and mid to long term plans for actual implementation is strongly recommended.

Table 3.1.5 Disaster Management Actions in Emergency Response, Rehabilitation and Reconstruction Phase

Phase	Task
Emergency Response Phase	<p>The emergency response phase is the most important phase in managing the disaster for it will influence the achievement of disaster reduction, to the next phase.</p> <p>The disaster management action at emergency response phase principally has to be taken prior to other activities as follows:</p> <ol style="list-style-type: none"> 1. Survey action to evaluate the scope of the damage and aid variable needed 2. Rescuing the alive victims and relocating them in an emergency place by Basic Life Support action (BLS) and triage 3. Searching and evacuating victims to a safe place 4. Activating the rural health team (temporary hospital) and the ground, sea and air evacuation team 5. Developing the emergency communication and information networks 6. Accessing emergency roads including helicopter pad to evacuate the victims and get logistic support 7. Distributing foods and clothes logistics 8. Preparing emergency accommodation 9. Preparing the fuel logistica to support the victim rescuing and evacuation action.
Recovery Phase	<p>In the recovery phase, all source mobilization is prior to the victim management, medical service, good water and food supply, temporary shelter, and technology, and accelerated to technical directory / Protap from each institution concerned. The application of this phase is still controlled by controlling unit at the disaster stricken area to be coordinated by SATLAK PB.</p> <p>Recovery action phase is the next part of the Emergency Response Phase Action to be made prior to the following:</p> <ol style="list-style-type: none"> 1. Evacuating the victim to hospital, temporary hospital and or on board hospital to receive the standard medical action 2. Managing the death victims and the lost victims 3. Debris removal 4. Building temporary shelter for refugees 5. Managing the aid and logistics systematically 6. Collecting and managing finance, equipment, personnel and other facilities 7. Supplying drugs, foods, plain water and clothes 8. Reconstructing road, bridge, dock and airfield to handle the aid and logistic distribution 9. Reconstructing educational facilities and accesses 10. Giving PTSD treatment to decrease post disaster trauma 11. Recovering and maintaining security and public order 12. Reconstructing communication and information networks 13. Controlling, evaluating all disaster countermeasure activities from the emergency awareness phase to recovery phase and then preparing rehabilitation and reconstruction action phase.

Rehabilitation Phase	<p>The activity application in the rehabilitation and reconstruction phase is made prior to the program and development arrangement for all aspects, repairing the infrastructure and improving awareness and skill levels. The control of all applications is totally conducted by the government and to be coordinated by SATLAK PB.</p> <p>Basically, the application in rehabilitation and reconstruction phase includes:</p> <ol style="list-style-type: none"> 1. Empowering and resettling of the disaster victims 2. Rebuilding the facilities and accesses and also public facilities to recover the social living standard 3. Arranging main programs in all aspects 4. Enhancing the life of refugees comprehensively 5. Managing psychological trauma. <p>The application of the activity in the rehabilitation and reconstruction phase is as follows :</p> <ol style="list-style-type: none"> 1. The victim rehabilitation caused by disaster trauma especially school education by getting accessibility to teenagers to to pursue their education, without financial impediment 2. Obtaining job opportunities for the disaster victims to enable them to get off dependency from the government 3. Performing security for the people 4. Supporting damaged private house repair 5. Public order and security 6. Empowering the public to maintain dignity and the unity of national territory 7. Rehabilitation and reconstruction of all facilities and accesses that were broken or damaged by the disaster
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3.1.4 Evaluation of Existing Disaster Management System

As a result of findings from the existing disaster management system in Kabupaten Jember, Kabupaten Padang Pariaman, and Kota Pariaman, things have to improve in a more comprehensive way, not only focused on emergency response. Evaluation of existing disaster management system has been made and applied for formulation of Regional Disaster Management Plans in the pilot Kabupatens and Kota. Evaluation criteria are based on Japanese disaster management system.

Table 3.1.6 Evaluation of Existing Disaster Management System

No.	Necessary Items	Availability	Comments
1	Preparation of Disaster Management Plan	△	PROTAP PBP is a plan for disaster management. Indication is in very limited and detail is not very clear; however, basic concept is mentioned clearly. Need for improvement.
2	Preparation of Disaster Management Plan by types of disaster	×	PROTAP PBP is for all types of disasters. Need to consider levels and types of disasters.
3	Understanding risks from disaster	△	Prepared general hazard Map; however not very detailed. Need for improvement.
4	Establishment of Disaster Management Organization	○	SATLAK PB is disaster management body. Establishment is very similar to disaster management council in each municipality in Japan.
5	Formulation of Relevant Pre-disaster Plans and actual implementation	△	Several items for mitigation and preparedness measures are started (No physical measures yet); however, detailed plan should be prepared.
6	Establishment of Emergency Response Headquarters	○	Rupusdalops PBP is function as Emergency Commanding Center in case of occurrence of disaster. However, clear indication of procedure is not formulated in document format. Also, no physical area designated for this Rupusdalops PBP
6	Procedure of Establishment of Emergency Response Headquarters (Rupusdalops PB)	×	As mentioned above, written procedure is not prepared, in regional disaster management plan; the item should be indicated.
7	Establishment of Communication System	△	Land telephone and cellular phone are the main communication means. Need to consider alternative means.

No.	Necessary Items	Availability	Comments
8	Information sharing with SATKORLAK PB	△	In case of large-scale disaster, coordination with SATKORLAK PB is necessary. In the past, since the size of disaster was limited, there was no problem. However, systematic information sharing system should be considered in advance, such as information items, means, and period.
9	Information dissemination for evacuation to citizens	△	Information dissemination for evacuation is carried out mostly orally. In case of large scale disaster, systematic means of dissemination of evacuation order should be formulated.
10	Designation of Evacuation Sites	△	SATLAK PB started to plan evacuation sites for Tsunami Disaster; however, for other types of disasters, they have not been designated yet.
11	Preparation of Evacuation Plan and operation manual for evacuation facilities	×	There is no systematic evacuation plan or relevant manuals.
12	Stockpile of Daily Commodities, rescue and medical equipments	×	Stockpiles of equipment are not yet sufficient due to lack of budget.

○:Yes, △:Moderate × : No

The evaluation items are limited to important ones, and in the course of study, all items were discussed with relevant officials. These items should be included in the regional disaster management plan systematically, and all the staff should be aware of all their contents, especially items directly related to disaster management.

Regional Disaster Management Plans were formulated together with relevant officials including all the items mentioned above to improve existing disaster management system.

3.1.5 Recommendations on Regional Disaster Management Strategy

In the course of the study, the Study Team held a series of workshops and discussions with relevant officials from Kabupaten and Kota, and identified the current disaster management system in their regions. Based on the findings, evaluation of existing disaster management system has been proposed as mentioned in the previous section. In this section, recommendations on Regional Disaster Management Strategy are made, as obtained through the activities in pilot regions, and they will be applied in other regions in Indonesia.

1) Recommendations

Recommendations on Regional Disaster Management Strategy are as follows:

(1) Recommendation on establishment of BPBD (the new SATLAK PB)

Due to enacting of Law No. 24 regarding Disaster Management, SATLAK PB will be newly established as BPBD. Main members of BPBD will not change much; however, there should be permanent secretariat to support operation of BPBD for sufficient and continuous efforts for disaster management. Also, functions for pre-disaster phases should be given and relevant tasks distributed among the members of BPBD.

(2) Establishment of Disaster Management Agency as secretariat of BPBD

In existing SATLAK PB, there is no permanent agency which can focus on disaster management. It is strongly recommended together with establishment of BPBD, to establish Disaster Management Agency with officials from each agency. This agency will be responsible for all activities for disaster management including formulation and revision of regional disaster management plan, holding drills for government officials, and citizens, working as secretariat of BPBD, and also working as secretariat for the establishment and operation of Rupusdalops PBP.

(3) Establishment of Disaster Management Center

Location of Rupusdalops PBP changes from time to time. Hence, for effective and appropriate emergency response, a certain area should be designated in advance as Disaster Management Center, and certain level of equipment together with communication system should be established in the designated area. However, the level and size of disaster management center will differ from the budget availability. The important point is to designate a certain area and prepare minimum equipment to support smooth and efficient disaster management activities.

(4) Establishment and Operation Procedure of Rupusdalops PBP

Establishment and operation of Rupusdalops PBP is not clearly defined and no document is available to mention establishment and operation procedure of Rupusdalops PBP. In

order to prepare for large-scale disaster, documents showing such procedure is necessary to establish it promptly and to avoid unnecessary panic after occurrence of large scale disaster.

(5) Preparation of Comprehensive Regional Disaster Management Plan

Disaster Management Activities cover wide varieties of fields; therefore, it is very difficult to grasp everything and many documents are prepared separately. In Japan, Regional Disaster Management Plan is the document covering every phase of disaster management including the institutional setup of disaster management body, and its responsibilities. Therefore, with this document, all elements of disaster management are indicated clearly. The difficulty of disaster management is coordination among relevant organizations. The plan helps to mitigate unnecessary conflict and misunderstanding by being the road map to show the way to mitigate from damages and from possible disasters.

(6) Preparation of Short, Mid, Long term measures for Strategic Disaster Management

Pre-disaster measures need time and budget, and there are priorities among the strategies and measures. Well planned and realistic short, mid, long term measures for strategic disaster management should be formulated, together with annual budget allocation. Also, these strategies should be well balanced with hard and soft component measures.

(7) Participation and Increase Awareness on Disaster Management in Community

In the field of disaster management, the importance of community participation is now strongly recognized. In case of occurrence of large-scale disaster, government officials are also victims of disaster, and they need time to get to a disaster affected area. However in reality, in case of earthquake, people are killed in less than one hour after being trapped in the collapsed building. Therefore, community empowerment is very important. In this project, as a pilot study, selected community empowerment activities were held through a series of workshops; such knowledge will be disseminated to other areas for sustainable community disaster management activities in the future.