Rehabilitation and reconstruction were some of the many activities in a series of disaster management works after the period of emergency response pronounced over. The rehabilitation and reconstruction works in West Sumatera after the earthquake of 30 September, 2009 had a special mission, that was, the government through the National Agency for Disaster Management, to form Technical Support Team for Rehabilitation and Reconstruction (TPR RR) and assist the Governor of West Sumatra in directly handling the acceleration of its implementation. In rehabilitating and reconstructing people housings, infrastructures, and public buildings, we should consider Spatial Detailed Plan (RDTR) and the control of land use which includes the directions for zoning regulations of the city even though it still needs revisions and permits for construction (IMB). Many knowledge and lessons can be obtained which will eventually be put together into a book and be made a reference for other regions.

Lessons learned from the 30 September 2009 Post-Earthquake Rehabilitation and Reconstruction: Building Back Better comprehensively reveals the system of rehabilitation and reconstruction among which includes several aspects; institutionalism, technology engineering, community empowerment, and economic growth after the earthquake. In the institutional aspects, it suggests how to find a simple and effective organization to manage rehabilitation and reconstruction to community level (Pokmas). Related to technical and technological aspects, it gives samplings for earthquake-safe house and building constructions. Community empowerment aspects serve the process of an effective and on-going community-based development, and samples of questions in making decisions in community-based development are also provided. Furthermore, those related to the study on the post-earthquake economic growth, it is found that the rehabilitation and reconstruction program after the earthquake of 30 September 2009 has been the driving force to the economic rate in all sectors starting from the fourth quarter of 2010. This momentum of the rate of the economic growth is expected to be continued to 2011. Therefore, this book is also expected to give an advantage to those who care about and are aware of the threat of natural disaster.

Publisher
Technical Support Team,
The National Agency for Disaster Management
Khatib Sulaiman St ,106 Padang, West Sumatra, Indonesia
Phone +62-7517057805
website TPT RR : www.rehabrekon-sumbar.org

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LESSONS LEARNED West Sumatra September 30th 2009 Earthquake Building Back Better

Dr. Sugimin Pranoto & Co-Authors

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Rehabilitation and Reconstruction

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September 30th 2009 Earthquake

Building Back Better

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LESSONS LEARNED
REHABILITAION AND RECONSTRUCTION
WEST SUMATRA SEPTEMBER 30TH 2009
EARTHQUAKE
BUILDING BACK BETTER

Authors : Dr. Sugimin Pranoto & Co-Authors
Publisher : Technical Support Team of The Rehabilitation and Reconstruction, National Agency for Disaster Management.
Khatib Sulaiman St, 106 Padang, West Sumatra, Indonesia.
Phone : +62-751 7057805.
Fax : +62-751 7057804.
Website TPT RR : www.rehabrekon-sumbar.org.
Blog TPT RR : www.rrsumbar.wordpress.com

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LESSONS LEARNED

Rehabilitation and Reconstruction

West Sumatra
September 30th 2009 Earthquake

Dr. Sugimin Pranoto
Author

Sugeng Sentosa, MSc
RB. Khatib P. Kayo
Prof. Syafruddin K.
Dr. Fauzan
Zulfa Ermiza
Siri Antoni
Co-Authors

Building Back Better

Foreword

Head of National Agency For Disaster Management

The earthquake striking West Sumatra on 30 September 2009 has resulted in thousands of people died, severe damage to people houses, government buildings, infrastructures and economic facilities causing disturbances to the government activities, economy, and social activities of the communities. National Agency for Disaster Management (BNPB) took a rapid action during the emergency response phase for early recovery of the people's condition and continued with rehabilitation and reconstruction activities.

Community Direct Fund (BLM) from BNPB for rehabilitation and reconstruction of community housings and the construction of the government buildings are among the first things to do by the BNPB by establishing Technical Support Team of Rehabilitation and Reconstruction (TPT-RR). The team was established based on the result of the meeting on limited Cabinet with the President on 5 October 2009. TPT-RR was responsible for giving assistance to the Governor of West Sumatra to accelerate the rehabilitation and reconstruction. Their experiences are expected to be the lessons for handling rehabilitation and reconstruction in other regions.

With the rare of library books in this context, I gladly welcome and appreciate the initiative of TPT-RR to write **'Lessons Learned of 30 September 2009 Rehabilitation and Reconstruction in West Sumatra: Building Back Better'.** This book reveals the experiences and lessons gained during the time TPT-RR implemented rehabilitation and reconstruction in West Sumatra with Building Back Better principles. In addition, Technical Support Team also provides some understanding on living in harmony with disaster.

With the publication of this book, it is expected to serve as a reference in the implementation of rehabilitation and reconstruction of people housings and the building construction by academicians/universities and anyone who care about the threat of the disaster

Jakarta , October 2011
Head of National Agency
for Disaster Management

Dr. Syamsul Maarif

Foreword
The Governor of West Sumatra

Mujua sapanjang hari *Malang sakijok mato*
Mujua tak dapek diraiah *Malang tak dapek ditolak*

(Fortune can be reached all day long, misfortune comes in minutes)
(Fortune cannot be reached and misfortune cannot be avoided on your will)

All the gratitude is presented to Allah S.W.T since it is for His will that the post-quake rehabilitation and reconstruction in West Sumatra has been gradually improving government activities and the economy of people. This extreme disaster is actually a reminder from Allah the All Mighty which caused thousands of people to die, hundreds of thousands people houses to destroy, public and government facility buildings to collapse, and also caused the disturbance in government activities.

The Local Government of West Sumatra together with the National Agency for Disaster Management, International Institutions, Non-Government Organizations and the communities has carried out early recovery and early rehabilitation and reconstruction. The activities for rehabilitation and reconstruction of communities' houses were financed by National Agency for Disaster Management. To help accelerate the implementation of rehabilitation and reconstruction, The Governor of West Sumatra has been supported by Technical Support Team of Rehabilitation and Reconstruction (TPT-RR). Alhamdulillah, for a harmonious cooperation between TPT-RR and related SKPD's, the implementation of the program ran well.

I'm gladly welcoming all efforts made by the author and his team to share their knowledge and experiences during the implementation of rehabilitation and reconstruction which they gained during the process of rehabilitation and reconstruction revealed in the book, **Lessons Learned of 30 September Post-Earthquake Rehabilitation and Reconstruction: Building Back Better.** The book contains knowledge and experiences unlimited only to the activities of rehabilitation and reconstruction but also the introduction to local wisdoms, the study of post-quake economic growth, community-based development and building back better and safer to resist earthquake. I would like to say 'thank you' to the author and his team and hopefully this book is beneficial to all of us.

Padang , October 2011

The Governor of West Sumatra

Prof. Dr. Irwan Prayitno

Prologue

Technical Support Team Coordinator of the 30 September 2009 Post-Earthquake Rehabilitation and Reconstruction Program

Alhamdulillah, all the gratitude are presented to Allah S.W.T. with His willingness the author could accomplish the writing of "Lesson learned from the 30 September 2009 Post-Earthquake Rehabilitation and Reconstruction: Building Back Better". The idea of writing this book springs from the fact that it is very rare to find a book about projects implemented by the government that can be made a reference at a later time.

It is such a good opportunity for the Technical Support Team of Rehabilitation and Reconstruction (TPT-RR) to document the programs of post-quake rehabilitation and reconstruction implemented following the earthquake of 30 September 2009 in West Sumatra. The program started in the beginning of 2010 and will have finished in 2011. The TPT-RR has gained much lessons and knowledge on how to carry out the activities in various sectors to run in a better way.

The book "Lesson Learned from the 30 September 2009 Post-Earthquake Rehabilitation and Reconstruction: Building Back Better" was arranged by a team which consisted of Technical Support Team, Academicians, Practitioners, Disaster Observers and Humanitarian Workers. This book reveals the lessons learned which cover some basic knowledge and requirements of the earthquake resilient construction, community-based development and recommendations as reference for rehabilitation and reconstruction programs in other regions. The book can also be one of the library collections about Disaster Management in Indonesia.

The Technical Support Team of Rehabilitation and Reconstruction would like to express their gratitude and appreciation for all the political support from the members of the Commission VIII of the Indonesian Parliament (DPR-RI) and the Disaster Management Team of the Indonesian Parliament for West Sumatra who has supported us with the encouragement to accelerate the implementation of the rehabilitation and reconstruction. The equal amount of gratitude is also delivered to all staff of the TPT-RR of West Sumatra for the completion of this book.

Padang, October 2011
Coordinator of Technical Support Team of Rehabilitation and Reconstruction of West Sumatra

Dr. Sugimin Pranoto

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Abbreviations & Acronyms

Adat	Traditional Custom
APBD	Anggaran Pendapatan dan Belanja Daerah [District Government Annual Budget]
APBN	Anggaran Pendapatan dan Belanja Negara [National Government Annual Budget]
AusAID	Australian Agency for International Development
Balai	Hall
Balitbang	Badan Penelitian dan Pengembangan [Research and Development Body]
Bappeda	Perencanaan Pembangunan Daerah [Regional Development Planning Agency]
Bappenas	Perencanaan Pembangunan Nasional [National Development Planning Agency]
BKD	Badan Kepegawaian Daerah (District Personnel Board)
BLM	Bantuan Lansung Masyarakat (Community Direct Fund)
BLPPMHP	Balai Laboratorium Pembinaan dan Pengujian Mutu Hasil Perikanan (Laboratorium Center for the Management and Quality Control of Fishery Product)
BOP	Bantuan Operasional Pendidikan [Education Operational Grants]
BOS	Bantuan Operational Sekolah [school grants]
BOSP	Biaya Operasional Satuan Pendidikan [School Unit Cost]
BMKG	Government Agency of Climatology, Meteorology and Geophysics
BNPB	Badan Nasional Penanggulangan Bencana (the National
Agency	for Disaster Management),
BPBD	Badan Penanggulangan Bencana Daerah (Provincial/District Agency for Disaster Management),
BPKP	Badan Pengawasan Keuangan Pembangunan (Provincial Supreme Audit Board)
BPKD	Badan Pengelola Keuangan Daerah (Local Budget Management Board)
BRR	Bureau for Reconstruction and Rehabilitation (Aceh and Nias)
BUMD	Badan Usaha Milik Daerah (locally owned enterprises)
Bupati	Head of a district
CA	Capacity Assessment
Kota	City (administrative unit sub-province)
CSO	Civil Society Organization
DAU	Dana Alokasi Umum [general budget allocation from central government to local governments]

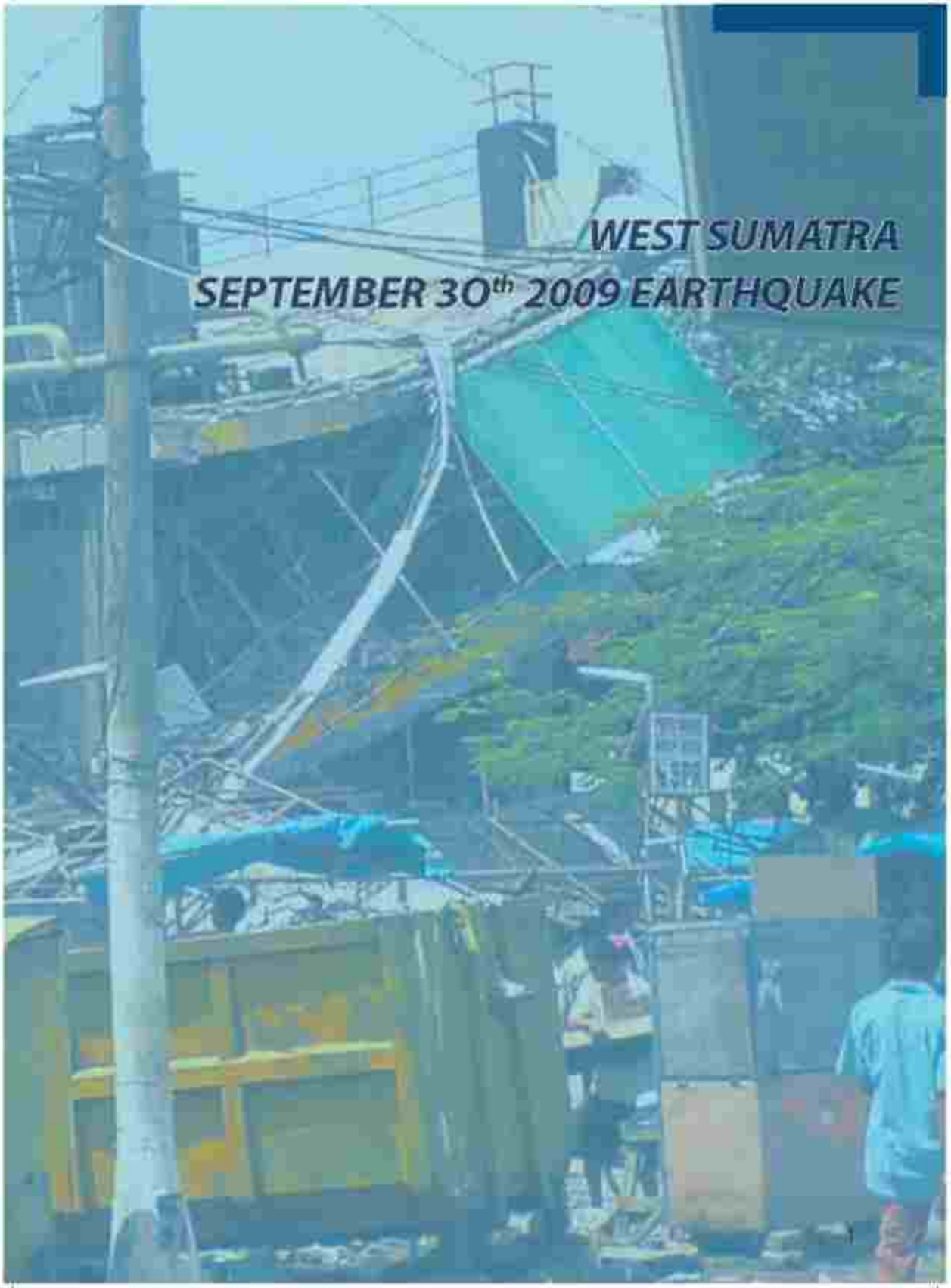
DED	Detailed Engineering Design
Depag	Departemen Agama (Ministry of Religious Affairs)
Depkeu	Departemen Keuangan (Ministry of Finance)
Diknas	Departemen Pendidikan Nasional (Ministry of National Education)
Dinas	Provincial or District Government Office
DIPA	Daftar Isian Pelaksana Anggaran (Budget Proposal)
Dinas P&K	Dinas Pendidikan dan Kebudayaan (Provincial or district educational office)
Dinkes	Dinas Kesehatan (Health Office)
Dinas PU	Dinas Pekerjaan Umum (Public Work Office)
DPKD	Dinas Pendapatan Keuangan Daerah (Provincial/District Office of Financial Management)
DPRD	Dewan Perwakilan Rakyat Daerah (Provincial/District Parliament)
DRR	Pengurangan Resiko Bencana (Disaster Risk Reduction)
GDA	Global Development Alliance
GDP	Gross Domestic Product
GOI	Government of Indonesia
Goro	Gotong Royong (Mutual Cooperation or Community Self Help System)
ICT	Information and Communication Technology
IDP	Pengungsi Internal (Internal Displacement Person)
ILO	International Labor Organization
IKM	Industri Kecil Menengah (Small and Medium Scale Industry)
KADIN	Indonesian Chamber of Commerce
Kandepag	Kantor Departemen Agama (District Religious Affairs Office)
Kabupaten	District (adm unit sub-province lead by Bupati/Head of District)
Kecamatan	Sub-district, lead by Camat
Kelurahan	Sub sub-district (administration unit in urban, lead by Lurah)
Bakesbang/Linmas	Badan Kesatuan Bangsa/Perlindungan Masyarakat (Agency of Unity Nation/Community Protection)
KMK	Konsultan Managemen Kabupaten (District Management Consultant)
KMP	Konsultan Managemen Provinsi (Provincial Management Consultant)
Komisi	Committee in national or local legislatures
Kota	City (administrative unit)
KPA	Kuasa Pengguna Aggaran (Budget User Authority)

KPPN	Kantor Pelayanan Perbendaharaan Negara (National Office of Treasury Services)
LG	Local government
Menko Kesra	Mentri Koordinator Kesejahteraan Rakyat (Coordinating
Ministry	for People's Welfare)
M&E	Monitoring and Evaluation
MCA	Millennium Challenge Account
MOHA	Kementrin Dalam Negri (Ministry of Home Affairs)
MOU	Memorandum of Understanding
MPW	Kementrian Pekerjaan Umum/PU (Ministry of Public Works)
MTS	Madrasah Tsanawiah (Islamic junior secondary school)
Nagari	Sub sub-district (Traditional Minangkabau Administrative Unit (comprising several villages) lead by Walinagari)
NGO	Non-Governmental Organization
PA	Pengguna Anggaran (Budget User)
PDAM	Perusahaan Daerah Air Minum (Local Water Company)
PJOK	Penanggung Jawab Opersional Kegiatan (Operational Coordinator Official)
Pokmas	Kelompok Masyarakat (Community Group)
Posyandu	Pusat Pelayanan Terpadu (Integrated Health Service)
PPK	Pejabat Pembuat Komitment (Official Commitment Maker)
PPTK	Pejabat Pelaksana Teknis Kegiatan (Official Technical Implementation of Activity)
PVMBG	Pusat Vulkanologi Mitigasi Bencana Geologi (Centre of Vulcanology and Mitigation of Geology Disaster)
Prasjaltarkim	Prasarana Jalan dan Tata Permukiman (Office of Road Infrastructure, Spatial and Settlement)
Petatah-Petitih	Aphorism
Puskesmas	Pusat Kesehatan Masyarakat (Community Health Center)
RAPBN	Rancangan Anggaran Pendapatan dan Belanja Negara (Central Government Work and Budget Plan),
RAPBD	Rancangan Anggaran Pendapatan dan Belanja Daerah (Provincial/Local Government Work and Budget Plan)
Renstra	Rencana Strategic (Strategic Plan)
RPJMD	Rencana Pembangunan Jangka Menengah Daerah (District Mid-Term Development Plan)
RAB	Rencana Anggaran Biaya (Budget Plan)
RR	Rehabilitation and Reconstruction
Rumah Gadang	Minangkabau Traditional House or Big House

Satkorlak	Satuan Tugas Koordinasi dan Pelaksana (Task Force for Coordination and Implementation)
SD	Sekolah Dasar (Elementary School)
SKPD	Satuan Kerja Perangkat Daerah (local government work unit)
SK	Surat Keputusan (Decree)
SMA	Sekolah Menangah Atas (Senior High School)
SMP	Sekolah Menengah Pertama (Junior High School)
SOTK	Struktur Organisasi dan Tata Kerja (Organizational and Work Structure)
TPM	Tim Pendamping Masyarakat (Community Empowerment Team)
TPT RR	Tim Pendukung Teknis RR (Rehabilitation and Reconstruction Technical Support Team)
TTN	Tim Teknis Nasional (National Technical Team)
UKM	Usaha Kecil Menengah (Small and Medium Scale Enterprise)
UNDAC	(United Nations Disaster and Coordination Assessment)
UNOCHA	Lembaga PBB Urusan Kemanusiaan (UN Office for the Coordination of Humanitarian Affairs)
UPTD	Unit Pelaksana Teknis Dinas (Technical Implementation Unit)
USAID	United States Agency for International Development
Wali Kota	Mayor

CHAPTER I

WEST SUMATRA
SEPTEMBER 30th 2009 EARTHQUAKE



WEST SUMATRA
SEPTEMBER 30th 2009 EARTHQUAKE

CHAPTER I
WEST SUMATRA SEPTEMBER 30th 2009 EARTHQUAKE

A massive earthquake struck the West Sumatra province of Indonesia on Wednesday, 30 September 2009 at 17.16pm. Based on the information from the Government Agency of Climatology, Meteorology and Geophysics (BKMG), the 7.9 SR earthquake epicenter was located at coordinates 0.84 LS - 99.65 BT, 71 km deep and 57 km away from the southwest of Pariaman district, West Sumatra. A 6.2 SR aftershock happened just 22 minutes after, with the epicenter at coordinates 0.72 LS – 99.94 BT, 22 km from Pariaman district.

This earthquake occurred due to the subduction of the Indian Ocean tectonic plate beneath the Asia Pacific plate. Although the tremor was strong enough to be felt in other regions such as Aceh, Sumatra, Jambi, Riau, Bengkulu, North Sumatra and even Singapore and Malaysia, yet the energy was not strong enough to trigger a Tsunami, due to its deep location. Not only destroying and demolishing the existing facilities and infrastructure, the earthquake has also caused a psychological impact for the community. The destructions have resulted in thousands of families becoming homeless, some living in camps and others living in the homes of relatives. The earthquake also caused the disruption of the government, economics and social activities. The map of the earthquake locations can be seen in **Figure 1.1.**

When the emergency response came to an end on November 30th, 2009, further efforts are needed to be continuously taken in the forms of post-quake reconstructions and rehabilitations by re-developing the people housings, infrastructure and public services, with additional focus on health, social and livelihoods recovery.

The disaster has badly affected several cities or regions in West Sumatra, and they are:

1. Padang City
2. Padang Panjang City
3. Pariaman City
4. Pasaman District
5. Pasaman Barat District
6. The Mentawai Islands District
7. Padang Pariaman District
8. Tanah Datar District
9. Pesisir Selatan District
10. Agam District
11. Solok District
12. Solok City

Figure 1.1
Location Map of Earthquake September 30th, 2009

IMPACT AND DAMAGE

The 30 September 2009 earthquake has caused serious damages to the housing and infrastructure of the communities in 12 districts/cities, causing extensive psychological trauma. This damage extended 100 kilometers along the coast of West Sumatra and up to 50 miles inland.

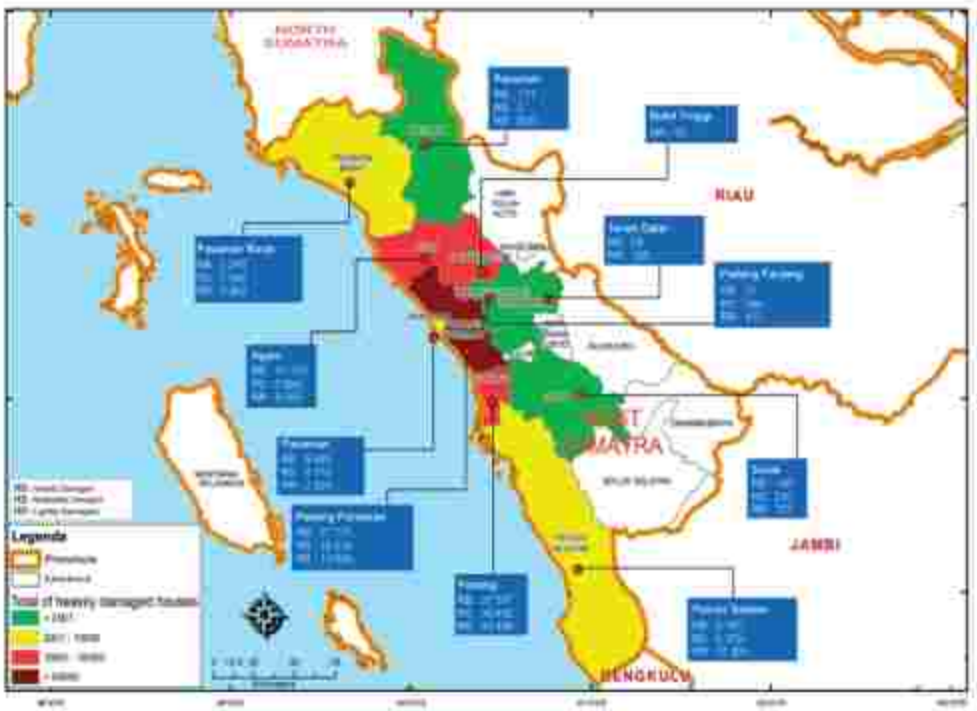
In the meantime, Minangkabau International Airport suffered damage over the roofs and remained closed for safety reasons (the airport re-opened October 1st, 2009.)

Tsunami warning system was issued but was soon repealed. The number of casualties can be seen in **Figure 1.2.** The amount of damaged structures can be seen in **Figure 1.3.**

Figure 1.2
Number of casualties caused by the 30 September 2009 earthquake

Number of casualties and damage recorded post-earthquake September 30th, 2009:	
Death	*1.195 Persons*
Severe Injured	*619 Persons*
Slightly Injured	*1.179 Persons*
Missing	*2 Persons*
Heavily Damaged Houses	*114.797 units*
Moderately Damaged Houses	*67.198 units*
Lightly Damaged Houses	*67.838 units*
Damaged Office Building	*442 units*
Damaged Educational Facilities	*4.748 units*
Damaged Health Facilities	*153 units*
Damaged Places of Worship	*285 Iunits*
Damaged Markets	*58 units*
Damaged Bridges	*68 pieces*

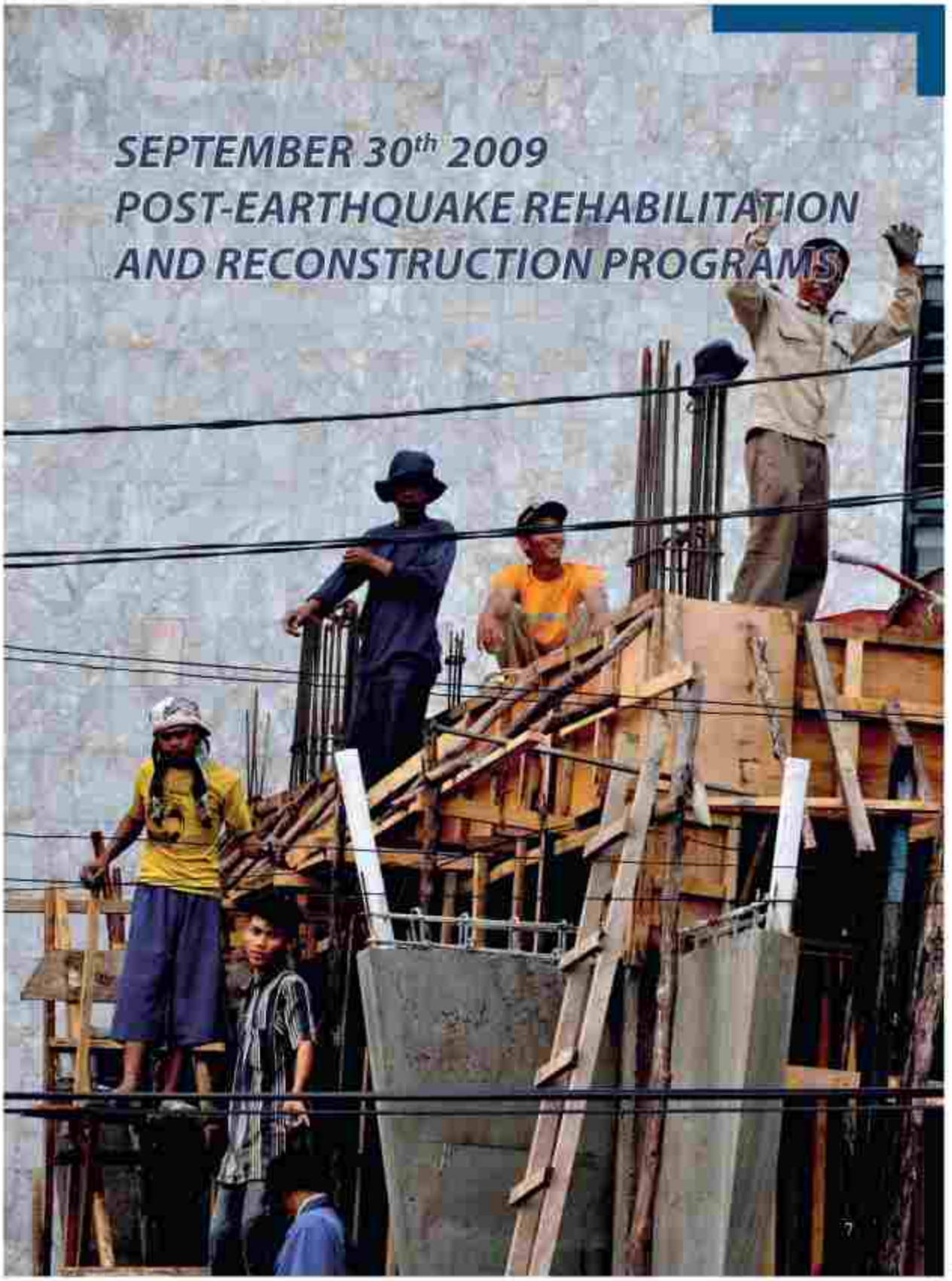
Figure 1.3
Map of Casualities, September 30th 2009 Post-Earthquake



CHAPTER 2

SEPTEMBER 30th 2009 POST-EARTHQUAKE REHABILITATION AND RECONSTRUCTION PROGRAMS

SEPTEMBER 30th 2009
POST-EARTHQUAKE REHABILITATION AND RECONSTRUCTION PROGRAMS



CHAPTER 2
SEPTEMBER 30th 2009 POST-EARTHQUAKE REHABILITATION AND RECONSTRUCTION PROGRAMS

EMERGENCY RESPONSE

The emergency response period was established for two months right after the earthquake. A total of 130 international organizations from many different countries have given and continue to give humanitarian aids to West Sumatra. After participating in the evacuation and the search for victims, these 130 international organizations began focusing on longer term humanitarian activities such as reconstruction of residential homes, water supply and supervision of food and nutrition. Actions were taken immediately to speed up rubble clearing, as well as to facilitate the coordination of the emergency response phase.

UN-OSOCC is an agency established by the United Nations to coordinate the activities and presence of all international agencies that came to West Sumatra to help search for the victims. Rescue teams were brought into the country by International agencies, and they were, among others, UNOCHA, IOM, Hope Indonesia, JICA, AusAID, HK Logistics and US Consul General in Medan, other UN agencies. Then, USAID, the European Commission, Mahkota Medical Centre Hospital from Malaysia, IHH Humanitarian Aid Turkey, Church World Service (CWS), Disaster Relief Team Japan and Korea and the United National Insarag Switzerland and from Australia, act.

Meanwhile, the UNDAC (United Nations Disaster and Coordination Assessment), an institution under the United Nations, praised the actions of Indonesia in carrying out evacuation in stages during the emergency. UNDAC judged Indonesia to be capable enough to overcome the disaster, yet international coordination was still needed, as it is the commitment of the world. The Government announced the emergency response period went through on November 30th, 2009.

PREPARATION OF ACTION PLAN

In the anticipation for the loss and the need for the recovery funds, various parties such as the central governments' BNPB (the National Agency for Disaster Management), Bappenas (National Development Planning Agency) and local governments cooperating with the University of Andalas to immediately construct the disaster management action plan for 2009 to 2011.

As known, post-disaster recovery scenarios have been prepared under the assumption of the resource availability and pre-disaster conditions, especially financial resources coming from the central and local government, as well as the condition before the disaster. Based on these assumptions, efforts were targeted into three scenarios:

- **Scenario I: Excess Financing Resources** - recovery efforts were expected to reconstruct the whole region, not only limited to the damaged and lost sectors of the region, but also for the people affected by the earthquake as well.
- **Scenario II: Adequate Financing Resources** - recovery efforts were expected to exceed the minimum standard of service development, covering all the damaged and lost sectors of the region, and people who were affected by the earthquake.
- **Scenario III: Lack of Financing Resources**, - recovery efforts were prioritized on housing sectors and minimum standard services, as well as the help stimulating the economic activities.

It turned out that the rehabilitation and reconstruction for 30 September 2009 West Sumatra's earthquake was placed under the third scenario due to its lack of financing. Based on the above facts, the priorities of rehabilitation and reconstruction were focusing on:

- Housing and settlements recovery.
- Infrastructure recovery.
- Social recovery, focusing on the restoration of basic public services and the fulfillment services for the poor and vulnerable groups.
- Livelihoods recovery, aimed at immediate restoring of the regional economic and community activities.

- Inter-sectors recovery, rebuilding and reconstructing government buildings in order to restore function of services for the community. Based on the assessment, the estimated cost required Rp. 6.41 trillion

General strategies for West Sumatra post-earthquake recovery were determined by:

1. The social and economic condition and the culture of the community.
2. Environmental sustainability and disaster risk reduction.
3. Benefits and effectiveness of aid for the earthquake victims.
4. The 12 districts that were affected by the West Sumatra earthquake.

Through the National Agency for Disaster Management (BNPB), the central government has formed a rehabilitation and reconstruction Technical Support Team (TPT RR) to assist the Governor of West Sumatra in implementing rehabilitation and reconstruction. The Implementation was systematically carried out and integrated in order to improve facilities and infrastructure. As a result, each sector could be conducted effectively and efficiently in accordance with the applicable regulations. This action plan was developed as a program platform to:

1. Develop mutual understanding and commitment with the central government, provincial government, districts government, businesses, communities, universities, and non-profit organizations to re-establish all the living aspects of the people affected by the natural disaster in West Sumatra.
2. Align all post-earthquake rehabilitation and reconstruction activity planning,

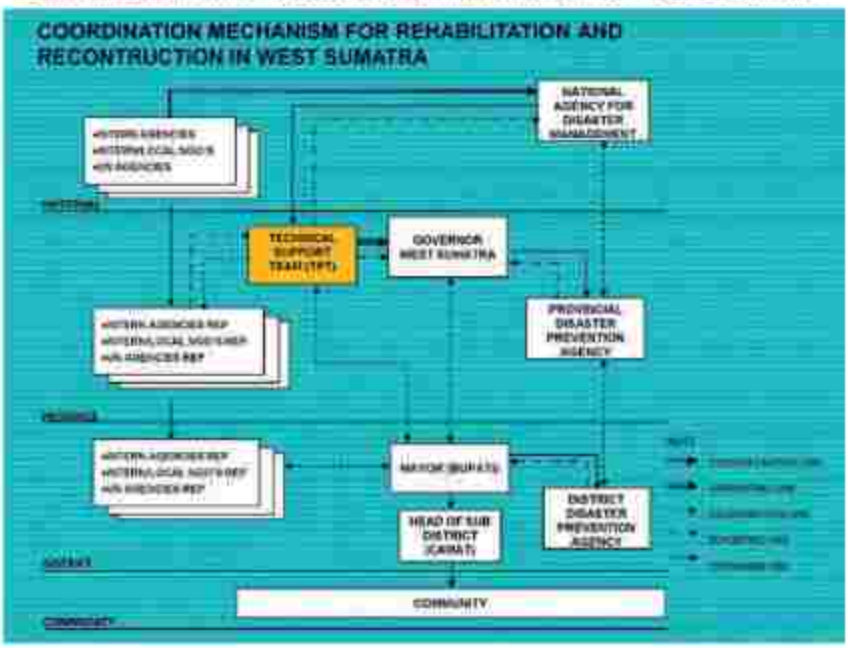
designed by the central government, in this case the ministries/agencies, provincial and local government.

3. Conciliation of the central, provincial and district government's plan with the District Mid Term Development Plan (RPJMD).
4. Combine the post-disaster rehabilitation and reconstruction planning with the annual planning from the central, provincial and district government.
5. Provide clear picture between stakeholders to avoid overlapping when implementing the post-earthquake rehabilitation and reconstruction.

This activity is an integral part of the national development planning system set out in 2004, Act No. 25. Funding for rehabilitation and reconstruction were sourced from the national budget, provincial budget, districts budget, people's charity and international agencies.

Policy of Rehabilitation and Reconstruction action have integrated in the annual planning and budgeting mechanism in the Central Government Work and Budget Plan (RAPBN), as well as the Provincial/Local Government Work and Budget Plan (RAPBD), that are in accordance with the regulations and legislations.
Rehabilitation and Reconstruction mechanism can be seen in **Figure 2.1.**

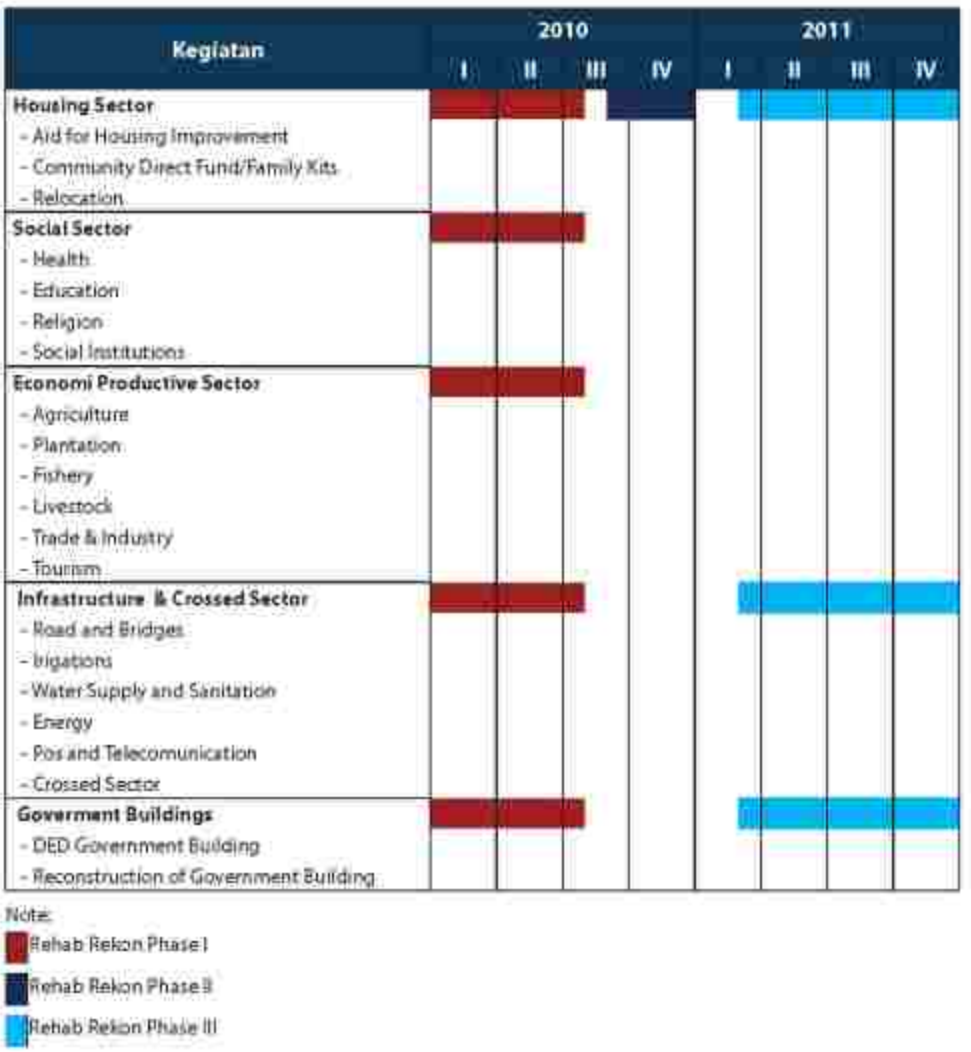
Figure 2.1
Rehabilitation and Reconstruction Mechanism of West Sumatra.



TIMELINE

By considering the scale and impact of the damages, the rehabilitation and reconstruction budget were planned to last for two years starting from the savings in fourth quarter fiscal of 2009, followed by the fiscal of 2010 and expected to be completed with fiscal from 2011. Time Frame of the activities can be seen in **Table 2.1**

Table 2.1
The Timeline of Post-Earthquake 30 September 2009 Rehabilitation and Reconstruction.



Note:

Rehab Rekon Phase I

Rehab Rekon Phase II

Rehab Rekon Phase III

By taking the affected factors into account, rehabilitation activities were focusing on the sectors with the worst damage which might significantly affect the social and economic lives of the communities. Based on the assessment of damage/loss and recovery needs, the worst affected sector were housing, followed by infrastructure, social, livelihoods and crossed sectors. Therefore, the priority for rehabilitation and reconstruction was the housings and settlements, continued with economic revitalization, education and health, and then passed on to infrastructure for government buildings.

The Formation of the Rehabilitation and Reconstruction Technical Support Team for West Sumatra

Technical Support Team (TPT) was formed on 20th November 2009 by the Head of BNPB under a Decree No. 109/BNPB/XI/2009. TPT answers directly to the Head of BNPB and assists the Governor of West Sumatra in the rehabilitation and reconstruction implementation. TPT includes different aspects from the National Agency for Disaster Management (BNPB), Local Government Task Force (SKPD) and university. Furthermore, TPT supports the local government to strengthen the data collection, planning, financing from foreign agencies, facilitation and coordination, reporting/ information/ media relations, supervision as well as monitoring and evaluation.

TPT has four main responsibilities which:

1. Provides advices on strategic and general policies during planning and implementation for West Sumatra's post-earthquake rehabilitation and reconstruction.
2. Develops detailed action plans for accelerating post-earthquake rehabilitation and reconstruction for West Sumatra.
3. Assists the coordination of post-earthquake rehabilitation and reconstruction in accordance with general policies established for post-earthquake rehabilitation and reconstruction in West Sumatra, and .
4. Monitors and evaluate the implementation of rehabilitation and reconstruction.

Technical Support Team is a representative of the National Agency for Disaster Management (BNPB), West Sumatra based. The organizational structure of the Technical Support Team can be seen in **Figure 2.2.** To maximize

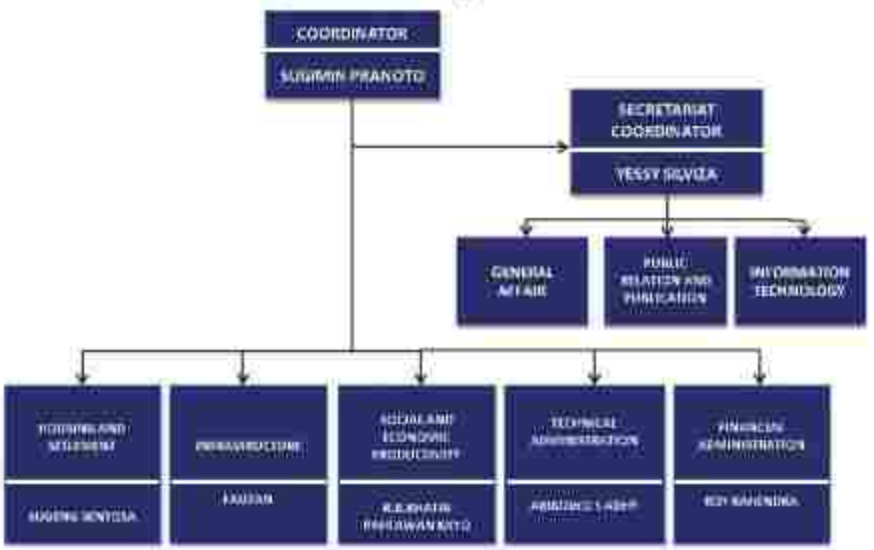
the outcome of rehabilitation and reconstruction, TPT has strengthened its organization by hiring personnel from various government agencies and professionals from the central and provincial levels.

TPT carried out a variety of tasks during the implementation of rehabilitation and reconstruction process, and they were:

1. To publish technical guidelines (signed by the Governor of West Sumatra) for housing, social and economic sectors.
2. To produce monthly progress report for the Governor of West Sumatra and other related agencies.
3. To coordinate monthly meetings which monitor the implementation of rehabilitation and reconstruction process
4. To conduct monthly General Coordination meetings with international agencies and institutions active in disaster management for West Sumatra.
5. To carry out field visits to monitor the implementation of rehabilitation and reconstruction activities.
6. To generate documentation and publication activities for public, such as exhibitions, seminars, press conference, monthly rehabilitation and reconstruction magazine, etc.

There is a clear task division between BNPB TPT that works as policy makers and SKPD that works as executor in the rehabilitation and reconstruc-

Figure 2.2
Technical Suport Team Organization Structure



tion activities. Overall, the implementation of rehabilitation and reconstruction activities Phase I in West Sumatra was coordinated by the Head of Road Infrastructure and Settlement Office (Prasjaltarkim), while the implementation of rehabilitation and reconstruction for each sector were carried out done by related SKPD

During 2010, TPT has conducted monthly monitoring and general coordination meetings, 2 seminars and exhibitions with the participation of various NGOs and international agencies. For the 1st-year commemoration of 30 September 2009 West Sumatra's earthquake, TPT alongside various related institutions have organized a two-day international workshop and seminar on Disaster Management, attended by 120 organizations as participant.

SUPERVISION OF REHABILITATION AND RECONSTRUCTION ACTIVITIES

Supervision for the 30 September 2009 West Sumatra's post-earthquake rehabilitation and reconstruction was done under internal and external supervision. Internal supervision was regularly maintained by the Main Inspectorate from BNPB, with the attention to provide guidance for implementers to follow their technical guidelines and rules of law, in order to avoid accountability errors.

In addition, external supervision was conducted by the Provincial Supreme Audit Board (BPKP) whereas since the beginning, BPKP alongside BNPB and the Office of Financial Management (DPKD), have formed a program to conduct the inspection. Their activities were to hold regular meetings with all regional work units, as well as field visits to the implementation areas.

CHAPTER 3

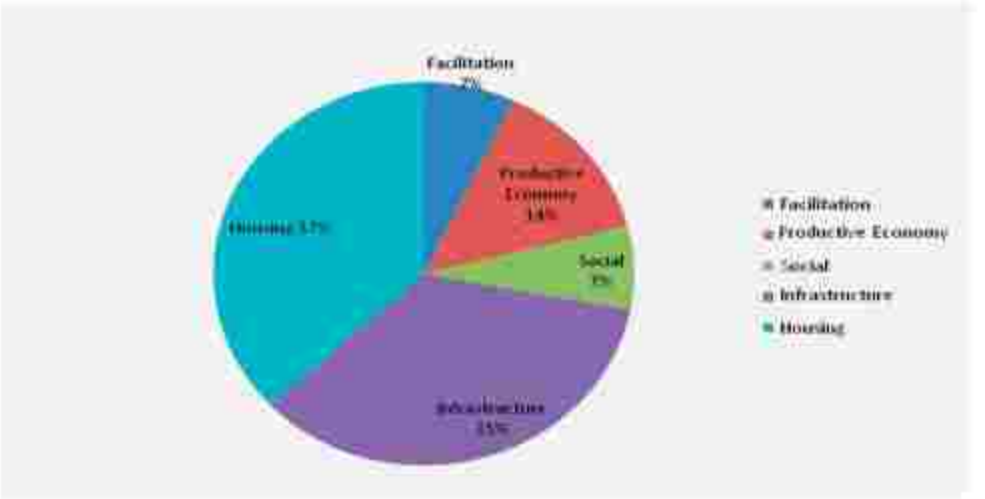
PERFORMANCE OF SEPTEMBER 30th, 2009 POST-EARTHQUAKE REHABILITATION AND RECONSTRUCTION IMPELEMENTATION IN WEST SUMATRA

PERFORMANCE OF SEPTEMBER 30th, 2009 POST-EARTHQUAKE REHABILITATION AND RECONSTRUCTION IMPELEMENTATION IN WEST SUMATRA

CHAPTER 3
PERFORMANCE OF SEPTEMBER 30th, 2009 POST-EARTHQUAKE REHABILITATION AND RECONSTRUCTION IMPELEMENTATION IN WEST SUMATRA

The rehabilitation and reconstruction (RR) activities of 30 September 2009 post-earthquake in West Sumatra Province were implemented in several phases. Phase 1, (pilot project) the program covered 4 (four) sectors, namely Housing Sector, Infrastructure Sector, Government Buildings Sector, and other Sectors (cross-sectored programs); Social Sector, and Productive Economic Sector and other facilitation programs and technical assistance to support of community empowerment and institutional operation. The total budget provided was IDR 313,933,950,000. - which was financed by National State Budget (APBN) of BNPB for 4 (four) main sectors. This budget allocated at the end of Fiscal Year 2009; so that the budget of this first phase was transferred to Special Account of West Sumatra Provincial Budget (APBD) and will use in the Fiscal Year of 2010. The percentage of allocated budget for each respective sector is presented in **Figure 3.1**

Figure 3.1.
Percentage of Allocated Budget for Phase I for Each Respective Sector



1.HOUSING SECTOR

In the pilot project phase I, the Government through the National Agency for Disaster Management or BNPB has prepared a social grant program in the form of Direct Community Grant Aid or BLM with a total allocated budget of IDR 114,540,000,000.- for the rehabilitation and reconstruction of houses that were heavily and moderately damaged totaling 7,636 units; whereas, those houses that were slightly damaged totaling 67,838 units become the responsibility of the sub-province and municipal government.

The implementation of rehabilitation and reconstruction program of 30 September 2009 post-earthquake in West Sumatra Province covered 12 districts (Kabupaten/Kota), with the City of Padang and Padang Pariaman district, the areas which were most severely affected. The breakdown of the damage is presented in Table 3.1.

Table 3.1.
Houses Damaged Due to 30 September 2009 West Sumatra Earthquake

NO	CITY / DISTRICT	DAMAGED			Total
		Heavily	Moderately	Lightly	
1.	Padang City	33,597	35,816	37,615	107,028
2.	Padang Pariaman District	57,931	16,291	12,945	87,167
3.	Pariaman City	6,685	4,115	2,605	13,023
4.	Agam District	11,796	3,797	4,353	19,946
5.	Pesisir Selatan District	1,156	3,596	5,510	10,262
6.	Solok District	145	243	357	745
7.	Kepulauan Mentawai District	3	0	136	139
8.	Pasaman Barat District	3,240	3,046	2,862	9,148
9.	Pasaman District	197	13	931	9,148
10.	Padang Panjang City	17	164	413	594
11.	Solok City	2	2	6	10
12.	Tanah Datar District	28	115	105	248
	Total	**114,797**	**67,198**	**67,838**	**249,833**

PHASE I (PILOT PROJECT) HOUSING REHABILITATION AND RECONSTRUCTION

Based on the agreement achieved by the governor and the Head of Districts and mayors of 12 districts (Kabupaten/Kota) that took place on January 17, 2010, the implementation of phase I was to be carried out as a pilot project for those districts having more than 300 houses that are totally and severely damaged. Based on the criteria described, the locations selected as the target for phase I housing rehabilitation and reconstruction program were located in 7 (seven) districts; Padang City, Padang Pariaman districts, Agam district, Pesisir Selatan district, West Pasaman district, Pariaman City, and Solok district. The total budget of IDR 114,540,000,000.- was allocated for food stuffs totaling IDR 6,949,560,000.- and family kit at IDR 305,440,000.-.

In phase I, at least 177 community empowerment facilitators and 155 technical facilitators were recruited to support the implementation of rehabilitation and reconstruction program. Re-collection and validation of data were then carried out by the Team of Facilitators or TPM and facilitators by using the assessment criteria of damaged houses in accordance with the Technical Guideline for Earthquake Resistant Housing and Building. When the validation was completed, a difference in the number of heavily and moderately damaged houses was discovered. This was due to different perception in determining the Damaged Housing Assessment. The planned distribution of rehabilitation and reconstruction of damaged people housing is presented in **Table 3.2.** The result of validation on damaged houses by the earthquake in phase I is presented in **Table 3.3**

Table 3.2.
Planned Distribution of People Housing Rehabilitation and Reconstruction

DISTRICT / CITY	DAMAGED HOUSES			PILOT PROJECT (PHASE I)			PLAN PHASE II			DAMAGED HOUSES REMAINING		
	Heavily	Moderately	Total	Heavily	Moderately	Total	Heavily	Moderately	Total	Heavily	Moderately	Total
Padang City	33,597	15,814	49,411	1700	500	2,200	23,243	28,966	46,209	6,654	14,915	21,569
Padang Pariaman District	57,971	16,291	74,722	1,000	575	1,575	36,134	15,633	51,767	16,797	83	16,880
Pariaman City	6,686	4,115	10,800	360	90	450	6,326	4,624	10,950	0	0	0
Agam District	11,796	3,797	15,593	450	25	725	11,346	3,722	14,868	0	0	0
Pesisir Selatan District	3,350	3,576	6,752	100	75	175	3,050	3,521	6,571	0	0	0
District Solok District	145	243	388	100	36	136	45	207	252	0	0	0
Pasaman Barat District	3,240	3,096	6,200	170	50	220	3,070	2,930	6,000	0	0	0
Pasaman District	197	13	210	10	13	23	201	459	660	0	0	0
Padang Panjang City	37	564	601	37	30	37	10	100	110	0	0	0
Tanah Datar District	28	115	143	10	15	25	28	114	142	0	0	0
Total	118,792	67,196	181,988	6,117	1,449	7,556	85,258	51,743	137,001	23,451	16,996	40,447

Table 3.3.
Validation Result of Damaged Houses Phase I (Pilot Project)

NO	CITY / DISTRICT	INITIAL DATA			VALIDATION RESULT			DIFFERENCE		
		Heavily	Moderately	Pokmas	Heavily	Moderately	Pokmas	Heavily	Moderately	Pokmas
1.	Padang City	1,711	500	89	1,389	732	86	-311	232	-3
2.	Padang Pariaman District	3,051	575	145	2,828	541	139	-182	-34	-6
3.	Pariaman City	266	90	19	199	153	15	-161	63	-4
4.	Agam District	656	75	29	350	261	26	-300	186	-3
5.	Pesisir Selatan District	106	75	7	91	78	9	-15	3	2
6.	Solok District	125	36	6	75	50	9	-50	14	3
7.	Pasaman Barat District	196	50	12	196	50	16	-	-	4
	Total	6,233	1,401	307	5,118	1,865	300	-1,115	464	7
		7,634		-	6,983			651		-

PHASE II HOUSING REHABILITATION AND RECONSTRUCTION

Phase II rehabilitation and reconstruction works were prioritized for housing sector. Learning from the implementation of pilot project phase I, a number of improvements were carried out for phase II rehabilitation and reconstruction program among which are the simplification of BLM funding process, establishment of more effective financial institutions, and training program for facilitators. In phase II, fund allocated was sum-up to IDR 2 trillion which was prioritized for rehabilitation and reconstruction of houses totaling 137,000 units and facilitation of housing rehabilitation activities and institutional capacity building.

In phase II, the procedure for disbursement of grant fund was different from that of phase I, where the funding for operational activities and facilitation were directly managed by the KPA (the Authorization for Budget Users) BNPB and PPK (BNPB through the procedure under the BNPB State Budget). The Provincial PPK received transfer of fund from BNPB through special account of provincial PPK (the Implementation Officer). As in phase I after validation was conducted, there were discrepancies in the number of heavily and moderately damaged houses. The result of validation (verification) is shown in **Table 3.4**, **Table 3.5**, and **Table 3.6.**

Table 3.4.
Data Validation Result of Damaged Houses Phase IIA

NO	CITY / DISTRICT	INITIAL DATA			VALIDATION RESULT			Total Of Poktmas
		Heavily	Moderately	Total	Heavily	Moderately	Total	
1.	Padang City	5.103	5.440	10.543	4.221	6.837	11.058	457
2.	Padang Pariaman Glisoce	7.919	2.474	10.393	7.636	2.682	10.318	437
3.	Pariaman City	1.015	187	1.202	839	449	1.288	54
	Total	**14.028**	**8.101**	**22.138**	**12.696**	**9.968**	**22.664**	**948**

Table 3.5.
Data Validation Result of Damaged Houses Phase IIB

NO	CITY / DISTRICT	INITIAL DATA			INITIAL DATAN REVISION I			VALIDATION RESULT			Total Of Pokmas
		Heavily	Moderately	Total	Heavily	Moderately	Total	Heavily	Moderately	Total	
1.	Padang City	32.444	13.892	46.337	29.180	16.526	45.706	37.032	10.802	47.834	1.735
2.	Padang Pariaman District	30.215	13.159	43.374	30.215	13.159	43.374	30.540	12.965	43.505	1.705
3.	Pariaman City	2.469	2.469	4.938	5.318	3.830	9.148	5.310	4.479	9.789	432
4.	Agam District	11.146	3.722	14.868	11.146	3.722	14.868	8.094	6.535	14.629	626
5.	Pesisir Selatan District	1.056	3.521	4.577	1.056	3.521	4.577	658	3.224	3.882	194
6.	Solok District	45	207	252	45	207	252	39	216	255	16
7.	Pasaman Barat District	3.070	2.996	6.066	3.070	2.996	6.066	2.118	3.110	5.228	226
8.	Pasaman District	187	0	187	201	459	660	159	387	546	25
9.	Padang Panjang City	4	144	148	10	100	110	12	100	112	6
10	Tanah Datar District	28	100	128	28	144	142	28	114	142	13
	TOTAL	80.666	40.210	100.876	71.223	43.662	114.862	58.985	62.140	121.125	5.048

Table 3.6.
Total Data Validation Result of Damaged Housing Phase II
(Phase IIA and Phase IIB)

NO	CITY / DISTRICT	REVISION OF QUOTA PHASE II A AND II B				VALIDATION RESULT			
		Heavily	Moderately	Total	Estimate POKMAS	Heavily	Moderately	Total	Total Of Pokmas
1.	Padang City	25.243	20.966	46.209	1.849	16.254	37.638	53.892	2.172
2.	Padang Pariaman District	38.134	15.633	53.767	2.151	38.176	15.647	53.826	2.232
3.	Pariaman City	6.325	4.025	10.350	414	6.149	5.128	11.277	486
4.	Agam District	11.146	3.722	14.868	595	8.094	6.535	14.629	626
5.	Pesisir Selatan District	1.056	3.521	4.577	183	658	3.224	3.882	194
6.	Solok District	45	207	252	10	39	216	255	16
7.	Pasaman Barat District	3.070	2.996	6.066	243	2.118	3.110	5.228	226
8.	Pasaman District	201	459	660	26	159	387	546	25
9.	Padang Panjang City	10	100	110	4	12	100	110	6
10	Tanah Datar District	28	114	142	6	28	114	142	13
	TOTAL	85.258	51.743	137.001	5.481	71.681	72.108	143.789	5.996

The distribution of the Rehabilitation and Reconstruction Fund

Application for fund disbursement for each phase was submitted by districts (Kabupaten/Kota) PJOK (Operational Coordinator Official) in accordance with the standing instruction letter for disbursement from the Central PPK to the Implementing Bank (BRI). The fund for housing rehabilitation and reconstruction was directly paid to the Pokmas (Community Group) account. Data validation was done by Facilitators together with TPM (Community Assistance Team), after the opening of an account at the BRI Bank (as stipulated in the MOU) for each respective Pokmas. Thereafter, the data and Pokmas' account were sent to the PPK BNPB Jakarta through Kabupaten/Municipal PJOK and Provincial PJOK after the data is verified by the PPK BNPB in Jakarta and then submitted to KPKN Jakarta

After the data met the requirements, thereafter the fund was channeled through the BRI Bank and transferred directly to the account of each respective Pokmas without any deduction. Differences in the implementing organization of rehabilitation and reconstruction program, for housing sector phase II, the activities are concentrated in each respective district. The mechanism for disbursement and distribution of rehabilitation and reconstruction fund phase I and phase II are presented in **Figure 3.2** and **Figure 3.3.** The percentage of allocation of fund is shown in **Figure 3.4.**

Figure 3.2.
Mechanism for Disbursement and Distribution of Housing Phase I (Pilot Project) Rehabilitation and Reconstruction

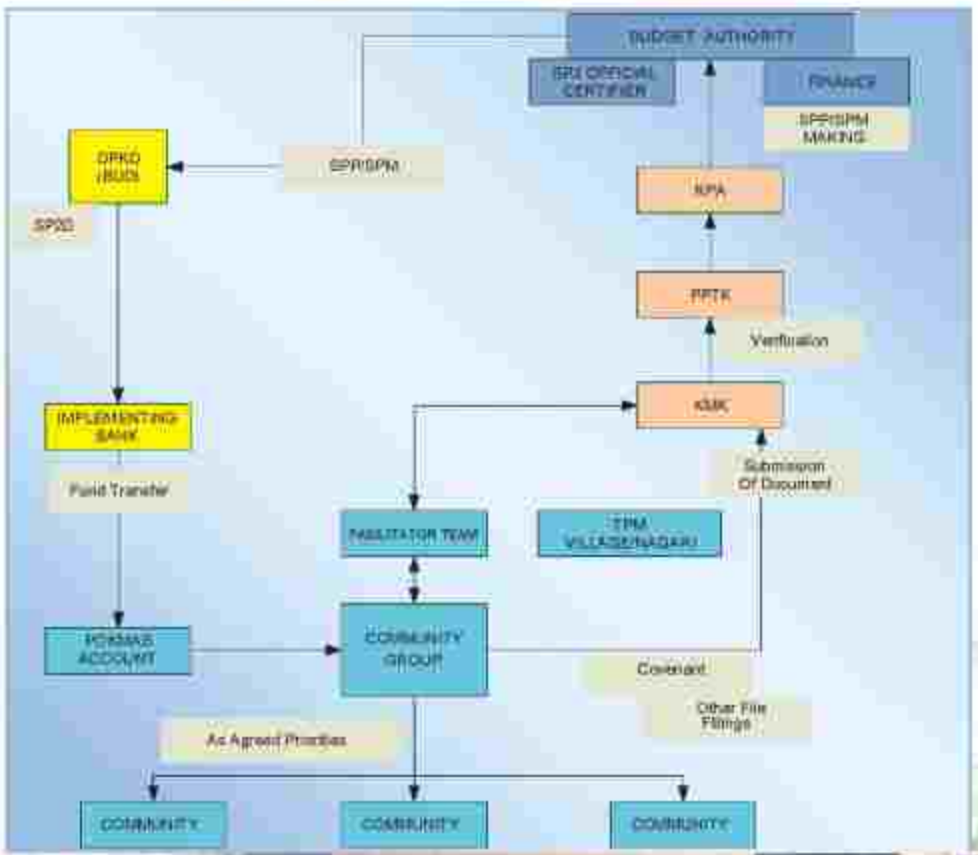


Figure 3.3.
Schematic Diagram of Process of Housing and Non-Housing BLM Fund Distribution Phase II

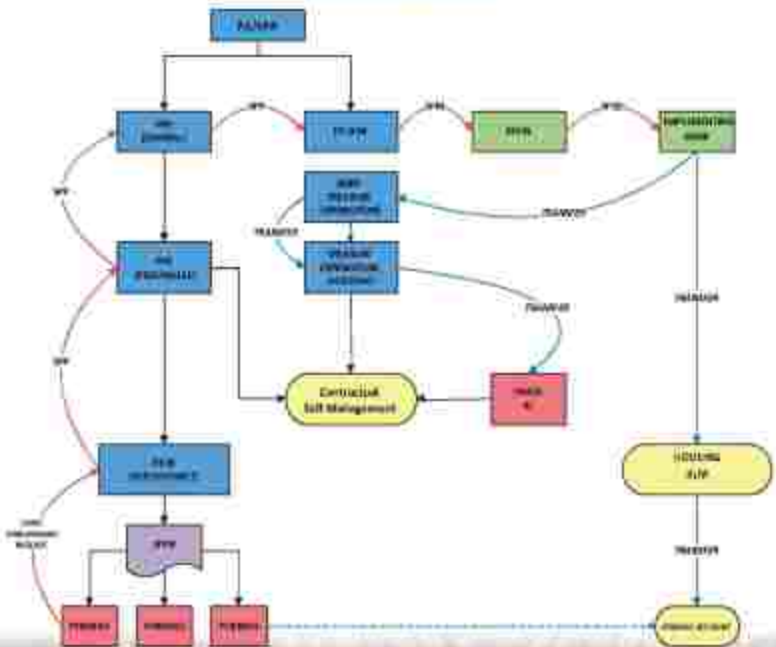
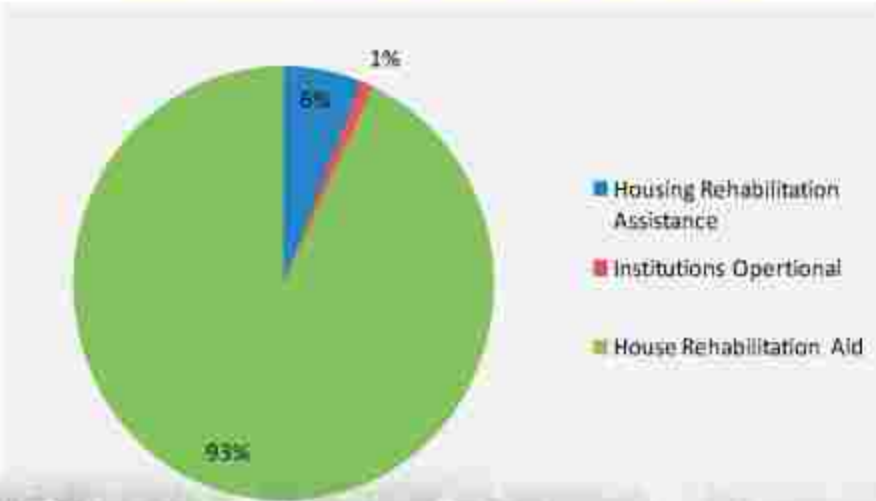


Figure 3.4.
Percentage Allocation of Fund Phase II in Each Respective Sector



2. INFRASTRUCTURE, GOVERNMENT BUILDING, AND OTHER SECTORS

The earthquake on 30 September 2009 which affected the majority of the population in West Sumatra had caused damages to the infrastructure network and government buildings. The infrastructure sector rehabilitation and reconstruction activity in phase I covered rehabilitation of roads and bridges, improvement/provision of piped water supply, repaired irrigation network and preparation of design of government (public) buildings and design prototype of school buildings with the budget totaling IDR 109,925,280,000.-. This sector was implemented by the West Sumatra Road, Spatial Planning and Human Settlements Office as well as Water Resources Management Service of West Sumatra Province.

Public Building Sub Sector

The planned public building construction included escape building for the Governor Office and SKPD (Local Government) office, the Grand Market of Padang, M. Djamil Hospital, university buildings, police office buildings, State Prosecutor building, and religious facility buildings. In preliminary phase it was prioritized to preparing the detailed engineering designs (DED) consisting of DED for: SKPD of Provincial office (15 packages), BNPB office (3 packages), and preparation of Prototype Buildings for Elementary, Junior High, and High School, and Community Health Center (9 packages). The detailed activity of public building sub sector is presented in **Table 3.7.**

Table 3.7
Activity of Public Building Sub Sector

No	Description Of Activities	Volume	Contract Value (Addendum) (IDR) (million)
1.	Government Building		
	Reconstruction SKPD Office		6.877
	- DED Badan Perpustakaan & DIPO Building	1 Package	476
	- DED Fisheries and Marine	1 Package	342
	- DED Bappeda Office	1 Package	911
	- DED Plantation Office	1 Package	539
	- DED Prasjal Tarkim Sumbar Office	1 Package	991
	- DED Loss Of Food Security	1 Package	483
	- DED Education and Sport	1 Package	462
	- DED DPKD Office	1 Package	947
	- DED Livestock Office	1 Package	472
	- DED Kesbang Linmas Office Building	1 Package	353
	- DED Satkorlak Setda Building	1 Package	261
	- DED DPRD Provincial Building Sumbar	1 Package	319
	- DED Belimbing Padang Market	1 Package	217
	- DED Tanah Kongsi Padang Market	1 Package	96
	- DED Padang Market	Transposal DPA	
2.	DED Prototype School Building :	1 Package	312
	- DED Prototype SMA Type A	1 Package	233
	- DED Prototype SMA Type B	1 Package	323
	- DED Prototype SMP Type A	1 Package	261
	- DED Prototype SMP Type B	1 Package	232
	- DED Prototype SD Type A	1 Package	147
	- DED Prototype SD Type B	1 Package	112
	- DED Prototype Puskesmas Type A	1 Package	52
	- DED Prototype Puskesmas Type B	1 Package	33
	- DED Prototype Puskesmas Assistance		
3.	DED Warehouse BNPB :		
	- DED Land Maturation	Transposal DPA	-
	- Supervision of Land Maturation	Transposal DPA	-
	- BNPB Warehouse Land Maturation	Transposal DPA	-

Road and Bridge Sub Sector

The damages on road and bridge infrastructure occurred on provincial road section as well as national road section causing disturbance of goods and service transportation flow. The damages caused by the earthquake made cracks on several road surfaces, collapses of several national and provincial road sections, lowering of bridge ingress and collapse of road supporting structures. Road and bridge rehabilitation and reconstruction activities were divided into 4 (four) areas in several sub-province/cities, namely:

1. Area I Padang Pariaman District and Pesisir Selatan District;
2. Area II Agam District, Pasaman District, and West Pasaman District;
3. Area III 50 Kota District and Tanah Datar District;
4. Area IV Solok District, City of Sawahlunto, and Sijunjung District.

Road and bridge post 30 September 2009 earthquake rehabilitation and reconstruction activities have the objective to restoring the function of roads and bridges on provincial road and national road sections in West Sumatra. The total fund absorbed for this activity was IDR 45,317,000,000.- as described in **Table 3.8.**

Table 3.8
Road and Bridge Rehabilitation and Reconstruction

No.	Description Of Activities	Volume	Contract Value (million)
1.	Road Rehabilitation :		
	a. Area I (2.560 m) :		
	Padang Panaman District :	2.340 m	4200
	- Lubuk Basung – Sei Limau Toll Roads		
	- Ketapung – Panaman Toll Roads		
	- Panaman – Manggopoh Toll Roads		
	Pesisir Selatan District:	22m	
	- Pasar Baru – Alahan Panjang Toll Roads		
	b. Area II :	3.863,1 m	3.920
	Pasaman District:	1.156 m	
	- Panti - Simpang Empat – Sasak Toll Roads		
	Pasaman Barat district:	86,1 m	
	- Ruas Padang Sawah – Kumpulan		
	Agam District:	2.621 m	
	- Manggopoh – Padang Luar Toll Roads		
	c. Area III:	3.750 m	3.750
	Tanah datar District:	3.500 m	
	- Kubu Kerambil – Batusangkar		
	- Baso – Batusangkar		
	- Batas Kota – Gugus Cino		
	- Gugus Cino – Sawahlunto		
	- Sitangkai – Batas Tj. Ampalu		
	- Sitangkai – Batas Payakumbuh		
	50 Kota District:	250 m	
	- Sulliki – Koto Tinggi Toll Roads		
	- Payakumbuh – Sitangkai Toll Roads		
	d. Area IV :	1.600 m	3.750
	Solok District :	400 m	
	- Lubuk Selasih – Sunan		
	- Solok – Alahan Panjang		
	Kabupaten Sijunjung :	1.200 m	
	- Simancung – Tj. Ampalu		
	- Tj. Ampalu – Sijunjung		
	- Sijunjung – Tj. Badantung		
2.	Bridge :		
	Bridge Procurement :		
	- Permanent Steel Frame Bridge	1 unit	28.650
	Type A bentang 60 m	2 unit	
	Type B bentang 60 m	2 unit	
	Type C bentang 40 m	2 unit	
	Type C bentang 50 m		
	- Steel Frame Bridge(Panel)	8 unit	
	Bentang 30 m		
	Procurement Car Operations		1.037
	- Double Cabin Car 2 unit	2 unit	
	- Pick Up Car 1 unit	1 unit	

Water Supply Sub Sector

The phase I (pilot project) rehabilitation and reconstruction activity in water supply sub sector included the water pipes provision which were spread in 4 kabupaten/cities. The goods which consisted of HDPE 250 mm pipe and valve were placed in the Gunung Panggilun PDAM warehouse in Padang. The total fund allotted for the pipe provision was IDR 6,559,000,000.-. The pipe provision/procurement and its unit of volume are shown in **Table 3.9.**

Table 3.9
Drinking Water Pipe Procurement

No.	Description of Activities	Volume	Contract Value (Addendum) (Million)
1.	Pipes Procurement of PDAM Padang City	Ø300 mm = 1.008 m' Ø250 mm = 1.116 m' Ø200 mm = 1.080 m' **Total = 3204 m'**	2.820
2.	a. Pipes Procurement of PDAM Agam District	Ø250 mm = 3.534 m' Ø100 mm = 2.000 m' Ø75 mm = 1.460 m' Ø50 mm = 2.994 m' **Total = 9.998 m'**	2.219
	b. Pesisir Selatan	Ø250 mm = 30 m' Ø150 mm = 1.260 m' Ø100 mm = 2.390 m' Ø50 mm = 5.038 m' **Total = 8.718 m'**	
3.	Pipes Procurement of PDAM Padang Pariaman District	Ø300 mm = 1.500 m' Ø150 mm = 2.130 m' Ø100 mm = 3.904 m' Ø75 mm = 5.328 m' Ø50 mm = 6.000 m' **Total = 18.862m'**	1.520

Irrigation/Water Resource Sub Sector

Rehabilitation and reconstruction activity comprised repair of irrigation channes, weir repair, flood control and intake repair. The total fund allotted was IDR 34,586,100,000.-. Breakdown of fund utilization is shown in **Table 3.10**

Table 3.10
Irrigation-Water Resources Sub Sector Activity

No	Description of Activities	Volume	Contract Value (million)
1.	**Regional Irrigation Repair:**	Irrigation repair the damaged 5.601 Ha	
	D.I. Sibarasok Gadang Padang Pariaman District	333 m	221
	D.I. Sibarasok Ketek Padang Pariaman District	356 m	304
	D.I. Batang Galam Padang Pariaman District	186 m	151
	D.I. Tanggah Sikucur Padang Pariaman District	109 m	143
	D.I. Alahan Tabek Padang Pariaman District	180 m	154
	D.I. Kampung Sagik Padang Pariaman District	450 m	216
	D.I. Rimbo Piatu Padang Pariaman District	300 m	221
	D.I. Bandar Napa Rangkah Pdg Pariaman District	120 m	114
	D.I. Bdr. Tandikek Asli Padang Pariaman District	324,1 m	303
	D.I. Bdr. Ujung Gunung Padang Pariaman District	407,9 m	181
	D.I. Batang Dareh Agam District	780,8 m	419
	D.I. Sibaragung Agam District	250 m	304
	D.I. Batang Kandang Agam District	130 m	193
	D.I. Jawi – Jawi Agam District	30 m	147
	D.I. Sawah Parit Agam District	55 m	189
	D.I. Damar Gadang Agam District	193 m	168
	D.I. Bandar Imang Solok District	163,40 m	108
	D.I. Bandar Bukit Gombak Solok District	275,72 m	123
	D.I. Bandar Sei Baliang Solok District	96,50 m	92
	D.I. Bandar Taratak Jarak Solok District	280,54 m	219
	D.I. Bandar Taratak Teleng Solok District	174,72 m	220
	D.I. Sungai Baliang Pesisir Selatan District	25,00 m	250
	D.I. Lumpo I Pesisir Selatan District	144,00 m	190
	D.I. Lumpo II Pesisir Selatan District	296,30 m	346
	D.I. Bandar Polongan Padang Pariaman District	78,8 m	94
	D.I. Bandar Usang Padang Pariaman District	31 m	94
	D.I. Bandar Gadang Kalawi Pdg Pariaman District	79 m	94
	D.I. Kp. Manggis Barangan Pdg Pariaman District	70 m	94
	D.I. Sungai Abu Padang Pariaman District	77 m	94
	D.I. Ampang Sipinang Padang Pariaman District	98 m	94
	D.I. Sigiran Agam District	63 m	94
	D.I. Bdr. Guguak Baliang Solok District	89,80 m	94
	D.I. Sawah Dangka Agam District	108 m	49
	Restoration Embung Tabek Panjang Solok District	1 unit	94
	Restoration Embung Gaung Solok District	1 unit	94
	D.I Batu Tapo Padang Pariaman District	1 unit	703
2.	Rehabilitation of Kota Tuo Check dam Gunung Nago-Pulai, Bt.Selimbing dan Bt. Kurang Padang City	Retrofitting Cliff = 400 m	5.813,6
3.	Normalization Flood Control Batang Mangor dan Kanmuman Kabupaten Padang Pariaman	Retrofitting Cliff = 800 m Build Jety = 1 unit	16.860,5
4.	Restoration Intake of Ulli Gadut and Sikayan Padang City	Build Check dam and Intake PDAM = 1 unit	4.061
5.	Rehabilitation cliff of Batang Gasan Padang Pariaman	Retrofitting Cliff 1 unit	1.183

3. SOCIAL SECTOR

Phase I of social sector rehabilitation and reconstruction was prioritized for health component, the main focus of attention, besides the long traumatic experience, the danger of various communicable and non-communicable diseases that threaten the people. This sector comprised public health improvement, nutrition improvement and the prevention and eradication of diseases. These activities were carried out by the West Sumatra Provincial Health Office and assisted by the districts (Kabupaten/ Kota) Health Office. The sub sector and location of its activity are presented in **Table 3.11.**

Community Health Improvement Sub Sector

Activities of sub sector Community Health Improvement post-earthquake September 30th, 2009 consist of several activities:

1. Psychosocial Mentoring
   Scope and objective of these activities are health cadres, housewives, teenagers, elderly, children, student and teacher of SD/MI (Elementary school) and SMP/MTS (Junior High School). These activities was performed in 11 (eleven) affected districts.
2. Health Care/Medical Ser
   These activities include 229 patients which suffer caused of the-earthquake, the activities spread in 22 Puskesmas/Posyandu or (Community Health Center/small clinics) in Pesisir Selatan district, Padang Pariaman distric, Agam district, Padang city and Pariaman city.

Table 3.11
Social Sector Activity (Health)

	Sub Sector	Location
1.	**Community Health Improvement** - Psychosocial Assistance - Health Services / Medical	Padang, Pariaman, Tanah Datar, Padang Pariaman, Pesisir Selatan, Agam, Solok, Pasaman, Pasaman Barat dan Padang Panjang
2.	**Reduction and Improvement of Community Nutrition** - Complementary feeding for less nutrition infant - Milk Procurement for Pregnant Woman (KEK) in 11 affected areas - Breastfeeding Counseling and postpartum mother - Class for pregnant and breastfeeding mother	Padan, Pariaman, Tanah Datar, Padang Pariaman, Pesisir Selatan, Agam, Solok, Pasaman, Pasaman Barat dan Padang Panjang
3.	**Disease Prevention and Eradication :** - Chemicals Procurement - Fuel procurement for nest mosquito eradication	Padang, Pariaman, Tanah Datar, Padang Pariaman, Pesisir Selatan, Agam, Solok, Pasaman, Pasaman Barat dan Padang Panjang

Management and Nutrition Improvement Sub Sector

1. **Provision of baby biscuit (MP-ASI) for 1-2 year old baby**
   The target of this activity was 31,261 infants (1-2 year old) scattered in 2,687 Posyandu (Integrated Health Service) with every infant receiving 30 small packs of MP-ASI for one month need. The total aid delivered was 937,830 sachets of biscuits, with one single sachet weighing 120 grams at the price of IDR 4,500 per sachet. The distribution of the aid was carried out in 11 districts with the breakdown as shown in **Table 3.12**
2. **Provision of Milk for KEK pregnant mother.**
   A total of 18,991 pregnant mothers from 2,687 Posyandu consisting of poor families affected by the earthquake were respectively given 60 packets of milk for one month supply. The total milk for pregnant mothers distributed in 11 districts was 569,730 packets, each respectively weighing 50 grams. The details of milk distribution are shown in **Table 3.13.**

Table 3.12
Procurement of Infant Complementary Feeding (MP-ASI)

No	City/District	Volume	Unit	Total (IDR)
1.	Padang City	352.350	Bks/120 gram	1585.575.000
2.	Padang Pariaman District	207.000	Bks/120 gram	931.500.000
3.	Pariaman City	34.860	Bks/120 gram	156.870.000
4.	Agam District	223.470	Bks/120 gram	1.005.615.000
5.	Pesisir Selatan District	57.000	Bks/120 gram	256.500.000
6.	Solok District	10.800	Bks/120 gram	48.600.000
7.	Pasaman Barat District	15.000	Bks/120 gram	67.500.000
8.	Pasaman District	15.870	Bks/120 gram	71.415.000
9.	Padang Panjang City	4.050	Bks/120 gram	18.225.000
10.	Solok City	7.530	Bks/120 gram	33.885.000
11.	Tanah Datar District	9.900	Bks/120 gram	44.550.000
	Total	**937.830**		**4.220.235.000**

3 **Exclusive Breastfeeding and After-Childbirth Mother Counseling**
Exclusive Breast feeding Counseling was implemented in 83 Puskesmas in 11 districts with the number of breast-feeding mothers who were given counseling totaling 8,058 mothers. Meanwhile, counseling for after-childbirth mothers was given to 15,369 mothers

4 **Class of Pregnant and Breast Feeding Mothers**
Out of 83 Puskesmas in 11 districts, each respective Puskesmas established 6 classes for pregnant mothers and another 6 classes for breast feeding mothers. A total of 498 classes of pregnant mothers and 498 breast feeding mothers were assisted by these activities.

Table 3.13
Procurement of Milk for Pregnant Mothers

No.	City/District	Volume	Unit	Total (IDR)
1.	Padang City	352.350	Bks/120 gram	1.061.370.000
2.	Padang Pariaman District	207.000	Bks/120 gram	491.400.000
3.	Pariaman City	34.860	Bks/120 gram	98.495.000
4.	Agam District	223.470	Bks/120 gram	218.565.000
5.	Pesisir Selatan District	57.000	Bks/120 gram	147.960.000
6.	Solok District	10.600	Bks/120 gram	36.720.000
7.	Pasaman Barat District	15.000	Bks/120 gram	197.910.000
8.	Pasaman District	15.870	Bks/120 gram	101.290.000
9.	Padang Panjang City	4.050	Bks/120 gram	75.870.000
10.	Solok City	7.530	Bks/120 gram	58.725.000
11.	Tanah Datar District	9.900	Bks/120 gram	73.980.000
	Total	**937.830**		**2.563.785.000**

Disease Prevention and Eradication Sub Sector

This activity was carried out in the effort to prevent and eradicate diseases that threaten the people affected by the 30 September 2009 earthquake. These activities involved:

1. Provisioning fuel for fogging equipments;
2. Provisioning chemicals for vector eradication;
3. Provisioning banners for PHBS information;

4. Health dissemination information;
5. Provisioning vest for fogging workers;
6. Implementation of fogging focus;
7. Implementation of epidemiological research/survey;
8. Disinfectant implementation;
9. Distribution of disinfectant for vector eradication;
10. Implementation of mosquitoes nests eradication;

Provisioning vector eradication equipments, such as 13 units of swing fog; 40 units of Hansen spray can, and 40 units of mis blower.

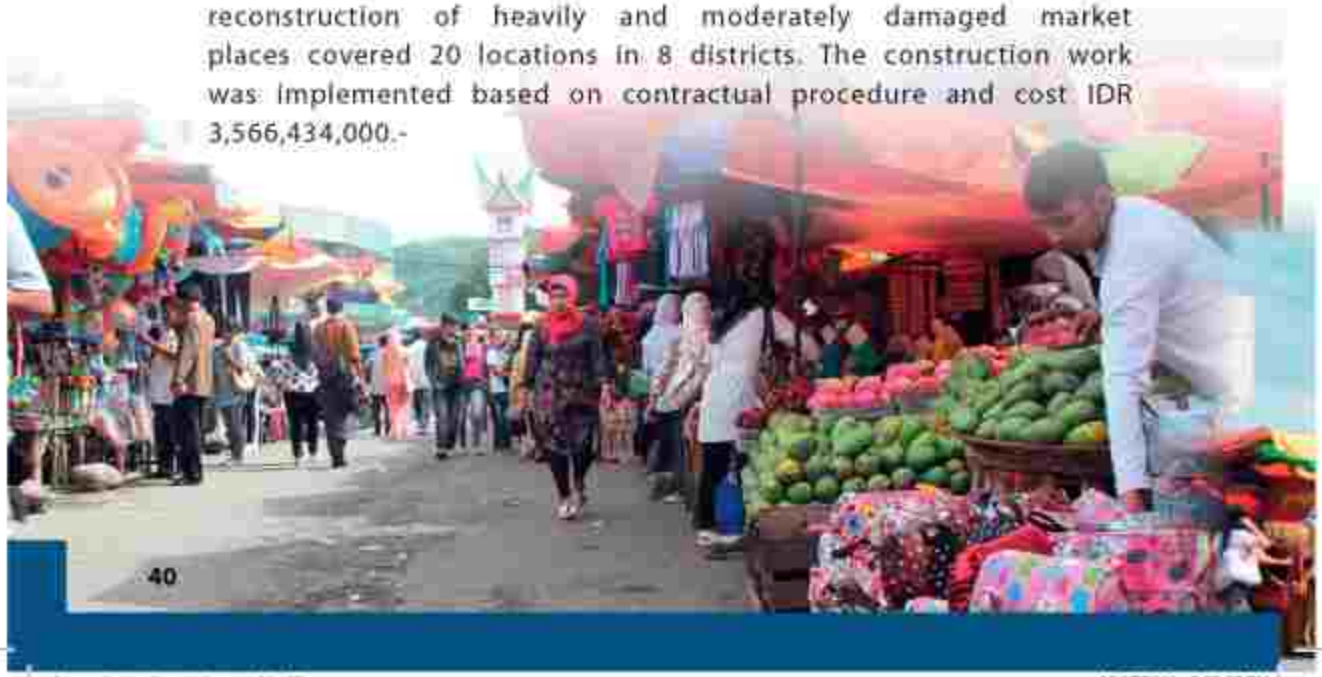
4. PRODUCTIVE ECONOMIC SECTOR

Productive economic sector rehabilitation and reconstruction included activities in the cooperative, home industry, small-medium scale enterprise (SME's) sub sector; food crop agricultural sub sector; oceanography and fishery sub sector; and, husbandry and plantation sub sector. All these activities were implemented by related Services at the West Sumatra Provincial Government and assisted by the respective Service of related districts.

Cooperative, Industry, and Small-Medium Scale Enterprise Sub Sector

The enhancement of people empowerment for economic improvement post-earthquake of 30 September 2009 consisted of several activities involved;

1. SME's (Small Medium Enterprises) Working Soft Loan Assistance
   SME capital assistance activity was carried out in 7 (seven) districts with the total recipients of 2,000 UKM and the total grant of IDR 2.5 million per SME. The total grant channeled was IDR 5 billion. The transfer of fund based on Head of District/mayor decree was channeled through every individual SME group consisting of 15 to 50 members.
2. Construction of Market and Temporary Business (Market/Work) Place.
   Construction of temporary business place or rehabilitation and reconstruction of heavily and moderately damaged market places covered 20 locations in 8 districts. The construction work was implemented based on contractual procedure and cost IDR 3,566,434,000.-



3. Work Place, Capital and Equipments for Small and Medium Scale Industry (UKM).

The assistance to UKM which was carried out covered 536 UKM in 3 districts; Padang city, Pariaman city, and Padang Pariaman district with 5 types of industrial areas, such as:

- Clothing (apparel, shoe, etc)
- Food (bread and light food stuffs, etc)
- Chemical industry and construction material (brick, household appliances)
- Metal industry (workshops, agriculture machinery equipments)
- Handicraft industry (embroidery, souvenirs, and so on)

The breakdown of grant fund assistance to SME's is shown in **Table 3.14**. The plan and realization assistance to SME's seed capital grant fund is presented in **Table 3.15**. The market and temporary work place construction is shown in **Table 3.16**

Table 3.14
SME Capital Grant Fund

No	City/District	Total UKM	Total of Working Group	Total Aid (IDR)
1	Padang City	500 UKM	16	1.250.000.000
2	Padang Pariaman District	500 UKM	17	1.250.000.000
3	Pariaman City	100 UKM	3	250.000.000
4	Pesisir Selatan District	300 UKM	11	750.000.000
5	Pasaman Barat District	200 UKM	5	500.000.000
6	Pasaman District	100 UKM	3	250.000.000
7	Agam District	300 UKM	6	750.000.000
	Total	**2.000 UKM**	**61**	**5.000.000.000**

Table 3.15
Planned and Actual Expend of SME Capital Grant Fund

No.	City/District	Industry Sector	Number Planned for Business Unit	Budget Planned (IDR)	Realization of Number Business Unit	Aid Realization (IDR)
1	Padang City	Clothing	15	38.250.000	15	38.250.000
		Food	25	63.750.000	25	63.750.000
		Metal	20	80.000.000	7	28.000.000
		Building Materials	83	269.750.000	83	269.750.000
		Craft	27	98.550.000	27	98.550.000
	Total		**170**	**550.000.000**	**157**	**498.300.000**
2	Padang Pariaman District	Clothing	39	99.450.000	21	53.550.000
		Food	46	117.300.000	14	35.700.000
		Metal	23	92.000.000	16	64.000.000
		Building Materials	26	84.500.000	26	84.500.000
		Craft	48	175.200.000	48	175.200.000
	Total		**182**	**568.450.000**	**125**	**412.950.000**
3	Pariaman City	Clothing	35	89.250.000	34	86.700.000
		Food	49	124.950.000	48	122.400.000
		Metal	25	100.000.000	25	100.000.000
		Building Materials	30	97.500.000	28	91.000.000
		Craft	45	164.250.000	32	116.800.000
	Total		**184**	**575.950.000**	**167**	**516.900.000**
	Grand Total			**1.694.000.000**		**1.428.150.000**

Table 3.16
Construction of Markets and Temporary Business Places

No	City/District/Sub-District	Total	Allocated Fund (IDR)
1	**Padang City**		
	Pasar Tanah Kongsi	1 package	203.307.000
	Pasar Alai	1 package	178.196.000
	Pasar Simpang Haru	1 package	172.458.000
2	**Pariaman City**		
	Pasar Kurai Taji	1 package	199.414.000
	Pasar Produksi – Jati Mudik	1 package	199.475.000
3	**Padang Pariaman District**		
	Pasar Nagari Padang Alai	1 package	176.550.000
	Pasar Nagari Campago	1 package	179.730.000
	Pasar Nagari Sei Limau	1 package	168.920.000
4	**Pesisir Selatan District**		
	Pasar Lumpo	1 package	167.000.000
	Pasar Kambang	1 package	168.127.000
	Pasar Minggu Pulai	1 package	167.500.000
5	**Pasaman Barat District**		
	Balai Goro Nagari Sasak	1 package	177.630.000
	Pasar Durian Kilangan	1 package	203.882.000
6	**Agam District**		
	Pasar Bawan Jr Pasar Nagari Bawan	1 package	172.750.000
	Pasar Malalak Jr Cimpago Nagari Malalak	1 package	172.302.000
7	**Pasaman District**		
	Pasar Ladang Panjang	1 package	167.998.000
	Pasar Cubadak	1 package	173.168.000
	Pasar Lama	1 package	161.902.000
8	**Solok District**		
	Pasar Nagari Guguk	1 package	180.568.000
	Los Pasar Bukik Sileh Nagari Salayo	1 package	175.557.000
	Total		**3.566.434.000**

Agriculture and Food Crop Sub Sector

The rehabilitation and reconstruction of Food Crop Agriculture Sub Sector were carried out in 6 districts comprising:

- Rehabilitation of irrigation network totaling 7,460 ha.
- Fertilizer and plant seed, consisting of urea (organic) fertilizer totaling 1,545,000 tons, NPK totaling 1,30,000 tons, SP-18 totaling 515,000 tons, and plant seed totaling 206,000 kg.

The fund allocated by the government for the rehabilitation and reconstruction of irrigation network totaling IDR 8,000,000,000.-, fertilizer provision for IDR 18,673,607,000.- and plant seed aid for IDR 1,360,142,000.- Provision (procurement) of fertilizer and plant seeds were carried out by contracting out through the third party, meanwhile for the rehabilitation and reconstruction of irrigation network it was done through self-help scheme by the farmer group (association). The detailed food crop agriculture sub sector aid is shown in **Table 3.17.**

Table 3.17
Aid Sub Sector of Agriculture and Food Crop

No.	City/District	Area (Ha)	Number of Seed (kg)	Number of Fertilizer Aid			Rehabilitation Irrigation Area (Ha)
				Urea (Ton)	NPK (Ton)	SP-18 (Ton)	
1	Padang Pariaman District	6.240	124.000	938.000	624.000	312.000	3.345 Ha
2	Pasaman Barat District	535	10.700	80.250	53.500	26.750	800 Ha
3	Agam District	1.400	28.000	210.000	140.000	70.000	800 Ha
4	Pesisir Selatan District	505	10.100	75.750	50.500	25.250	1.000 Ha
5	Pariaman City	910	18.200	136.500	91.000	45.500	200 Ha
6	Padang City	710	14.200	106.500	71.000	35.500	1.315 Ha
	Total	**10.300**	**206.000**	**1.545.000**	**1.030.000**	**515.000**	**7.460 Ha**

Oceanographic and Fishery Sub Sector

The earthquake of 30 September 2009 also impacted on fishery sub sector, i.e. damages to the hatchery facilities, especially the buildings and laboratory facility in UPTD Central Fishery Hatchery Filed Unit (BBIS) in Padang Pariaman district and UPTD Laboratorium Center for the Management and Quality Control of Fishery Product (BLPPMHP), and

badly affected fishery hatchery supply. Thus, a number of activities were carried out to re-optimize the function of those two institutions and direct financial assistance for the affected community (through BLM or stimulus fund) on marine and fishery sub sectors. The total budget allocated for the oceanography and fishery sub sectors was IDR 2,163,500,000.-, with IDR 1,904.181,00 of which was disbursed. The detailed types and distribution of the sub sectors are presented in **Table 3.18** and **Table 3.19**

Table 3.18
Types of assistance for Marine and Fishery Sub Sector

No	Description of Activities	Unit	Number of Aid	Value (IDR)
1	Rehabilitation of Fish Breeding Center (BBI) Sicincin:			
	a) BBI Rehabilitation & Implementation	Package	1	749.189.000
	b) Planning (DED)	Package	1	41.290.000
	c) Supervision	Package	1	26.647.000
2	Fish Food and Seed Procurement			893.568.000
	a) Fish Food	Kg	39.170	
	b) Nila and Mas Fish Seed		147.500	
	c) Gurame Fish Seed		151.000	
3	Procurement of Fish Food, brood of fish and Seed		1.200	44.602.000
4	Freezer Procurement	Unit	9	89.595.000
5	Laboratorium Equipment Procurement	Unit	1	49.720.000
	One Unit of Computer Procurement	Unit	1	9.570.000
	Total Amount			**1.904.181.000**

Table 3.19

Aid distribution of Marine and Fishery Sub Sector

No	Districts	Rehabilitation of Fish Breeding Center (BBI)	Procurement for Seed and Fish Food	Procurement of Freezer	Procurement for Brood of Carp Fish	Procurement of Laboratory Equipment
1	Agam District	-	Mas seed 250 Kg, Pellet 320 Kg	2 unit	-	
2	Padang Pariaman District	1 unit	Packet 1 : Nila seed 1000 fish, Pellet 80 kg, Number of Beneficiary 125 people Packet 2 : Carp seed 1000 fish, Fish food 80 kg Number of Beneficiary 151 people Packet 3 : Brood of Gurame 30 kg, Pellet 75 Kg Number of Beneficiary 40 people	1 unit	1,200 fish	
3	Padang City	-	Nila seed : 2,000 fish Number of Beneficiary 46 people	3 unit	-	1 packet and 1 unit Computer
4	Pesisir Selatan District	-	Nila seed: 1,750 fish Fish food : 130 Kg Number of Beneficiary 7 people	-	-	
5	Pasaman Barat District	-	Lele seed : 15,000 fish Fish food : 600 kg Number of Beneficiary 1 UPR	2 unit	-	
6	Pariaman City	-	-	1 unit	-	

Husbandry Sub Sector

The husbandry sub sector was implemented in 6 districts (Kabupaten/ Kota) with allotted fund of IDR 1,180,500,000. The target of this activity was the cattle breeders whose barns (domestic animal enclosures) were damaged by the 30 September earthquake, consisting of various animals (poultry and husbandry), such cattle barns, goat/sheep barns, meat-producing chicken cages, egg-producing chicken dens, wild chicken enclosure, and there were many more.

The distribution of fund for barns/dens was made through Pokmas (Community Group) account, meanwhile for the provision of equipments, medication and artificial insemination were carried out contractually through the third party. The Husbandry sub sector distribution is shown in **Table 3.20.**

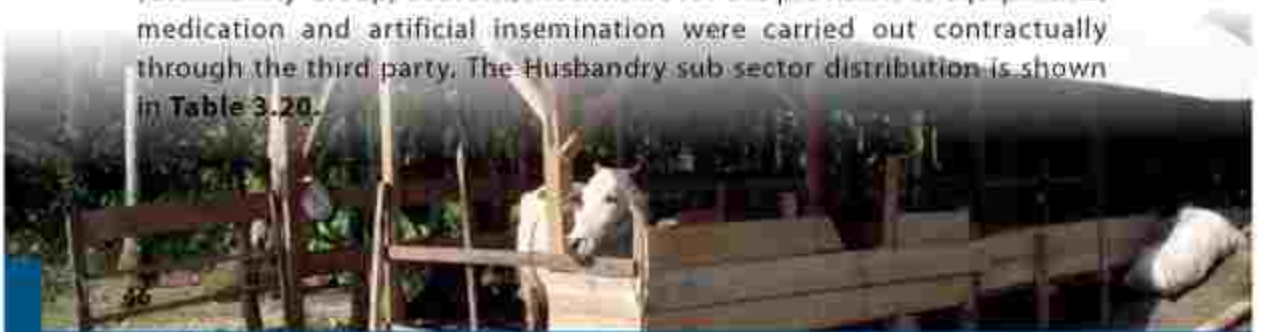


Table 3.20
Aid Distribution of Husbandry Sub Sector

No	Districts	Procurement of Animal Health Equipment	Procurement of Animal Medicine	Procurement of Insemination Equipment	Rehabilitation of Cattle Pen (486 Unit)
1	District of Agam	10 unit	10 packet	10 packet	6 Beneficiary groups 55 breeder with 55 unit IDR 825.000.000
2	District of Padang Pariaman				12 Beneficiary groups 54 breeder with 90 unit IDR 90.200.000
3	City of Padang				12 Beneficiary groups 117 breeder with 16 unit IDR 117.700.000
4	District of Pesisir Selatan				26 Beneficiary groups 318 breeder with 317 unit IDR 396.200.000
5	District of Pariaman Utara				3 Beneficiary groups 42 breeder with 47 unit IDR 60.400.000
6	City of Pariaman				3 Beneficiary groups 31 breeder with 8 unit IDR 41.900.000
7	District of Pasaman				-
8	District of Solok				-
9	District of Tanah Datar				-
Amount of Contract		IDR 46.255.500	IDR 47.755.000	IDR 88.500.000	Realization IDR 813.000.000

Plantation Sub Sector

The activity in the implementation of rehabilitation and reconstruction for the plantation sub sector was allotted fund of IDR 225,000,000.- where the fund was used to rehabilitate building of UPTD Balai Pengawasan dan Pengujian Mutu Benih (BP2MB) in Kecamatan Naggalo and rehabilitation of building UPTD Balai Perlindungan Tanaman (BPT). Aid distribution for the plantation sub sector activity is shown in **Table 3.21.**

Table 3.21
Aid Distribution of Plantation Sub Sector

No	Description of Activities	Unit	Number of Aid	Value of Aid (IDR)
1	Maintenance Cost			7.850.000
2	Packet A Maintenance and Rehabilitation of UPTD Building BP2MB	Packet	1	80.500.000
3	Procurement of Consulting Services Planner Consultant for Rehabilitation of UPTD Building Supervision Consultant	Packet Packet	1 1	7.500.000 7.200.000
4	Packet B Maintenance and Rehabilitation of BPT	Packet	1	80.000.000
5	Procurement of Consulting Services Planner Consultant for Rehabilitation of UPTD Building Supervision Consultant	Packet Packet	1 1	2.800.000 2.200.000
6	Procurement of Plantation Laboratory Equipment	Packet	1	49.950.000
	Total Amount			225.000.000

THE CONTRIBUTIONS OF INTERNATIONAL AGENCIES AND NON-GOVERNMENT ORGANIZATIONS

As stipulated in Law No. 24 Year 2007 on Disaster Mitigation and Government Regulation (PP) No. 23 Year 2008 on International and Non-Government Agencies/ Institution Participation in Disaster Management, international institutions and NGOs could also participate and assist the government and the people of Indonesia in disaster mitigation efforts.

Responding to the post-earthquake West Sumatra on September 30th, 2009, local and international NGOs, community-based organizations, and UN agencies carried out emergency response operation, early recovery and rehabilitation and reconstruction to support the humanitarian and development efforts undertaken by the government. The involvement of the international institutions and NGOs during the emergency response was coordinated by the UN Office for the Coordination of Humanitarian Affairs (UNOCHA). UNOCHA continued its coordination facilitation in early recovery phase and implemented preliminary rehabilitation and reconstruction in January-April 2010; subsequently it was continued by the United Nations Office for the Humanitarian/Resident Coordinator (UNRC/HC) from May 2010 to March 2011.

In the effort to ensure predictability and accountability of the above response, IASC (Inter Agencies Standing Committee) a Cluster Leadership Approach was applied to coordinate humanitarian activities post disaster in West Sumatra starting from 1 October 2009. IASC Approach which was coordinated by UNOCHA was conducted to facilitate the establishment of the following clusters adjusted to the needs of 2009 West Sumatra post-earthquake:

1. Cluster Early Recovery is a cluster that coordinates humanitarian agencies working closely with the government institutions (Bappeda/Planning Development Board and related Government office units) in a number of early recovery initiatives, such as revitalization of basic services and government institutions capacity, management of solid waste disposal and rubber clearance due

to earthquake, and mechanism that supports post-quake recovery and long term construction; Early Recovery Cluster which was coordinated by the UNDP together with West Sumatra Provincial Bappeda is responsible for.

a. Providing support for transitional phase of emergency response to long term development post-quake;
b. Providing support to post-quake need assessment, consisting of damage and loss assessment, and need assessment of human need recovery;
c. Providing support to related government institutions with respect to coordination and monitoring of recovery plans and its implementation;

d. Monitoring the related needs and sources with early recovery sectors;
e. Ensuring that gender issues and needs of vulnerable community members to be included in the early recovery programs;
f. Establishing working groups, if needed, to facilitate specific coordination of early recovery activities, such as waste disposal management, support for the revitalization of functions of government institutions, permanent housing, and also intervention in the people economic areas;
g. Developing and updating the matrix on Who Does What and Where
h. Developing and updating matrix containing sources and total fund that has been allocated for early recovery;
i. Implementing close coordination with Shelter and Agricultural Cluster to ensure good coordination of cross-sectored issues, at the same time ensuring the promotion of collaboration among the stakeholders;
j. Ensuring that the cross-sectored topics such as gender, environment, and risk mitigation have been included in the existing recovery studies and plans;

k. Providing guideline if requested for the organizations to review proposals related to early recovery;

The list of the organizations participating in the cluster early recovery can be seen in **Table 3.22.**

Table 3.22
Participating Organizations in Early Recovery Cluster

No.	Organization Name	No.	Organization Name	No.	Organization Name
1	Aceh People Forum	27	DIPERTA SUMBAR	53	People in Need
2	Applicator Smartruss	28	DKP SUMBAR	54	Plan International
3	AUSAID	29	Food for hungry	55	PMI
4	Bank Indonesia	30	FAO	56	PUBLIC WORKS
5	BAPEDALDA PROVINCE	31	Gen Cap - IASC	57	Pusaka Padang
6	BAPPEDA KOTA PADANG	32	GTZ	58	PKPU
7	BAPPEDA PARIAMAN	33	GTZ-LS Gitews	59	Q-Bar
8	BAPPEDA PROVINCE	34	GTZ-TSU	60	Relief International
9	BLI	35	HI	61	Save The Children
10	Build Change	36	HNOSIA LLIANCE	62	Shelter Cluster
11	CACH	37	IBU Foundation	63	SLA
12	CARE	38	IFRC /Shelter Cluster	64	SurfAid
13	CARE Canada	39	ISLAMIC RELIEF	65	TDH-Italy
14	Caritas/Karina	40	Island Aid	66	THW Germany
15	CHF International	41	Japanesse Red Cros	67	TPT-BNPB
16	Cipta Fondasi Komunitas	42	Japanesse Red Cros	68	UN HABITAT
17	Consultant to GTZ	43	JICA	69	UNFPA
18	Cordaid	44	KANWIL BPN SUMBAR	70	UNDP
19	CRWRC/GenAssist	45	KOGAMI	71	UNDP - SCDRR
20	Care-Germany	46	KPMM	72	UNOCHA
21	Dinas Dikpora SUMBAR	47	LP2M	73	USAID
22	DINAS KEHUTANAN PROVINSI	48	Malteser International	74	VFM Charities/ KNW Global
23	Dinas Koperindag SUMBAR	49	MED AIR INTERNATIONAL	75	WHO
24	Dinas Prasjal dan Tarkim	50	Menko Kesra/REPS Swiss Team	76	World Vision
25	DISNAKERTRANS PROVINCE	51	Mercy Corps	77	WSF
26	Dinas PSDA	52	Patamuan Institute		

2. Cluster Shelter is a cluster which coordinates humanitarian agencies in providing temporary or permanent shelters and housings for the earthquake victims during the periods of emergency response, early recovery, and rehabilitation and reconstruction. The members of Cluster Shelter under the coordination of IFRC can be seen in **Table 3.23.**
3. Cluster Agriculture and Livelihood is a cluster which coordinates humanitarian agencies which serve to provide and promote the livelihood of victims of the 2009 earthquake. The government has allocated IDR 7,7 billion to create labors in productive economic sectors. The livelihood cluster is coordinated by FAO and UNDP whose members are listed in **Table 3.24.**

4. Cluster Food and Nutrition Cluster is a cluster coordinating the distribution of food and nutrition aid to the people affected from the earthquake during the emergency response period. The members of cluster Food and Nutrition can be seen in **Table 3.25.** The Food and Nutrition Cluster stopped operating in December 2009 when the humanitarian agencies had ended the food distribution to the communities. This cluster was jointly coordinated by WFP and UNICEF.

Table 3.23
Participating Organizations in Shelter Cluster

No.	Organizations Name	No.	Organizations Name	No.	Organizations Name
1	Aceh People's Form	30	Islamic Aid	59	Swiss Red Cross
2	Action Against Hunger	31	IASC	60	Palang Merah Indonesia
3	Aksi Cepat Tanggap	32	Ibu Foundation	61	Peace winds Japan
4	ACTED	33	IOM	62	Relief International
5	ADRA	34	IRD	63	Ranah Minang Peduli
6	AECID	35	Islamic Relief International	64	Salvation Army
7	AMAN	36	IFRC	65	Lumbung Derma
8	Australian Red Cross	37	Japan Emergency (JEN)	66	Sucofindo Padang
9	RAD	38	JICA Team	67	Shanti Volunteer Association
10	Australian Aid International	39	Komunitas Siaga Tsunami	68	Swiss Labour Assistance
11	Build Change	40	KPMM	69	Smart Shelter Foundation
12	Caritas/Karina	41	Klinik Konstruksi UNAND	70	Save The Children
13	Caritas Switzerland	42	Muslim Aid	71	Surfaid International
14	Care	43	Matteier International	72	SVA
15	Cipta Fondasi Komunitas	44	Mercy Corps	73	TPT - BNPB
16	CHF	45	Mennonite Dialonia Service	74	TDH Netherlands
17	CordAid	46	Medair International	75	Trocaire
18	Catholic Relief Services	47	Mercy USA	76	UNOCHA
19	Church World Service	48	Mitra Peduli	77	UNDP
20	Dompet Dhuafa Indonesia	49	NICCO JAPAN	78	UNFPA
21	Danish Red Cross	50	Oxfam	79	World Relief
22	Emergency Architects	51	Radnia Indonesia	80	World Vision
23	GenAssist/CRWRC	52	PBHI Sumbar	81	Yayasan Dian Desa
24	GTZ	53	People in Need	82	YEH Sumbar
25	Habitat For Humanity	54	Kementrian PU	83	Yayasan Kanaivalu
26	HELP	55	PKBI Sumbar	84	YTBI
27	Handicap International	56	PKPU	85	Rebana Indonesia
28	HOPE	57	PLAN Internasional		
29	Hope Worldwide	58	PMI		

5. Cluster Health is a cluster that coordinates humanitarian agencies engaging in health area during the emergency response phase, early recovery, rehabilitation and reconstruction. This cluster coordinated by WHO and West Sumatra Provincial Health Office was assigned to overcome the priority problems in public health such as health facility need assessment, particularly for those injured needing physical rehabilitation, roving health service, control of communicable diseases, early warning, supervision and care on vulnerable groups including reproductive health sector, psychosocial, mental health, water and sanitation, waste management at public health facilities, nutrition and health services for the earthquake survivors.

Table 3.24
Participating Organizations in Cluster Agriculture and Livelihood

No.	Organizations Name	No.	Organizations Name	No.	Organizations Name
1	ACF	13	Dinas Pertanian Provinsi	25	Pertani Persero
2	Aceh People Forum	14	Dinas Peternakan	26	Q-Bar
3	Action Against Hunger	15	Dinas Transmigrasi	27	Relief International
4	Bina Swadaya	16	FAO	28	UNDP
5	CRS	17	ILO	29	UNOCHA
6	Dinas Kehutanan	18	Indonesia Peasant Union	30	Sang Hyang Seri Persero
7	Dinas Kelautan & Perikanan	19	IPPA Sumatra	31	Sucofindo Persero
8	Dinas Ketahanan Pangan	20	LP3M	32	Serikat Petani Indonesia
9	Dinas Pengairan	21	Mercy Corps	33	Universitas Andalas
10	Dinas PSDA	22	Mercy USA	34	World Vision Indonesia
11	Dinas Perhubungan	23	Minnesotan Military (MMAF)	35	World Food Program (WFP)
12	Dinas Pertanian Pdg Pariaman	24	Pataminan Institute		

Cluster Health is divided into five sub clusters consisting of: 1) immunization and early warning system and response; 2) psychosocial and mental health; 3) roving clinics, monitoring and rehabilitating the injured; 4) reproductive health, mother health, child health, and nutrition; 5) service facility and environmental health. The main tasks of Cluster Health are as follows:

a. Conducting coordination meeting by prioritizing on needs and prevention of imbalances/disparity with respect to the health program implementation as well as the allocation of health resources;
b. Mobilizing (Delivering) health resources through coordination of health posts preparation in the province as well as in the quake-affected in the districts (Kabupaten/Kota), replacing health service for heavily damaged hospital and health services directly to the people, providing roving health

service, and conducting rapid assessment on the need for health facilities and service operation in quake-affected districts (Kabupaten/Kota);

Table 3.25.
Participating Organizations in Cluster Food and Nutrition

No.	Organizations Name	No.	Organizations Name	No.	Organizations Name
1	Association for Aid and Relief	9	International Medical Corps	17	PMI
2	Action Contre La Faim	10	Islamic Relief	18	Save The Children
3	Ausaid	11	LP2M	19	Shelter Box
4	BNPB	12	Medicine Sans Frontier	20	UNICEF
5	CWS	13	Mercy Corps	21	UNOCHA
6	Dinas Ketahanan Pangan	14	Oxfam	22	World Food Program
7	Holiana Swiss Interchurh Aid	15	People in Need Czech Republik	23	World Vision Indonesia
8	IFRC	16	Putaka	24	Yayasan Pondok Indah

c. Ensuring that the health service provided by the field hospital is integrated with the roving health service and provision of medical supplies and health (medical) equipments for emergency response for health facilities and hospitals;
d. Strengthening the functions of health information center for emergency response by analyzing data and information and disseminating it to all partners and Health Service for recovery, rehabilitation and reconstruction programs;
e. Establishing health supply warehouses for emergency response;
f. Providing support on nutrition need assessment for vulnerable groups children, and women through the cooperation (collaboration) with Sub Cluster Nutrition and Reproductive Health, Mothers and Children and Cluster Food and Nutrition;
g. Applying reproductive health service package in emergency response situation;
h. Sub Cluster Psychosocial and Mental Health provide services for traumatic survivors, establishing trauma service centers and counseling, conducting advocacy and education and psychological training and counseling on trauma for the health workers;
i. Providing training for paramedics and partner organizers on rapid assessment on emergency response needs and operations

The participating organizations on Cluster Health are presented in **Table 3.26.**

6. Cluster Protection is a cluster that coordinates humanitarian agencies that give protection services for children during emergency response phase. The Pilot Project is coordinated by UNFPA together with the Provincial Social Office. Cluster Protection is divided into several sub-clusters, namely child protection and gender mainstreaming, and protection for older people and disabled persons
7. Cluster Education is cluster that coordinates humanitarian agencies working in educational area. This Cluster was jointly managed with UNICEF, Save the Children, and West Sumatra Provincial Education Office was responsible for:
   a. Supporting the provincial and districts government to provide temporary school and ensuring that the affected student (about 100,000 student) could cope with their study in a safe and protected environment;
   b. Ensuring that about 90,000 children have access to learning materials through distribution of school lesson packages;
   c. Facilitating physical (sport) education, recreational, and stress counseling to 40,000 children through the distribution of materials and recreational and sport materials;
   d. Strengthening coordination and information management in the cluster through partnership scheme activity with the provincial education office and the districts levels;
   e. Integrating disaster risk reduction and disaster management into the school system through trainings given to 1,000 educational personnel and teachers on risk and disaster reduction at present and in the future;
   f. Enhancing the knowledge on the role of the educational sector in disaster management, from the emergency response to early recovery process;
   g. Collaborating with the other clusters a such as Cluster Protection to obtain psychosocial support and Cluster WASH to provide water and sanitation facilities in schools;

   The members of cluster education consisted of Plan International Hope Worldwide, Handicap International, UNESCO, ADRA, Action Aid, IDEP, Mercy Corps, and other international and local agencies.
8. Cluster Logistics is a cluster that coordinates logistical services for humanitarian activities and is lead by WFP and IOM. Members of cluster logistics were not as many as other clusters. Beside, by these two organizations, this cluster was also followed by IMC (International Medical Corps) and ACF (Action Contre la Faim).

Table 3.26.
Participating Organizations in Cluster Health

No.	Organizations Name	Organizations Name	Organizations Name
1	ACF	45 Helping Hand Foundation)	89 Peace Winds Japan
2	Al-Hilal Indonesia	46 Habitat for Humanity	90 People in Need
3	Action AID	47 Handicap International	91 Persatuan Islamyat Indonesia
4	Ada Indonesia	48 HCI	92 PLAN International
5	ADRC - Japan	49 HELP e.V.	93 Qatar Charity
6	Aides Actions Hol Pologne	50 Hollyweek Austria	94 Rapid UK
7	AMDA Indonesia	51 HIVOS Netherland	95 Rescue Net International
8	Americares Foundation	52 HK Logistics	96 Russian Army
9	International Medical Assistance	53 HOPE Indonesia	97 SAMAID (United Kingdom)
10	AMURT	54 Hungary SAR	98 Secours Islam Ipsa France
11	APPUK (France)	55 Ibu Foundation & Galapagos	99 Shelter Box
12	Arbeit Nippa	56 IFRC	100 Solidarites International
13	Aid Fondation Portugal	57 Humanitarian Aid & Relief-Turkey	101 Spanish Agency for Intl Cooperation
14	ASSA - MALAYSIA (medical	58 Israel Hilfe	102 Surbaya Holding Limited
15	ASB Deutschland/Germany	59 INSARAG - Swiss	103 Terre des Hommes - Germany
16	Australia Inc. AusAID & EMA	60 Internetz Germany	104 TIKA - Germany
17	Australian Defence Force	61 International Medical Corps	105 Triest Aid
18	Australian MILITARY	62 IOM	106 Triocare
19	Aiwo International	63 Islamic Relief	107 Troppodoc
20	British Red Cross	64 Island AID	108 UAE (Abu Dhabi)
21	Rescue Team Mexican Relief	65 Japan Army force	109 UNDP
22	Buddha Tzu Chi	66 Japan Rescue Association	110 UNESCO
23	CAFOD UK	67 JICA	111 UNFPA
24	Canadian Red Cross	68 Khammer Intl Assistance	112 UNICEF
25	Caritas Switzerland	69 KNH - Kinder not hilfe	113 United Kingdom - DFID
26	Catholic Relief Services	70 Korea INRS	114 USAID
27	CDRM & CDS HKBP Nommensen	71 Pedoli Rangsa	115 United States Gov't, USAID
28	Church World Service (CWS)	72 Lutheran World Relief	116 UNOCHA
29	Deniz Feneri / Turkey	73 Mahkota Medical Centre Hospital	117 US Air Force Field Hospital
30	Dompet Dhuafa Australia	74 Mahkota International Services	118 US MILITARY (Civil Affairs)
31	Dompet Dhuafa Hongkong	75 Map Action	119 USAR (Australia - QLD TF1)
32	DOMPET DHUAFA Indonesia	76 Medecins du Monde	120 Victory Love Mission
33	ECHO-European Commission	77 Mercy Corps	121 VIM Charities/RHW Indonesia
34	Emergency Architects	78 Mercy Malaysia	122 WHO
35	FAO	79 Mercy Relief Singapore	123 World Bank
36	Food for the Hungry (FH)	80 MSF Belgium	124 World Food Programme
37	France (RESAD)	81 MSF Spain	125 World Vision Hongkong
38	French Army	82 MTI (Medical Team International)	126 World Vision Indonesia
39	French Red Cross	83 Muhammadiyah	127 WSPA
40	GEA SAR Turkey	84 Muslim Aid	128 Yakkum Emergency Unit
41	Global Medic	85 NICCO Japan	129 Ya-PeKA HKBP
42	Government of Canada	86 OPPUK	130 Yayasan Sheik Eid Al-Thani - Qatar
43	GSCF France	87 Organizations of Islamic Countries	131 Yayasan Tunas Baru
44	GTZ	88 Oxfam GB	132 YMCA

Cluster Logistics carried out the following activities:

a. Logistical coordination and information management through routine coordination meeting;
b. Transportation of logistic support through a collaboration with IOM;
c. Facilitating logistic support storage through six storage tents that were especially provided for humanitarian activities;
d. Providing forklifts equipment for storage facility at military and civil airport, and the existing storage tents;

9. Cluster WASH (Water, Sanitation and Hygiene) is a cluster that coordinates humanitarian agencies engaging in catering for water supply service and hygienic needs. This cluster that is led by UNICEF has the following tasks:
   a. Ensuring involvement of various stakeholders in the water supply, sanitation, and hygiene programs;
   b. Preparing and maintaining coordination mechanism in humanitarian activities;
   c. Ensuring the fulfillment of water, sanitation and hygienic needs and other basic services for the vulnerable groups, including group with different capability;
   d. Ensuring commitment for humanitarian agencies in responding to the needs and gaps and ensuring the distribution of responsibility and resources from all members of Cluster WASH;
   e. Ensuring harmonious humanitarian activities among the members of Cluster WASH;
   f. Promoting the share of information and transparency in program activities;
   g. Promoting emergency response activities by taking into consideration the need for early recovery planning and prevention and future risk mitigation;
   h. Ensuring effective coordination with other cluster members and government institutions;
   i. Ensuring that the coordination mechanism of clusters become active and could be adopted by local capacity and development partners.

   The participating organizations in this cluster are shown in **Table 3.27.**

10. Cluster Emergency Telecommunication is a cluster that coordinates the activities of humanitarian agencies in telecommunication for emergency response phase. Cluster Emergency Telecommunication that is led by WFP has its members only WFP and TSF (Telecom Sans Frontiers). They worked for:

Table 3.27.
Participating Organizations in Cluster WASH/Water and Sanitation and Hygiene

No.	Organizations Name	No.	Organizations Name	No.	Organizations Name
1	Action Against Hunger	23	HELP	45	Posko Air Bersih
2	Allied Recovery International	24	Ibu Foundation	46	PMI
3	American Red Cross	25	IFRC	47	Plan International
4	Arche Nova	26	IMD	48	PMI
5	As Salam International	27	Indonesian Peasants Union	49	Posko Air Bersih Prop Sumbar
6	Australian Aid International	28	INOWA	50	PAM Lyonnaise Jaya/Palyja
7	AMUNDO	29	IFRC	51	Relief International
8	Bappeda Prov. Sumbar	30	IOM	52	Save the children
9	Care	31	Insad	53	Sheep Indonesia
10	CBDRM-NU	32	Islamic Relief	54	Spanish Red Cross
11	CFK	33	JASF	55	Swiss Red Cross
12	Christian Aid	34	JEN Indonesia	56	Thedeans du Monde
13	Church World Service	35	LPPM	57	United Nations Children Fund
14	Cipta Foundation	36	Lutheran world relief	58	UNOCHA
15	Cipta Karya Departemen PU	37	Mercy Corps	59	Unicef
16	Depkuh/Dirjen PPL	38	Malteser	60	Water Missions International
17	DFID	39	Oxfam	61	World Bank
18	Dinas Pendidikan Propinsi	40	PBHI Sumbar	62	World Health Organization
19	DKP	41	PDAM Agam	63	World Vision
20	Emergency Architects	42	PDAM Padang	64	Wahana Visi Indoensia
21	EMI	43	PDAM Pariaman	65	Y. Shimbun
22	Hivos Netherland	44	PDAM Pasaman Barat	66	Yayasan Dian Desa

a. Establishing communication center in Padang;
b. Establishing VHF Radio Network in Padang and City of Pariaman;
c. Conducting radio training for central communication staff and other humanitarian workers;
d. Implementing Radio Standard Operation procedure

Cluster-leader organizations represented its members in the discussions coordinated by UN agency for humanitarian affairs and government officials and other stakeholders in the preparation of program priority, resources mobilization and advocacy.

Each of the above respective clusters carried out data gathering and data analysis and information to identify the needs, gaps, and resources appropriate to meet the above needs. To facilitate information dissemination activities, each cluster managed website using Google groups and mailing list that were very

useful in mapping the needs and resources (3W-who doing what and where) carried out by UN OCHA.

At the end of December 2009, the humanitarian activities in West Sumatra were gradually slowing down. This was marked with many humanitarian activities coming to an end, the closing of international humanitarian agency offices and foreign non-government institutions, and ending a large portion of most active clusters in West Sumatra. The actors of humanitarian activities carried out transition in stages from emergency response activities to become early recovery. The office of UN for Humanitarian Affairs Coordination or UNOCHA carried out the functions of coordination facilitation between the government and clusters, inter active clusters, some of which were Cluster Early Recovery, Shelter, Health, Education, Protection for Gender Mainstreaming, and Water, sanitation and Hygiene. The transitory activities of each cluster from emergency response to early recovery were marked by stronger role of advocacy of each cluster in giving inputs that affected the policy and rehabilitation and reconstruction action plan implementation technical guidance by the Government of Indonesia.
Advocacy on cross-sectored issues such as gender, environment, and disaster risk reduction was the common issue raised in the cluster coordination meetings jointly led by respective cluster led organizations and the government from several related agencies. This transitional process was also marked by the increase of government active role represented by Rehabilitation and Reconstruction TPT (Technical Support Team) from the BNPB. The RR TPT gradually took over the recovery coordination function in accordance with the mandate from the government in disaster management. General coordination meeting attended by all members of active clusters was led jointly by RR TPT and UNOCHA for the period January to April 2010.

During this period, each respective organization cluster leader was responsible for operations, effectiveness and efficiency of the cluster under its leadership. OCHA as a coordinator among clusters was responsible for ensuring harmonious relations among clusters in order that the cross-sectored needs and gaps could be fulfilled through coordination, cooperation and collaboration of resources among the clusters.

To facilitate coordination, every local and international institution/NGOs must register their participation in the rehabilitation and reconstruction activities to the government by submitting the proposal of work program and activity during their program and stay in West Sumatra by filling out Agency Profile Form. After the data completion through circulation of the form, it was obtained 75 institutions which registered their organizations and activities in West Sumatra where 54 of which were international institutions and international NGOs and the remaining were local institutions in Indonesia. The list of international institutions and NGO members is given in **Table 3.42.**

As the early recovery phase ended and commencement of 2009 post-earthquake rehabilitation and reconstruction phase began, the number of institutions and NGO, both local as well as international ones, had completed their missions in West Sumatra, the coordination with in-country cluster approach continued with Working Group approach. This approach was coordinated by UNRC/HC through Early Recovery Network with objective to: 1) facilitate the government and Local as well as international NGOs in coordinating the post-earthquake recovery activities; 2) facilitate empowerment of government capacity, particularly the provincial and districts BPBD and information sharing (exchange) for the disaster preparedness; 3) advocate the donor countries, ministries, government agencies on the needs and gaps to prevent overlapping activities through mobilization of resources and policy adjustment:
The Work Groups formed were:

1. *Housing and Temporary Shelter;*
2. *Agriculture and Livelihood;*
3. *Education;*
4. *Health;*
5. *WASH/Water, Sanitation and Hygiene;*
6. *Governance and Infrastructure;*
7. *Gender and Environment;*
8. *Disaster Risk Reduction;*
9. *IDP/Internal Displacement People and Relocation*

In the effort to manage the needs in the field, ERN (Early Recovery Network) team facilitated the establishment of new Work Group, i.e. DRR and IDP. These working groups were formed to build local capacity in DRR, to assist formulation of work

plan and framework to manage the needs of displaced people in Agam district (sub district of Tanjung Raya and Malalak) and Padang Pariaman district.

2010 Early Recovery Network (ERN) Activity

ERN Team has three mandates in supporting West Sumatra recovery such as: Coordination, Capacity Development, and Advocacy. These mandates were implemented in the following activities:

1. Coordination

In supporting the government, non-government organizations or donor institutions as well as representatives of the beneficiaries, ERN team facilitated coordination between stakeholders through regular general coordination meetings at the provincial level, working group-meetings both at provincial and district level, translating documents related to the recovery efforts, data collection, development of recovery-related maps and developing database of recovery-related materials, as well as facilitating information exchange between all recovery actors.

The ERN Team carried out coordination through meetings such as general coordination meetings and working group meetings. Those meetings were carried out periodically every month or based upon agreement. Coordination meeting became an important media for the stakeholders in coordination and information sharing and updating the latest situation. The meetings not only attended by representatives of NGOs but also by representatives of related government offices, especially representatives from the BPBD office and Public Works office. Coordination meeting received support from TPT-BNPB as Technical Support Team in the 2009 post-earthquake rehabilitation and reconstruction process.

ERN Team furthermore facilitated various collaborations and joint efforts between the government and NGO, such as:

a. Join effort between Shelter Working Group and TPT RR to carry out workshops and exhibition with the theme Enchanching Community Housing Recovery in West Sumatra Through Coordination and Collaboration which was held at West Sumatra Governor Office;
b. Join effort between Disaster Risk Reduction (DRR) Working Group, BPBD, and TPT conducted a training for DRR facilitators in West Sumatra from 26 to29 September 2010;

c. Joint cooperation between IDP Working Group, BPBD, Andalas University, Agam and Padang Pariaman District Governments as well as related SKPD in Formulation of Road Map draft IDP and Relocation Management 30 September Post-Earthquake's on October 21, 2010. This workshop also gathered inputs and recommendations from PVMBG (Centre of Vulcanology and Mitigation of Geology Disaster), Directorate of Displaced Persons Management BNPB, Directorate General of Planology of Ministry of Forestry, and other national-level institutions;
d. Joint effort of the BPBD, TPT RR, various NGOs local and international, Goverment Agencies, University, corporates and media in organizing a recovery exhebition within the framework of the one year commemoration of West Sumatra Earthquake on September 30th, and October 1st, 2010;
e. Joint effort between TPT RR, reserchers, academic/university, International agencies and NGO to conduct International Workshop on Recovery Lessons Learned on September 30th, 2010.

ERN facilitated submission of inputs concerning the policy, strategy in developing technical guideline on the first and the second phase of housing stimulus fund which gave significant effect on the program. ERN also facilitated the members in discussions and consultations with TPT RR, working groups and its members. In the implementation in the field, ERN through working groups, conducted socialization and monitoring the implementation that had been agreed upon in the guideline and standard. The first and second edition of Technical Guideline had been translated into English in order to help humanitarian workers in understand the technical guideline.

The development and gap in the thematic area were usually discussed in working group meetings and submitted to TPT RR, local government and other agencies/ NGO during the general coordination meeting and field visits.

Based on the experience, the coordination can be carried out with the support of good information management. Hence, the ERN Team used various media to disseminate information from/to UN agencies, NGOs, government institutions, and public. Information products, such as 3 W (who, what, and where) database, thematic development, challenges, gaps, routine report, minutes of meeting, and field findings were very important to refine the approach and strategy used by TPT RR and other stakeholders. The establishment of monitoring mechanism

and institutional evaluation were the first step to provide the complete recovery database for the Government of Indonesia.

A further step was taken to continually update the thematic matrix containing thematic development, challenges, and gaps. The ERN Team designed and conducted online monitoring to collect information on activities, programs, working areas, and the development of the actors on monthly basis. The provincial and local government and other parties who needed monitoring result could access the data at http://www.rn-unrc.org, which contained monthly monitoring summary of institutions and evaluations, contact organizations and program managers. The monitoring activity was socialized in May 2010

2. Capacity Building

ERN worked very closely with provincial and districts BPBD. For counter-parting areas in which BPBD does not exist, ERN Team closely coordinated with Bappeda. Some of functions of the ERN were to facilitate with the capacity building for BPBD staff and information sharing in the coordination, disaster preparedness and recovery efforts. As exemplified in:

a. ERN facilitated integration of gender issues into the government housing program technical guideline. ERN also facilitated the training in gender integration into the disaster management on July 2-6 2010 for BPBD staff personnel, Kesbanglinmas, and local NGOs;
b. ERN Team supported the establishment of Gender Working Groups (GWG) that has the function to supervise (oversee) gender issues in the local government planning and budgeting;
c. ERN facilitated training in Disaster Risk Reduction/Mitigation at basic level on July 1-6 2010, and DRR training for facilitators on September 26-29 2010. The training participants were BPBD staff, Bappeda, Kesbanglinmas, and local NGOs;
d. ERN facilitated training in coordination for the government that was attended by provincial and districts BPBD, Bappeda and Kesbanglinmas personnel from 8 districts (Kabupaten/Kota), held on August 23-25, 2010;
e. ERN facilitated the training on Geographic Information System and Information Management for the humanitarian activities on August 23-25, 2010, which was attended by provincial and district BPBD, Bappeda, Kesbanglinmas and other related SKPD, such as Public Works Office, Education Office, Health Ofiice

personnel from five affected districts;

f. ERN part of the organizing team on the international seminar "Lessons Learned from West Sumatra Recovery" in the one year commemoration of 30 September West Sumatra Earthquake.

3. Advocacy

ERN support in advocacy was as follows:

a. Assisted donor and implementing agencies as well as government institutions in gaps identification, needs and possible risk of overlapping through encouraging cooperation in resource mobilization and formulation of supportive policy;

b. Provide support in integrating relevant aspects to strengthen community's resilience into the government policies planning and budgeting. This achieved through providing advice, inputs and technical assistance to government institutions and district parliament in development planning and budget formulation;

c. Provide leadership role and direction to the stakeholders in addressing urgent issues in the field through coordination mechanism/meetings. ERN took part in addressing any encountered problems in the field (ERN facilitate how to solve the friction among community in Agam district and Pariaman district during the implementation of school reconstruction);

d. ERN continued facilitated discussions and cooperation to address newly identified challenges and gaps through existing coordination mechanism of general coordination meetings and working-groups meetings;

e. Facilitated the establishment of IDP and Relocation working groups;

f. Encouraged Provincial Government and District Governments of Agam and Padang Pariaman to start developing road map of IDP and relocation to overcome the IDP issues through IDP workshop held on October 21, 2010.

Agriculture and Livelihood Working Group

The program area and activity of agriculture and livelihood working group comprised embroidery training and providing people with embroidery machines, soft saving (loan), fishing equipment, rice seed (grain), fertilizer, cattle, alternative livelihood, fish pond rehabilitation program, fish sell-buy assistance program, fish catching equipment assistance program, fish processing development program

and fish net construction program.

The members of Agriculture and Livelihood Working Group were 12 organizations and Mercy Corp as coordinator of Working Group Agriculture and it was replaced later by World Vision Indonesia.

Members of Agriculture and Livelihood Working Group are shown in **Table 3.28** and **Table 3.29.** The percentage of assistance for livelihood is given in **Figure 3.5.**

Table 3.28
Members of Agriculture and Livelihood Working Group

No.	Organizations Name	No.	Organizations Name
1	World Vision Indonesia (WVI)	7	Islamic Relief
2	Muslim Aid (MA)	8	Limbubu
3	Mercy Corp (MC)	9	Yayasan Tanggul Bencana Indonesia (YTBI)
4	CCR	10	Aceh People Forum (APF)
5	LP2M	11	Walhi
6	PKPU	12	Dana Mitra Lingkungan (DML)

Figure 3.5.
Percentage of Livelihood Assistance by NGO by Districts

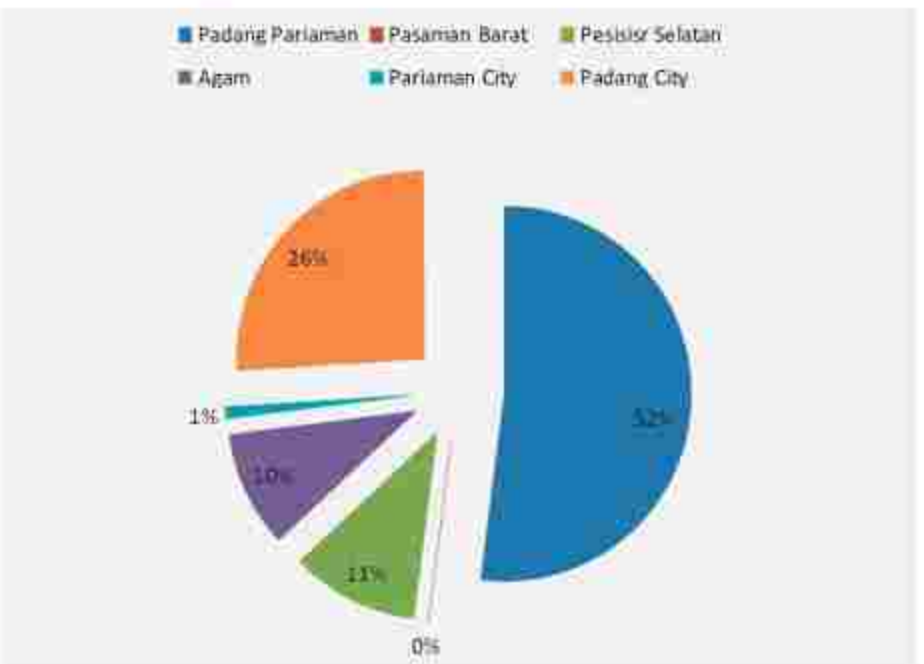


Table 3.29
Summary of Agency's Assistance of Livelihood and Agriculture

No.	Agency	City/District					Progress of Program
		Padang Pariaman	Pesisir Selatan	Agam	Padang City	Pariaman City	Total Confirmed
1	DML	504					504
2	MC	874	340	302	822		2,338
3	YTBI	136				20	156
4	APF	96					96
	TOTAL	**1,612**	**340**	**302**	**822**	**20**	**3,096**

Resource: Management Information of United Nation Office of Humanitarian/Resident Coordinator (UNRC)

Disaster Risk Reduction Working Group

Disaster Risk Reduction (DDR) assistance was in the form of training and socialization on disaster risk reduction to the district and municipal government. There were 12 (twelve) NGOs and International Agencies that worked for DDR with the target of 1,478,555 people. Members of DDR Working Group consisted of local and international NGOs. Save the Children acted as working group coordinator. Members of Disaster Risk Reduction are shown in **Table 3.30.** The participating international agencies are given in **Table 3.31.**

Table 3.30
Participating Organization in Disaster Risk Reduction Working Group

No.	Organizations Name	No.	Organizations Name
1	World Vision Indonesia (WVI)	7	Ibu Foundation (Ibu)
2	Handicap International (HI)	8	Pusat Advokasi dan Kajian Masyarakat (PAKKAR)
3	Mercy Corp (MC)	9	Islamic Relief Indonesia (IRI)
4	Save The Children (SC)	10	Yakkum Emergency Unit (YEU)
5	Catholic Organization for Relief and Development (Coordaid)	11	Yayasan Tanggul Bencana Indonesia (YTBI)
6	Caritas Switzerland (CaCH-Ibu)	12	IDEP Foundation

Table 3.31
Summary of Agency's Assistance in Disaster Risk Reduction Program

No.	Agency	Districts Beneficiary of DRR Program (person)						Progress of Program
		Padang Pariaman	Pesisir Selatan	Agam	Pasaman Barat	Padang	Pariaman	Total Confirmed
1	WVI	2341				6,790		9,131
2	HI	14				64	6	84
3	MC	12.641	31			1.430357		1.443.029
4	SC			2250			2250	4.500
5	Goldaid	1.964						1.964
6	Ca'CH-IBU	450						450
7	IBU						2250	2.250
8	PARKAR			14.400				14.400
9	IRI	861						861
10	YEU	1.886						1.886
11	IDEP					5.000.000		5.000.000
12	YIBI	731					103	834
	Total	**20.143**	**31**	**16.650**		**6.437.211**	**4.609**	**6.479.389**

Resource Management Information of United Nation Office of Humanitarian/Resident Coordinator (UNRC)

Education Working Group

The members of this working group comprised from 9 (nine) NGOs. Their activities included the construction of permanent school buildings, the construction of temporary school buildings, the provision of school materials, and so on. Provincial Education Service which acted as coordinator or focal point of the working group is shown in **Table 3.32**, **Table 3.33** and **Figure 3.6**

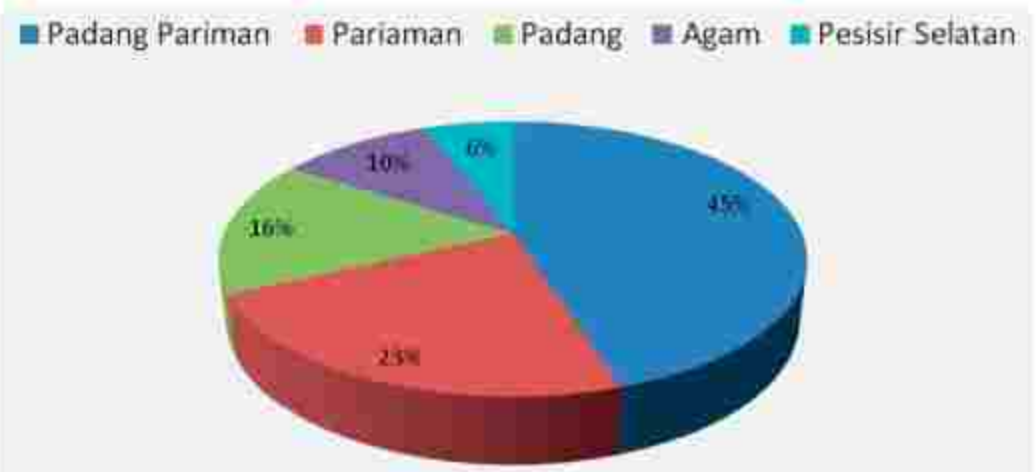
Table 3.32
Participating Organization in Working Group Education

No.	Organizations Name	No.	Organizations Name
1	Habitat for Humanity (H4H)	6	Plan International Indonesia (Plan)
2	Cooperative Baptist Fellowship (CBF)	7	Aceh People's Forum (APF)
3	Gugah Nurani Indonesia (GNI)	8	Salvation Army (SA)
4	Handicap International (HI)	9	Deutsche Gesellschaft fur Technische Zusammenarbeit Gmbh (GTZ)
5	AusAID - Cardno Acil (Ausaid - Cardno)		

Table 3.33
Summary of Agency's Assistance in Education Program

No.	Agency	Districst Beneficiary of Education Program (unit)					Progress of Program
		Padang Pariaman	Pesisir Selatan	Agam	Padang	Pariaman	Total Confirmed
1	HHH	4					4
2	CBF	1					1
3	GN	1					1
4	HI	3			7	1	11
5	Aussid Cardno	12	5	9	6	7	39
6	Plan					11	11
7	GTZ	7			1	1	9
8	AFF	9					9
9	SA	2					2
	Total	**39**	**5**	**9**	**14**	**20**	**87**

Figure 3.6
Percentage of Education Assistance by Districts



Health Working Group

This working group consisted of 13 (thirteen) members. Its activities are facilitating the meeting and active in preparing meeting materials with the stakeholders. Besides, it also carried out the follow-up activities following the meeting results, giving training in coordination and administration to the Focal Point of Working Group. After the Cluster Health completed its tasks, the Health Working Group Focal Point was the West Sumatra Provincial Health Office

The programs and activities carried out by international agencies and NGOs in health area were: the construction and renovation of health facilities, the provision of health equipment, health service provision and communicable disease prevention program, health promotion, recreational activities in support of psychosocial programs, resilience to children and people affected by the earthquake. Members of health working group are shown in **Table 3.34** and **Table 3.35**

Table 3.34
Participating Organization in Health Working Group

No.	Organizations Name	No	Organizations Name
1.	Coffey International Development (Ausaid-Coffey)	8.	International Organization for Migrations (IOM)
2.	International Federations of Red Cross and Red Crescents Societies (IFRC) and PMI	9.	Yayasan Tanggul Bencana Indonesia (YTBI)
3.	World Vision Indonesia (WVI)	10.	Muslim Aid
4.	Mitra Peduli	11.	TDH Nedherland
5.	YAKKUM Emergency Unit (YEU)	12.	Gugah Nurani Indonesia (GNI)
6.	Good Neighbors	13.	PKBI Sumbar
7.	Handicap International (HI)		

Table 3.35
Summary of Agency's Assistance in Health Program

No	Agency	District Beneficiary of Health Program (unit)						Project Progress
		Padang Pariaman	Pesisir Selatan	Agam	Pasaman Barat	Padang	Pariaman	Total Confirmed
1	Ausaid- Coffey	8						8
2	IOM			1		1		2
3	HI	1						1
4	YEU	6						6
	Total	**15**	**0**	**1**	**0**	**1**	**0**	**17**

Shelter Working Group

Members of shelter working group were 32 local and international NGOs and UN agency. The Focal Point of the Working Group was UN-Habitat which later was led by Caritas Switzerland. The Shelter Working Group was active in conducting coordination meetings to share information in order to avoid overlapping of activities, joint effort and program integration. To sort out issues, members of shelter working group divided themselves into two groups, namely temporary shelter working group and permanent shelter working group. In **Table 3.36** and **Table 3.37** achievements are not distinguished from the working group.

The assistance from the NGOs in housing area for the people comprised two assistance groups; 1) Housing assistance covering temporary and permanent shelter and 2) counterpart assistance and training in earthquake resistant housing construction

1. Housing (Shelter) Assistance

The approach in housing assistance delivery by each respective NGO was different, but basically it was cash stimulus and facilitation in construction community housing. Percentage of shelter assistance and facilitation are shown in **Figure 3.7** and **Figure 3.8.**

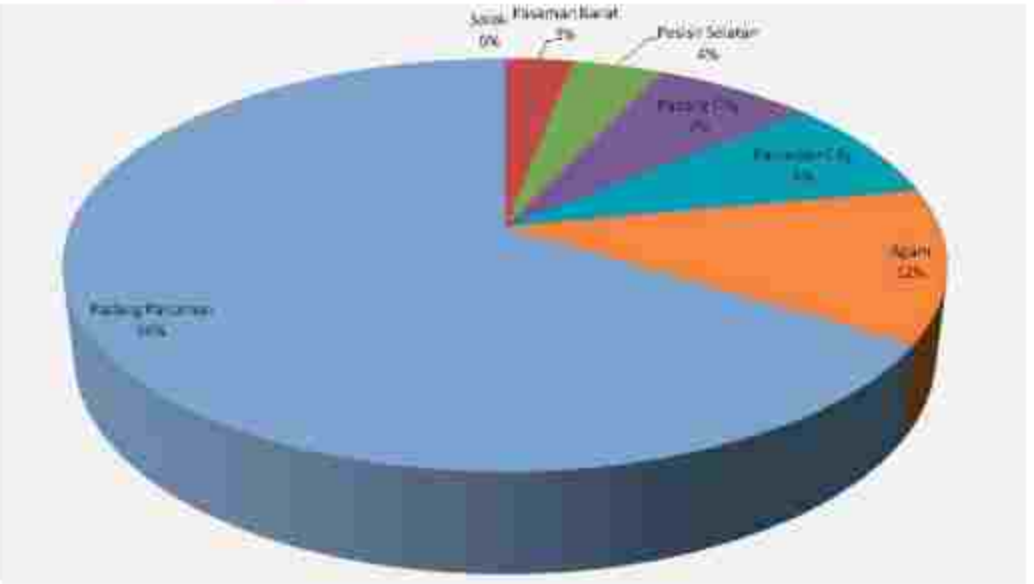
Table 3.36
Participating Organization in Cluster Working Group

No.	Organizations Name	No.	Organizations Name
1	Association of Aid and Relief (AAR)	21	Mennonite Central Committee (MMC-MDS)
2	Aksi Cepat Tanggap (ACT)	22	Mitra Peduli
3	ADRA	23	Padma Indonesia
4	Aceh People's Forum (APF)	24	Persatuan Gereja Indonesia (PGI)
5	Caritas Switzerland – Ibu Foundation	25	People in Need (PIN)
6	Caritas Karina (CA/KA)	26	Partai Keadilan Peduli Umat (PKPU)
7	Care International Indonesia (Care)	27	Plan International Indonesia (Plan)
8	Cipta Fondasi Komunitas (CFK)	28	Relief International (RI)
9	Cooperative Housing (CHF)	29	Ranah Minang Peduli (RMP)
10	Catholic Relief Service (CRS)	30	Salvatory Army (SA)
11	Church World Service (CWS)	31	Swiss Labor Assistance (SLA)
12	Gordaid	32	GenAssist
13	Dompet Duafa (DD)	33	Shanti Volunteer Association (SVA)
14	Save The Children (STC)	34	TDH Nederland (TDH-NL)
15	Government of Indonesia (GOI)	35	IFRC
16	Handicap International (HI)	36	Palang Merah Indonesia (PMI)
17	Habitat for Humanity (H4H)	37	World Relief (WR)
18	Hand on Disaster Response (HODR)	38	Muslim Aid (MA)
19	Islamic Relief Indonesia (IRI)	39	Mercy Corp (MC)
20	International Organization for Migrations (IOM)		

Table 3.37
Summary of Agency's Assistance in Housing Program

No.	Agency	Districst Beneficiary of Housing Program (unit)							Progress of Program
		Padang Pariaman	Pesisir Selatan	Agam	Pasaman Barat	Padang	Pariaman	Solok	Total Confirmed
1	QCI	100							100
2	Ca/CH-IBU	450							450
3	Ca/Ka	182			150				332
4	GenAssist	907	17						924
5	Care	3.400							3.400
6	HHH	795							795
7	Cordaid	2.872							2.872
8	PGTI*	400							400
9	PMI	5.003	1.257	3.655	1.869	1.987			13.771
1	AAR	87							87
2	ACT	155	175						330
3	ADRA	500							500
4	APF	500							500
5	CFK	170							170
6	CHF	5.046							5.046
7	CRS	4.532	4.560	331			1.896		11.319
8	CWS	533							533
9	DD	737		267					1.004
10	GoI	3.359	611	352	2.121	169	246	125	6.983
11	HI	371	1	11					383
12	HODR	10							10
13	IRI	222							222
14	IOM	3.820	565	89					4.474
15	MA	331							331
16	MC	202							202
17	MMC-MDS	303							303
18	MP	35							35
19	Oxfam	3.297							3.297
20	PADMA	370							370
21	PIN		40						40
22	PKPU	457	60	20	6				543
23	Plan			270					270
24	PI	300							300
25	RMP	154							154
26	SA	126							126
27	SLA	600							600
28	STC	750							750
29	SVA	481	18						499
30	TDH-NL	70			30				100
31	WE	227	343		262				832
32	YTBI	645		46					691
	TOTAL	42.499	7.647	5.041	4.438	2.156	2.142	125	64.048

Figure 3.7
Percentage of Shelter Assistance by districts



2. Training/Facilitation Training in Earthquake Resistant Housing Construction

Several NGOs members of Shelter Working Group which have facilitation and earthquake housing resistant construction program were SLA, Build Change and Care International. The group beneficiaries were house builders (timber and mansonry), house owners who are able to build and repair their house damaged by the earthquake. Summary of training and facilitation are shown in **Table 3.38.**

Table 3.38
Summary of Agency's Assistance in Training and Facilitation of Earthquake Resilient Housing Construction

No	Agency	Districst Beneficiary of Training and Facilitation of Earthquake Resilient Housing Construction Program (House Hold)			Progress of Program (HH)
		Padang Pariaman	Padang	Pariaman	Total Confirmed
1	CARE	1.290			1.290
2	SLA	4.647			4.647
3	BC	460	345	4.000	4.805
	TOTAL	**6.397**	**345**	**4.000**	**10.742**

Figure 3.8
Training and Facilitation Assistance in Earthquake Resilient Housing Construction

WASH Working Group (Water and Sanitation)

WASH working group members were 10 NGOs, all of which had water, sanitation and hygiene programs in Padang Pariaman district and the City of Pariaman. The working Group was led by Care International. The WASH assistance program carried out by the NGOs were: the construction of rainfall water tank, construction of bored wells, the construction family pit latrines, the construction of clean water pipe network, and health promotion program. The members and participating organizations are presented in **Table 3.39**, **Table 3.40**, and **Figure 3.9**.

Table 3.39
Participating Organization in WASH Working Group

No.	Organizations Name	No.	Organizations Name
1	Swiss Labor Assistance (SLA)	6	Arche Nova (AN)
2	Islamic Relief International (IRI)	7	Qatar Charity Indonesia (QCI)
3	GenAssist/CRWRC	8	Cordaid
4	Care International	9	Plan International (Plan)
5	IFRC	10	Komite Yogyakarta Untuk Aceh (KYPA)

Table 3.40
Summary of Agency's Assistance in WASH (Water-Sanitation and Hygiene) Program

		Districst Beneficiary of Housing Program (unit)						Progress of Program
No.	Agency	Padang Pariaman	Pesisir Selatan	Agam	Pasaman Barat	Padang	Pariaman	Total Confirmed
1	SLA	40			-			40
2	IRI	65			-			65
3	GenAssist	40			-			40
4	Care	275			-			275
5	IFRC	10	28	53	-	40	137	268
6	AN			24	-			24
7	Cordaid	5			-			5
8	QCI	34			-			34
9	Plan				-		70	70
10	KYPA	13			-			13
	TOTAL	482	28	77	-	40	207	834

In addition to assisting clean water provision and physical construction, several NGOs also gave training health promotion to the community and families. Summary of training and facilitation activity are shown in **Table 3.41**.

Figure 3.9
Percentage of WASH Assistance by Districts

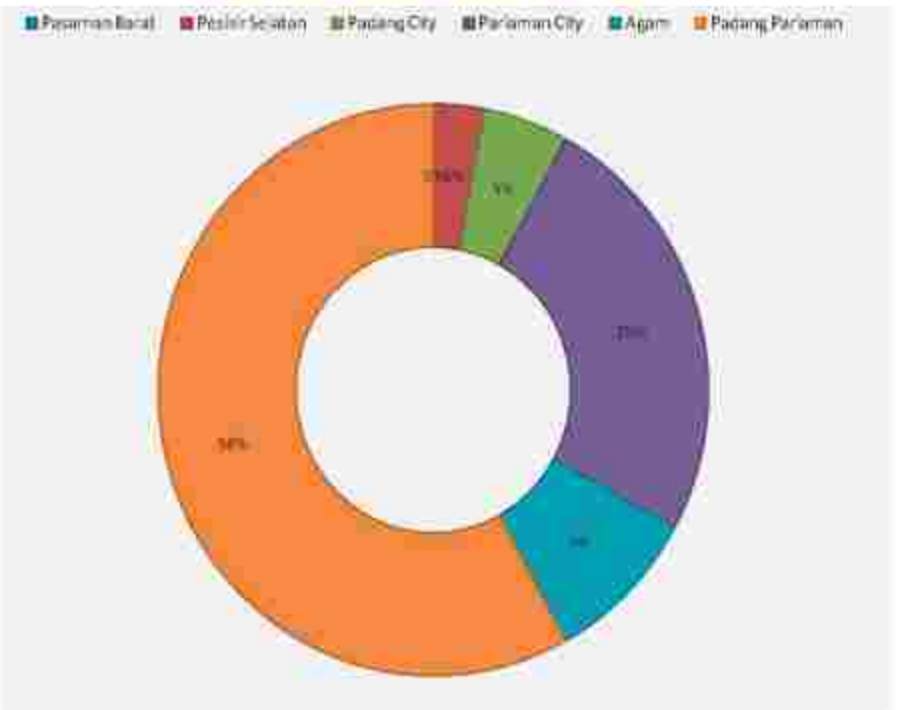


Table 3.41
Summary of Agency's Assistance in Training and Socialization WASH Program

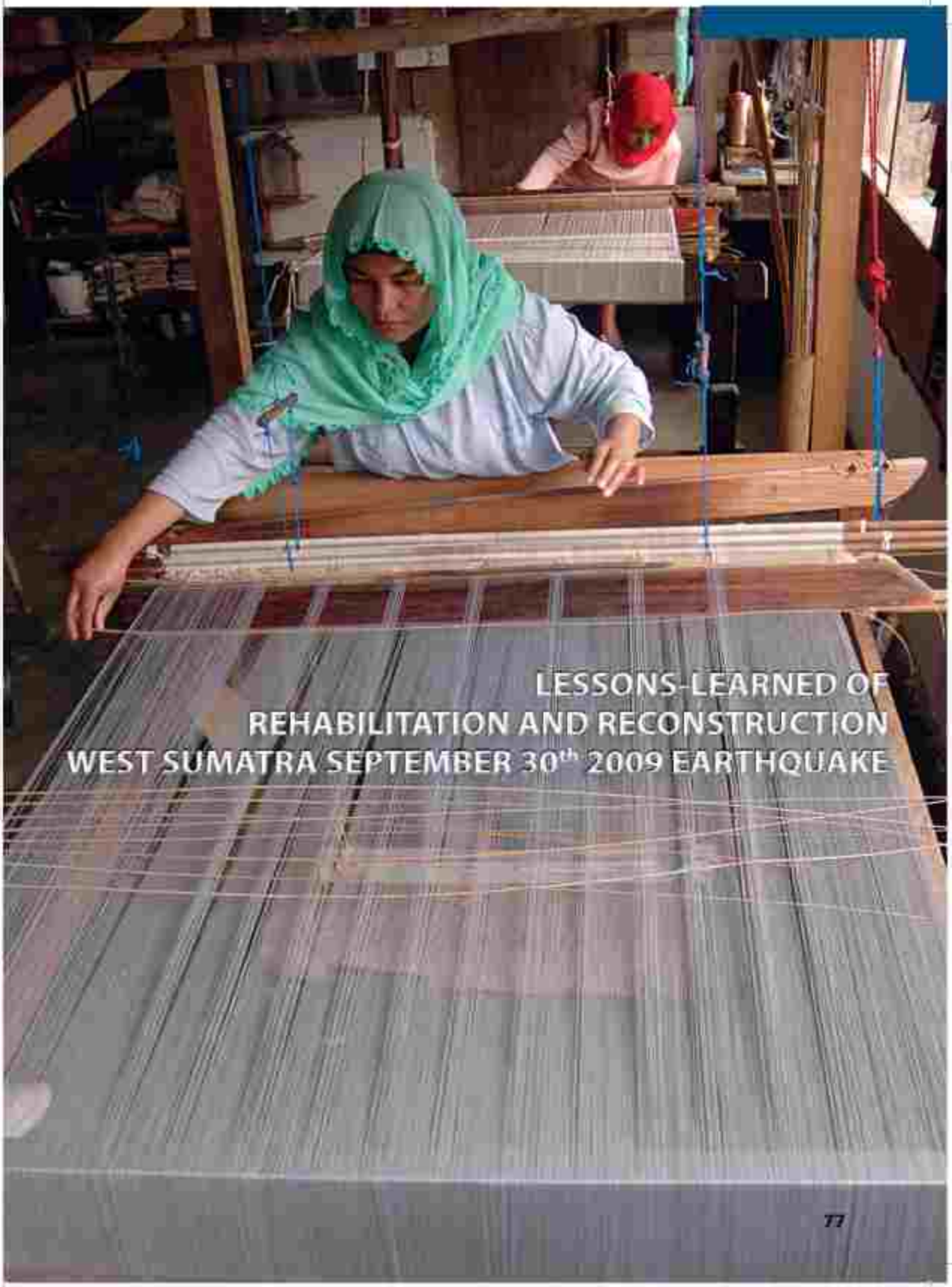
No.	Agency	House Hold Beneficiary in Training and Socialization of WASH Program (HH)			Project Progress
		Padang Pariaman	Padang	Pariaman	Total Confirmed
1	CARE	5.929			5.929
2	GenAssist	650			650
3	IRI	1.693			1.693

Table 3.42
International Agencies and Non-Government Organizations Participated in West Sumatra Post-Earthquake on September 2009

No.	BNPB/TPT Registration No.	Agency	
1	**Education WG**		
1	051-Sumbar-TPT-03-2010	Aceh People's Forum	
2	044-Sumbar-TPT-02-2010	Cooperative Baptist Fellowship	
3	038-Sumbar-TPT-02-2010	Deutsche Gesselschaft fur Techishe Zusammmenarbeit GmbH	
4	039-Sumbar-TPT-02-2010	Handicap International	
5	075-Sumbar-TPT-03-2010	Gugah Nurani Indonesia	
6	046-Sumbar-TPT-02-2010	Yayasan Habitat Kemanusian Indonesia	
7	012-Sumbar-TPT-02-2010	Plan International	
8	050-Sumbar-TPT-03-2010	AusAID-Australian Agency for International Development	
Total			**8**
2	**Health WG**		
1	050-Sumbar-TPT-03-2010	AusAID-Australian Agency for International Development	
2	075-Sumbar-TPT-03-2010	Gugah Nurani Indonesia	
3	071-Sumbar-TPT-03-2010	Yayasan Tanggul Bencana Indonesia	
4	057-Sumbar-TPT-03-2010	Palang Merah Indonesia/International Federation of Read Cross and Red Crescent Societies	
5	039-Sumbar-TPT-02-2010	Handicap International	
6	029-Sumbar-TPT-02-2010	Terre des Hommes Netherlands	
7	052-Sumbar-TPT-03-2010	Yayasan Bina Vitalis	
8	043-Sumbar-TPT-02-2010	YAKKUM Emergency Unit	
Total			**8**
4	**Livelihoods and Agriculture WG**		
1	008-Sumbar-TPT-02-2010	World Vision Indonesia	
2	074-Sumbar-TPT-03-2010	Dana Mitra Lingkungan	
3	036-Sumbar-TPT-02-2010	Mercy Corps	
4	071-Sumbar-TPT-03-2010	Yayasan Tanggul Bencana Indonesia	
5	051-Sumbar-TPT-03-2010	Aceh People's Forum	
Total			
5	**Shelter WG**		
1	051-Sumbar-TPT-03-2010	Aceh People's Forum	
2	006-Sumbar-TPT-03-2010	Bina Swadaya Konsultan	
3	017-Sumbar-TPT-03-2010	Build Change	
4	073-Sumbar-TPT-03-2010	Caritas Switzerland	
5	045-Sumbar-TPT-02-2010	PSE/Caritas Keuskupan Padang, Karina	
6	048-Sumbar-TPT-02-2010	Care International Indonesia	
7	010-Sumbar-TPT-02-2010	Cipta Fondasi Komunitas	
8	069-Sumbar-TPT-03-2010	Catholic Organisation for Relief and Development	
9	030-Sumbar-TPT-02-2010	Catholic Relief Service	
10	019-Sumbar-TPT-02-2010	GenAssist/CRWRC (General Assistant/Christian Reformed World Relief Committee)	
11	046-Sumbar-TPT-02-2010	Yayasan Habitat Kemanusian Indonesia	
12	039-Sumbar-TPT-02-2010	Handicap International	
13	053-Sumbar-TPT-03-2010	IBU Fondation	
14	062-Sumbar-TPT-03-2010	Islamic Relief Indonesia	
15	064-Sumbar-TPT-03-2010	Muslim Aid Indonesia	
16	036-Sumbar-TPT-02-2010	Mercy Corps	
17	024-Sumbar-TPT-02-2010	Mitra Peduli	
18	012-Sumbar-TPT-02-2010	Plan International	
19	057-Sumbar-TPT-03-2010	Palang Merah Indonesia/International Federation of Read Cross and Red Crescent Societies	
20	070-Sumbar-TPT-03-2010	The State of Qatar/Qatar Charity Indonesia	
21	007-Sumbar-TPT-02-2010	Swiss Labour Assistance	
22	029-Sumbar-TPT-02-2010	Terre des Hommes Netherlands	
23	025-Sumbar-TPT-02-2010	World Relief	
24	071-Sumbar-TPT-03-2010	Yayasan Tanggul Bencana Indonesia	
Total			**24**
6	**Wash WG**		
1	048-Sumbar-TPT-03-2010	Care International Indonesia	
2	062-Sumbar-TPT-03-2010	Islamic Relief Indonesia	
3	014-Sumbar-TPT-02-2010	arche noVa-Initiative for People in Need eV	
4	019-Sumbar-TPT-02-2010	GenAssist/CRWRC (General Assistant/Christian Reformed World Relief Committee)	
5	007-Sumbar-TPT-02-2010	Swiss Labour Assistance	
6	036-Sumbar-TPT-02-2010	Mercy Corps	
7	012-Sumbar-TPT-02-2010	Plan International	
8	069-Sumbar-TPT-03-2010	Catholic Organisation for Relief and Development	
9	070-Sumbar-TPT-03-2010	The State of Qatar/Qatar Charity Indonesia	
10	078-Sumbar-TPT-08-2010	Komite Yogyakarta untuk Pemulihan Aceh	
Total			**10**

CHAPTER 4

LESSONS-LEARNED OF REHABILITATION AND RECONSTRUCTION WEST SUMATRA SEPTEMBER 30th 2009 EARTHQUAKE



LESSONS-LEARNED OF REHABILITATION AND RECONSTRUCTION WEST SUMATRA SEPTEMBER 30th 2009 EARTHQUAKE

CHAPTER 4
LESSONS LEARNED OF REHABILITATION AND RECONSTRUCTION WEST SUMATRA SEPTEMBER 30th 2009 EARTHQUAKE

Lesson learned from the implementation of rehabilitation and reconstruction program referred to the actual implementation of reconstruction process and document Technical Guideline for Rehabilitation and Reconstruction September West Sumatra Post-Earthquake. The RR activities covered 4 Sectors; Housing Sector, Infrastructure Sector, Social Sector, and Productive Economic Sector (which consisted of Food Crop Agriculture, Husbandry, Plantation, Fishery, Cooperative, Trades and Industry). From those activities mentioned, the sector that has a wide scale activity and large funding is the Housing Sector. Hence, in the discussion on the lessons-learned of implementing the rehabilitation and reconstruction program post-earthquake 30 September West Sumatra, the Team of Authors (Writers/Contributors) will discuss more broadly the housing sector which comprised institutional, implementation, community empowerment, financing, and monitoring aspects.

INSTITUTION

Establishment of Technical Support Team for Rehabilitation and Reconstruction

Based on the Law No. 24 year 2007 on Disaster Management, rehabilitation and reconstruction implementation due to 30 September 2009 earthquake was coordinated directly by the National Agency for Disaster Management or BNPB. This is different from the rehabilitation and reconstruction following the earthquake and tsunami that hit Aceh Province on December 26, 2004 where its implementation was carried out by the Agency for Rehabilitation and Reconstruction or BRR that was formed by the Presidential Decree. Based on the limited cabinet meeting with the President attended by the Coordinating State Minister for People Welfare, Coordinating State Minister for Economy, Minister of Finance, Bappenas (National Development Planning Board), BNPB and the Governor of West Sumatra Province on October 5, 2009, it was agreed to establish the Task Force which was aimed to implement the rehabilitation and reconstruction of 30 September 2009 post -earthquake. After several discussions and consultations with the Commission VIII of the House of Refresentative-Republic of Indonesia (DPR-RI), it was agreed to

establish a Team, i.e. West Sumatra Technical Support Team for Rehabilitation and Reconstruction (TPT RR).

The Head of BNPB issued a Decree No. 109/BP/BNPB/IX/2009 dated November 20, 2009, on Establishment of TPT RR as an extension of arm of BNPB in the province, which was later revised by the Head of BNPB Decree No. SK.3D/BNPB/01/2010 dated January 4, 2010. The functions and tasks of the Team are principally similar to those of BRR which coped with the disaster of the earthquake and tsunami in Aceh and the National Technical Team (TTN) coping with the post-earthquake in Yogyakarta. The Technical Support team has the tasks as described in the earlier chapter.

The members of TPT RR are experts who are experienced in dealing with disaster management, and preferred those who have experienced in managing the disaster in Aceh and Yogyakarta. The Team also involves the academicians from the universities, related officials at central and provincial/districts levels and community leaders. The TPT RR serves to directly cope with the rehabilitation and reconstruction program of post-earthquake West Sumatra 30 September 2009 assigned directly from the BNPB. The task itself is a special challenge considering there are many institutions as SKPD, international agencies/NGO and private institutions that take parts in these activities which need to be coordinated. The TPT RR organization unit is located in the province which functions to support the provincial government in accordance with the tasks as already described earlier. In the meantime, the implementation of its physical activity tasks is given to the provincial government through related SKPD among which is Road, Spatial and Human Settlement Service.

In implementing its tasks up until the middle of year 2010, there were no significant problems. However, after the formation of provincial BPBD problems with coordination and division of authority between TPT RR and provincial BPBD then arose in one hand. But, after BPBD received some directions from the Head of BNPB, the TPT RR was then able to carry out rehabilitation and reconstruction activities in accordance with its tasks. On the other hand, TPT RR organization unit was very effective in supporting the provincial government in preparing the system implementation and strategy and coordinating several institutions in dealing with post-earthquake rehabilitation and reconstruction.

- *TPT RR organization unit can be used as reference or model in the establishment of extension unit from central government or other name it has (e.g. PMU, TTN) to prepare the strategy and the implementation of post-disaster rehabilitation and reconstruction programs in other regions which are suited the geographical condition and local wisdom as long as the disaster category level is national disaster.*
- *The members of TPT RR are recommended to consist of elements from local community leaders, universities, and related local officials from province level and districts level as well as from central government.*
- *For the region that has already established BPBD either at provincial as well as districts level, the establishment of TPT RR is less needed. Hence, when BPBD is already established is a region, it is more effective to transfer the management of rehabilitation and reconstruction program to provincial/districts BPBD (according to the Law No. 24 Year 2002, Chapter IV, Article 20 and Article 27). The role of the central government/BNPB is to provide technical assistance in order to strengthen the provincial/districts BPBD..*

The Organizational Structure of the Implementation of Rehabilitation and Reconstruction Phase I and Phase II

The first step taken was to develop an effective institutional system capable to help accelerate community housing improvement, construct the infrastructure and public facilities, develop a mechanism in accelerating the flow of fund to the Community Group (Pokmas). Thus, bound by budgetary system set forth by the Ministry of Finance, there were two models of organizations for rehabilitation and reconstruction which are the organization model of the implementation of rehabilitation and reconstruction phase I in which its financing is included in the provincial budget to handle the pioneering activities, and the organization model phase II the financing of which is included in DIPA BNPB to accelerate the implementation of the rehabilitation and reconstruction.

The Establishment of Rehabilitation and Reconstruction Organization Phase I

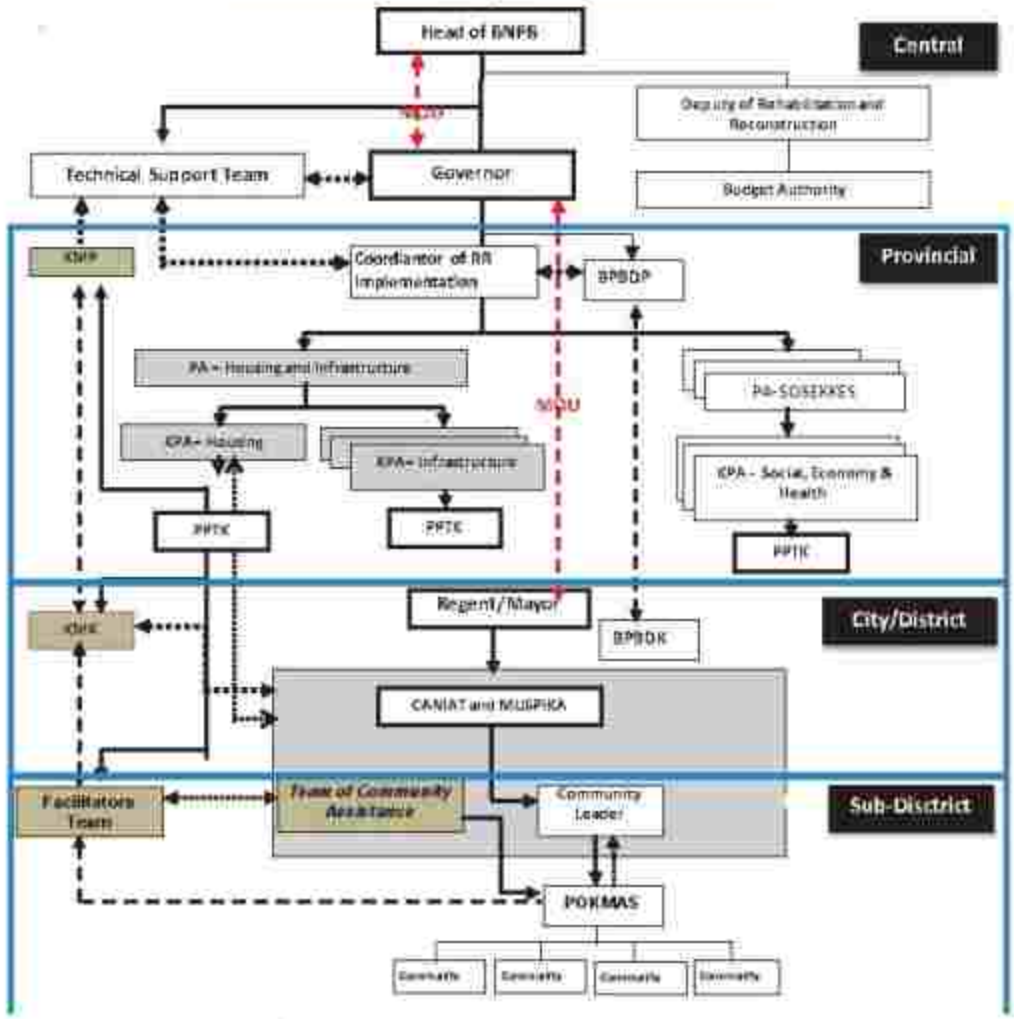
The establishment of rehabilitation and reconstruction organization depended on the central government policy after taking into consideration several aspects of disaster level that occurred and the existence of government institution in the affected region. There are many existing models of rehabilitation and reconstruction management organization in Indonesia that could be adopted as reference. However, there are number of basic principles (factors) which have to be taken into account in developing a rehabilitation and reconstruction organization, such as:

1. The characteristics of the disaster, whether it is classified as national or regional/ local level;
2. Laws and regulations that set limitation;
3. Work load that must be carried out by the organization;
4. Consideration of the timeline of the implementation.

The above factors would affect the type of the organization that will be developed. Regarding the phase I rehabilitation and reconstruction implementation, the fund that was allocated by KPPN of Ministry of Finance had already been provided at the end of the fiscal year (October 2009). It, therefore, would be impossible to absorb the fund for implementation of rehabilitation and reconstruction program until the end of December 2009. Hence, in order to keep the fund, it must be transferred to provincial budget based on an MOU between the Head of BNPB and the West Sumatra Governor. After it had been transferred to the provincial budget, the fund could still be utilized for post-earthquake rehabilitation and reconstruction program.

The organization structure of community housing rehabilitation and reconstruction, infrastructure and public buildings for phase I (as a pilot project) is shown in **Figure 4.1.**

Figure 4.1.
Organization Structure of Phase I Post-Earthquake Rehabilitation and Reconstruction Program in West Sumatra



Note

- Komando line
- Coordination line
- Facility line
- MOU

Infromation

RR : Post Earthquake Rehabilitation and Reconstruction
MOU : Memorandum of Understanding
PA : Budget User
KPA : Budget Authority
PPTK : Official of Technical Implementation of Activities
KMP : Provincial Management Committee
KMK : City/District Management Committee
POKMAS : Community Group

Organization of phase I rehabilitation and reconstruction implementation was determined by the Governor of West Sumatra, Mr. Marlis Rahman, which was put forth in Governor Circular Letter No. 44/I/Sosbud/Bappeda-2010, on Technical Guideline of Rehabilitation and Reconstruction Post Disaster 2009. The work mechanism of rehabilitation and reconstruction organization (see **Figure 4.2.**). There were nine SKPD that carried out the rehabilitation and reconstruction works in accordance with the assigned tasks and responsibilities. On each respective SKPD a Budget User Authority (KPA) was appointed. This was set up because the fund for rehabilitation and reconstruction was included in the provincial budget, so that its utilization had to follow the local existing procedure. List of SKPD that carries out rehabilitation and reconstruction works is shown in **Table 4.1**

Figure 4.2
Work Mechanism of Phase I Rehabilitation and Reconstruction

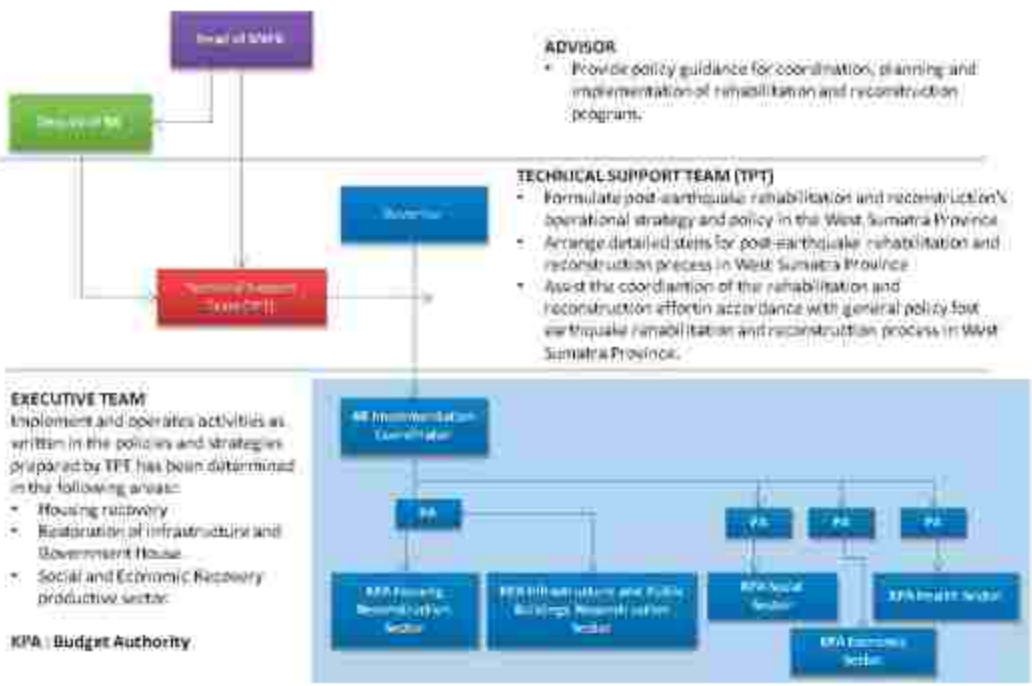


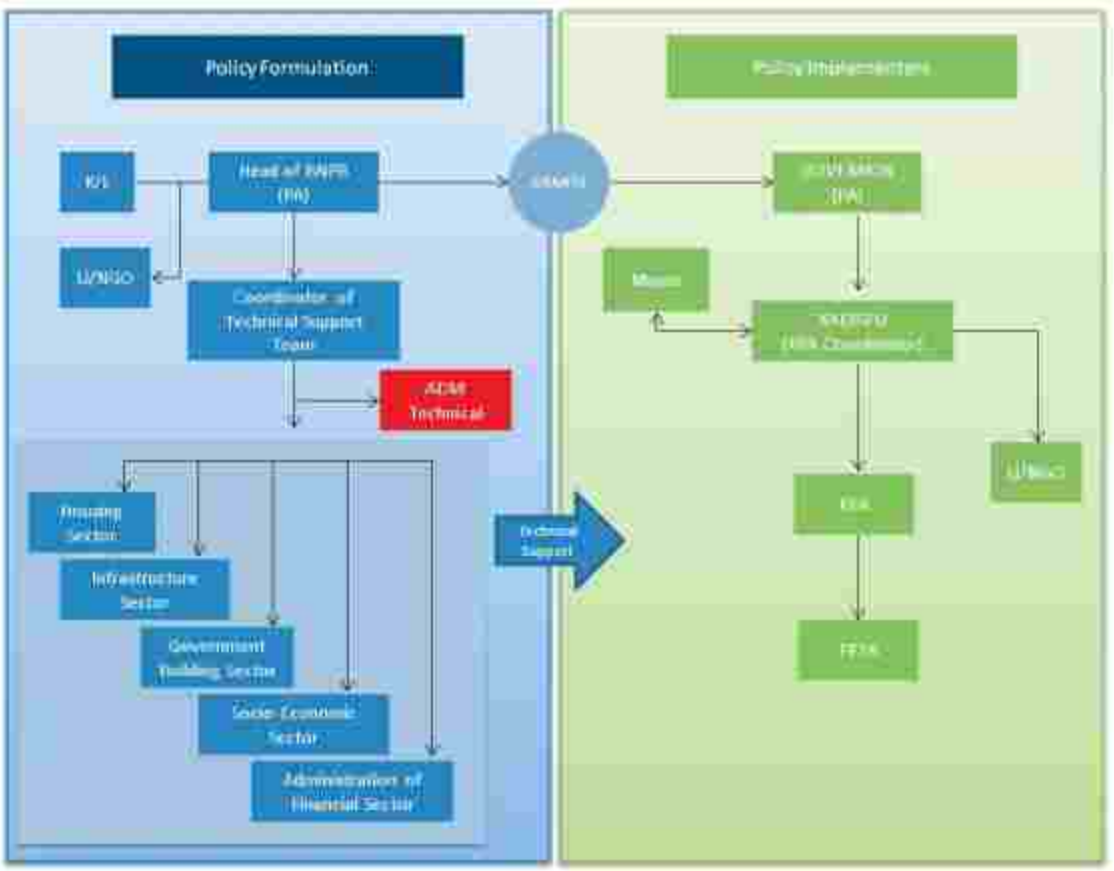
Table 4.1
List Activities of Local Government Work Units in West Sumatra Province on Rehabilitation and Reconstruction Program

No.	Institusion	Activities
1	Office of Road Infrastructure, Spatial and Settlemen	• RR of Community Housing • RR of Road and Bridge • RR of Drinking Water Supply • RR of Public Buildings
2	Office of Water Resources Management	• RR of Irrigation and Damps • River Normalization
3	Health Office	• Community Health Improvement • Prevention and Improvement of Public Nutrition • Prevention and Eradication of Disease
4	Office of Agriculture and Food Crops	• Rehabilitation of Agriculture Irrigation • Assistance of Fertilizer and Seeds
5	Office of Marine and Fishery	• Rehabilitation of Fish Breeding Centers • Assistance of Fish Seed • Assistance of Freezer • Assistance of Laboratory Equipment
6	Livestock Office	• Assistance on repairing Cattle Pen • Assistance of Animal Health Equipment • Assistance of Animal Medication • Assistance of Insemination Equipment
7	Plantation Office	• Rehabilitation of Plantation Office Building
8	Office of Cooperation, Industry and Trade	• Rehabilitation of Market Buildings and Business place • SME Capital Assistance • Rehabilitation of Centres and Meteorogical Equipment • Assistance of Goods Quality Equipment • Assistance of Business place and Working Capital for Small Medium Industry
9	Office of Transmigration and Man Power	• Relocation Preparation • Legality completion of location plan • Observation of spatial legality • Socialization to prospective transmigran

In the phase I structure organization there were role sharing between TPT RR and provincial government. TPT RR played its role in formulating the rehabilitation and reconstruction policy and strategy; whereas, the provincial Prasjaltarkim and other related SKPDs had the role as executor. Rehabilitation and reconstruction implementation was managed by KPA in housing at provincial level appointed by the Governor.

The separation of tasks could facilitate coordination in rehabilitation and reconstruction implementation at provincial and sub-provincial levels. The mechanism of the implementation of the rehabilitation and reconstruction is shown in **Figure 4.3**.

Figure 4.3
Mechanism Implementation of Phase I Rehabilitation and Reconstruction



There were delays in the phase I rehabilitation and reconstruction implementation among others caused by:

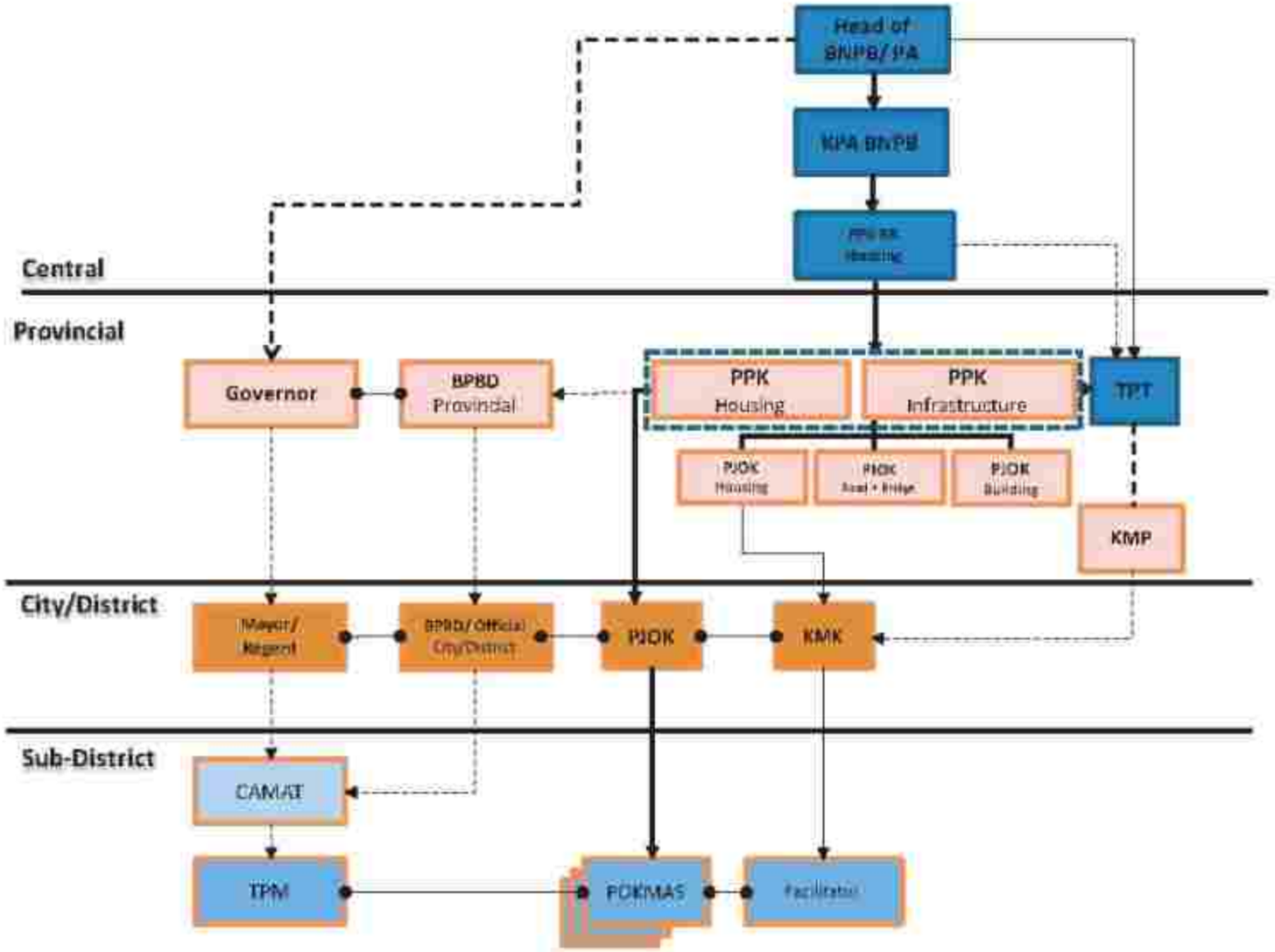
1. The fund that was channeled to the Provincial Budget (APBD) could not be immediately disbursed, due to the need to transfer it to the provincial DIPA and had to have an approval from the Minister of Home Affairs, causing the preparation of DIPA to take 2-3 months time.
2. There was no common understanding between TPT RR and the Local Budget Management Board (BPKD) regarding the utilization of standard unit price for operation costs in preparing the Provincial DIPA. The BPKD requested to use provincial unit price standard, while the TPT RR insisted on using central unit price standard even though the fund from the State Budget (APBN) was transferred to the Regional Budget (APBD). In the end, it was agreed to issue a Governor Decree on regulating the magnitude of unit price.

- *The organization mechanism in phase I was very complex. Thus, the rehabilitation and reconstruction activity under the normal condition was not recommended to become a reference for national rehabilitation and reconstruction program because it could only be used for rehabilitation and reconstruction in special condition.*
- *It is recommended to empower the BPBD organization for the region already having established or used Satkorlak PB (Implementation Coordination Unit) Disaster Management in the region that has not yet established program formulation implementing strategy and monitoring-evaluation. Whilst, its physical implementation is still carried out by related SKPD in accordance with its tasks.*

Establishment of Phase II Rehabilitation and Reconstruction Organization

Phase II rehabilitation and reconstruction organization was different from the on-going organization in phase I. This difference was urged by several ministries and related institutions at central level in order to allow an acceleration of implementation of rehabilitation and reconstruction. Besides, it should be realized that in accordance with the West Sumatra Post-Earthquake Rehabilitation Reconstruction Action Plan its implementation was planned to take place in two fiscal years of 2010 and 2011 with heavy work load remaining. Rehabilitation and Reconstruction organization structure is presented in **Figure 4.4.**

Figure 4.4.
Implementing Organization for Phase II 2010 West Sumatra Post-Earthquake Rehabilitation and Reconstruction Program



Phase II rehabilitation and reconstruction organization can be viewed as a thin structure but with many functions. Head of BNPB as Budget User (PA) delegated his authority to the Executive Secretary of BNPB as Proxy of Budget User (KPA) and Program Implementation Officer (PPK) under the Deputy of Rehabilitation and Reconstruction BNPB at central level.

Moreover, based on MOU between Head of BNPB and Deputy Governor of West Sumatra Province, Head of BNPB assign the head of Provincial Prajaltarkim Office as Housing PPK and responsible for the implementation of the activities. Furthermore, Provincial Housing PPK was assisted by the PJOK at provincial and PJOK at district levels. The provincial PPK and PJOK was also assisted by Provincial Management Consultant (KMP), and PJOK at districts level was then assisted by the District Management Consultant (KMK).

- *In establishing the rehabilitation and reconstruction organization there is a need to have a clear separation of tasks between central government and provincial government and between TPT RR as an element that formulates the implementing and strategy and policy together and the provincial government as an executor of the activities.*
- *The support from the Governor and Head of District/Mayor for smooth implementation of rehabilitation and reconstruction program plays an important role;*
- *The element for rehabilitation and reconstruction activity executor is directed on Local Government Work Unit (SKPD) in accordance with the respective tasks, under the guidance of the Governor;*
- *Rehabilitation and reconstruction organization that is involving provincial government by assigning its apparatus as PPK from the non BLM and BLM funding sources and the involvement of districts government as PJOK, sub districts and community as TPM (Facilitator/Motivator), technical experts and social experts as Facilitators and Pokmas (Community Group) as actors in rehabilitation activities are very useful to be used as a reference for the implementation and reconstruction program in other regions.*

Executing Official (PPK) and Operational Coordinator Official (PJOK).

The rehabilitation and reconstruction organization focused on empowering of the provincial and districts government apparatus. At the provincial level, the PPK Housing Rehabilitation and Reconstruction were appointed by the Head of BNPB. At the districts levels PJOK was appointed by PPK. At Nagari/Kelurahan (sub-subdistrict of the rural/urban areas) level the Community Facilitator was appointed by head of sub-district.

The task of PPK Housing was to coordinate the housing sector rehabilitation and reconstruction implementation, prepare work program in following the Technical Guideline, supervise the implementation of the program, manage the special account of BLM, approve and sign the letter of accountability, work order and other related letters, supervise and evaluate the districts KMP, KMK, and PJOK performance, monitor absorption and utilization of BLM fund at PJOK level and Pokmas, and prepare monthly physical and financial reports.

The PJOK is a Official Commitment Makers (PPK) of Provincial Housing representative which is in the districts, and is also representing the Head of District/mayor as an responsible official for the rehabilitation and reconstruction activities. The main task was to prepare the work program that follows the policy and strategy set forth; prepare Working Group that supports administrative and technical tasks at districts level upon an approval of PPK; issue a decree stating housing BLM beneficiaries; sign an aid agreement (SPPB) together with Pokmas; manage special account housing BLM fund (stimulus fund) before it is distributed to the members of Pokmas; give approval on request for disbursement and distribution of BLM fund submitted by Pokmas; control the housing sector rehabilitation and reconstruction and conduct monitoring, supervising, and reporting.

The full responsibility in smooth implementation of people housing rehabilitation and reconstruction is located at districts level. Provincial PPK is responsible for the program supervision/control in provincial level. Thus, the districts PJOK are supported by District Management Consultant (KMK) and Technical Facilitator and Non-technical/Social Facilitators. The system of transferring the responsibility to districts PJOK and the strengthening in rehabilitation and reconstruction activities could be used as a model and reference in the implementation of rehabilitation and reconstruction activity in other regions.

Community Assistance Team (TPM)

The rehabilitation and reconstruction organization in phase I as well as phase II at Nagari (sub-subdistrict) levels was established by Community Facilitator (TPM) appointed by the Camat (Head of subdistrict). The members of the Team consisted of elements from subdistrict area (Camat/head of subdistrict), Community Leaders (Walinagari or Lurah) / head of sub-subdistrict in rural/urban area), members of the community who are familiar with the housing construction and the local police unit. The facilitators are assigned also to assist the Pokmas in the implementation of rehabilitation of their houses.

The main tasks of TPM are facilitating the community in the housing rehabilitation and reconstruction activities; together with the Technical Facilitator Team, TPM: conducting validation of data of housing damaged; approving the BLM fund disbursement; assisting the community in preparing the technical planning, and providing technical guidance in the rehabilitation and reconstruction; conducting monitoring and supervision of rehabilitation and reconstruction implementation and submitting report.

In carrying out its tasks, TPM could not make maximum effort in giving guidance to the Pokmas because of a number of factors: firstly the wide coverage area to give the guidance; secondly, some members of TPM are those working for the district and sub-subdistricts (kelurahan or nagari), who structurally already have routine tasks in their respective offices.

TPM should be established in each of sub-subdistrict in order to effectively carry out its tasks. With the area only covering a kelurahan/nagari, the span of control in carrying out the technical guidance could be more effective. Members of TPM should come from community elements, representatives from the sub district and sub-subdistrict could function as Supervising Team. This is taken into consideration in order to prevent conflict of interest.

Facilitator

Facilitator is an individual personnel comprising of Technical Facilitator and Non-Technical Facilitator as community facilitation which are recruited and contracted by KPA or PJOK. One Team of Facilitator consisted of 2 facilitators; Technical and Non-Technical who are responsible for carrying out facilitation covering 40-50 houses or facilitate two Pokmas (minimum) until four Pokmas or facilitate 100 Families (maximum).

The tasks of Team of facilitator are to assist the community in participative development by establishing community groups; community facilitation in reconstruction damaged houses in order to meet the technical standard and technical requirement for earthquake resistant houses; assist the community in the process of BLM fund absorption; and submit activity report.

In practice, the Facilitator teams manage more than four Pokmas. This happened because the team was demanded to conduct validation of all severely and heavily damaged houses in 10 (ten) districts (Kabupaten/Kota) in total 137,000 houses. At the begining, the facilitators only designed to serve the implementation of phase 2A rehabilitation and reconstruction of 22,309 houses in three districts; Padang Pariaman district , Padang city, and Pariaman city. However, after the fund had been allocated for phase 2B, there was an additional work load covering seven districts; Agam district, Pesisir Selatan district, Solok district, West Pasaman district, Pasaman district and Padang Panjang city, even though the additional prospective facilitators were also recruited to meet the need. On the other hand, to recruit 2800 of additional facilitators did not adequately meet the need. Simultaneously, the houses that had been validated, the Pokmas that directly formed and a Pokmas account was opened in order the fund could be transferred directly. The house validation activity is actually the most complex (difficult) task, and often creates problems and takes long time to process.

Facilitator is an individual personnel comprising of Technical Facilitator and Non-Technical Facilitator as community facilitation which are recruited and contracted by KPA or PJOK. One Team of Facilitator consisted of 2 facilitators; Technical and Non-Technical who are responsible for carrying out facilitation covering 40-50 houses or facilitate two Pokmas (minimum) until four Pokmas or facilitate 100 Families (maximum).

Community Group (Pokmas)

Pokmas is a group of members of community affected by the disaster due to 30 September 2009 earthquake. Each Pokmas consists of 20-25 heads of families. The establishment of Pokmas is facilitated by Community Facilitator Team (TPM) and Facilitators. Membership of Pokmas consists of Coordinator, Secretary, Treasurer, and Members.

Pokmas is directly responsible for the success of housing construction of their respective houses. Based on an agreement of Pokmas members, they decide themselves the plan utilization of BLM fund given by the government including its implementation mechanism. Whenever they face difficulties in its implementation, the Community Facilitator Team and Facilitator Team are ready to give assistance.

Members of Pokmas are not quite familiar with the implementation of rehabilitation and reconstruction program, so that in implementing their tasks they found ways of constructing houses that are not in accordance with the housing construction and building technical standard safe from earthquake. In doing so, honorarium is provided for the executive members of Pokmas.

Provincial and Kabupaten/Municipal Management Consultant

Community housing rehabilitation and reconstruction is implemented through community empowering approach (community based development). It, therefore, needs to have Provincial Management Consultant (KMP) and District Management Consultant (KMK) handling 2-4 districts. The Provincial Management Consultant is located at the province level; whereas, District Management Consultants are located in Padang City, Padang Pariaman District and The Agam District.

We recommend to carry out an extension work and training on the implementation of Rehabilitation and Reconstruction of community housing activities at the sub-subdistrict level (kelurahan/nagari), minimum 1 (one) day which must be attended by members of Pokmas, TPM, Kelurahan apparatus or Kelurahan/Nagari and community leaders.

The Provincial Management Consultants has the tasks:

1. Provide technical and administrative support on the rehabilitation and reconstruction activity to the provincial PPK/PJOK;
2. Implement coordination and communication to all related parties with respect the smooth activity of people housing rehabilitation and reconstruction;
3. Implement dissemination and socialization of rehabilitation and reconstruction policy and program;
4. Assist the preparation of administration and finance;
5. Conduct monitoring, evaluation and reporting of activities.

District Management Consultants (KMK) has the tasks to:

1. Assist the PJOK (Coordinator Operational Activity) at district level and responsible to coordinate the implementation of rehabilitation and reconstruction;
2. Assist the PJOK in carrying out verification on applications of BLM (community direct aid) fund disbursement that are submitted by the housing Pokmas, and preparing the supporting document SPP (letter for aid disbursement) that will be submitted to Housing PPK (Official of Implementation Activity);
3. Assist the PJOK in finalizing administrative and financial documents supporting the rehabilitation and reconstruction activity;
4. Conduct facilitation to the affected community in the implementation of rehabilitation and reconstruction activity together with the Team;

5. Provide dissemination guidance to the facilitators and TPM on implementation of rehabilitation and reconstruction program;
6. Conduct monitoring, evaluation, supervision and reporting on rehabilitation and reconstruction activity to PJOK.

The coordination of report preparation between KMP/KMK and the facilitators which has to be submitted to provincial PPK/PJOK and districts PJOK is not always

running well, resulting in the difference of data and information obtained, since each respective report goes separately. Reporting mechanism started with completing the monitoring and reporting forms which are prepared by the TPM and facilitators subsequently send to the KMK to be recapitulated. The results of recapitulation are sent to KMK which will be consolidated with reports from other districts. The recapitulations from all districts are reported to the Head of BNPB, Governor, Head of District/Mayor, TPT and PPK. The whole process is already sequential. But, in its implementation it is sent directly from the facilitators to Provincial PJOK and from KMK to Provincial PJOK, resulting in data reported unsynchronized.

- *Facilitation carried out by the Provincial Management Consultant, District Management Consultant, facilitators, and TPM has positively affected the smooth implementation of community housing rehabilitation and reconstruction. In the system of activity report submission, the simplification of the mechanism of reporting to related parties at central level as well as provincial and districts level should be maintained.*
- *Assignment of Provincial Management Consultant and District Management Consultant, Facilitators and TPM in rehabilitation and reconstruction through community empowerment could be used as reference/model in managing the housing rehabilitation and reconstruction in other regions, by accommodating and considering the local wisdoms in each respective region.*

REHABILITATION AND RECONSTRUCTION IMPLEMENTATION

Based on 30 September 2009 Post-Earthquake Rehabilitation and Reconstruction Action Plan, the rehabilitation and reconstruction program will be carried out within 2 (two) years, i.e. from 2010 to 2011, where repair and rebuilding of heavily and moderately 181,995 houses will be carried out.

The rehabilitation and reconstruction activities are implemented in 2 (two) methods; contracting put to the third party or contractor for the construction of road and bridge, government office buildings, university buildings, the central market, and community empowerment for the people housing rehabilitation and reconstruction that are damaged by the earthquake. For the construction works that are carried out through contractual process, a guideline is already

available or standardized procuring rules that must be followed, for example, the contracted works must be referred to Presidential Decree No. 32 on Contractor or Consulting Procurement Procedures. In the meantime, for housing rehabilitation and reconstruction, it still needs to develop a Post-Earthquake Rehabilitation and Reconstruction Technical Guideline.

The steps of implementation of housing sector rehabilitation and reconstruction comprised of program preparation, the determination of the target of aid recipients, community preparation, the preparation of administrative and activity implementation

Activity Preparation

Program preparation included the concept on socialization and rehabilitation and reconstruction implementation mechanism to those parties involved, starting from the central level to the regional level in order to reach a common perception on vision, mission and program strategy, and the coordination and harmonization in the 30 September 2009 post-earthquake housing sector rehabilitation and reconstruction program.

The activities in the preparation of program included:

1. Development of Rehabilitation and Reconstruction Implementation Technical Guideline and socialization materials;
2. Program Socialization and coordination at kabupaten/municipal level;
3. Procurement of Provincial Management Consultant (KMP) and Kabupaten/City Management Consultant;
4. Recruitment of Technical Facilitators and Non-Technical Facilitators;
5. Establishment of Community Assistance Team (TPM) which is facilitated by the Camat (Head of Sub-District) and Walinagari (Head Village)/Lurah;
6. Data validation of damaged houses by TPM and Facilitators;
7. Establishment of Community Groups (Pokmas) consisting of 20-25 HH per group.

The preparation stage for rehabilitation and reconstruction activities started from a meeting attended by West Sumatra Provincial Governor and the Head of Districts (Bupati)/Mayors, all provincial SKPD and TPT. The Governor was very concerned about this activity and expected it to run smoothly in accordance with the plan. In the program preparation activities, there were several problems faced:

Recruitment of Technical Facilitators

Civil /Architectural/Environmental Engineering personnel in West Sumatra were limited in numbers. Even though it had been publicly announced regarding the need for facilitator personnel in the field of civil engineering/environmental engineering/building from university graduates and Diploma through printed mass media three times, there were not enough personnel needed to facilitate the Pokmas. For example, the need for one Facilitator Team consisting of 1 (one) technical personnel and 1 (one) non-technical personnel could not be met. Consequently, one Technical facilitator must manage more than 4 (four) Pokmas(es). Besides, with the time constraint in rehabilitation and reconstruction and the total fund that must disbursed in 1 (one) year was very long, socialization and training were not carried out for maximum. Facilitators were prepared with the knowledge about rehabilitation and reconstruction policy and strategy, disaster preparedness, community empowerment, earthquake-resilient house, micro-finance and financial accountability; monitoring and evaluation; and facilitator's tasks.

Validation of Damaged People Housing

Earthquakes struck West Sumatra Province in 2007 and 2009 causing damages to community housing, school and office buildings, infrastructure and facilities. Many houses that were damaged due to 2007 earthquake had not been rebuilt by the local government. Even the Government has given financial aid distributed through Head of Districts and Mayors for rehabilitation and reconstruction of people housing due to 2007 earthquake.

Several problems related to community housing validation process due to 2009 earthquake are: Firstly, the people whose houses were damaged by 2007 earthquake also requested to be validation and proposed to receive 2009 rehabilitation and reconstruction fund. Some of the people, particularly in the district of Pesisir Selatan urged that their house be included in the list of 2009 rehabilitation and reconstruction program. However, after several meetings, the condition of their houses was verified, they finally agreed not to propose their houses for rehabilitation works due to 2009 earthquake. Secondly, the data on the total number of houses that were heavily and moderately damaged changed repeatedly. Hence, this made it difficult for the facilitators and TPM to validate. Also, there were several Pokmas members who proposed their houses could be categorized at higher damage level from its original condition, i.e. for the first data record, they were classified as lightly

damaged changed the status to moderate one, and moderate damage to heavily damaged expecting to receive greater fund.

• The rehabilitation and reconstruction of community housing was implemented through Pokmas empowerment approach. Thus, the Technical and Non-Technical Facilitators would play an important role in guiding the affected people to carry out rehabilitation and reconstruction of their houses. Moreover, the facilitator personnel needed to be given adequate know-how (knowledge) in understanding rehabilitation and reconstruction strategy and program, organizing the people, technique of technology for earthquake resilient house, financial administration, supervising and reporting.

• The validation of damage houses are needed to be carried out based on the existing damage, without manipulating the level of the damage, even though there were pressures from certain parties who were likely to have interest.

Determination of Aid Recipient Target

1. Head of District/Mayor determined the areas of beneficiary, the level priority of beneficiary and the allocation of the total number of prospective beneficiary;
2. Head of District/Mayor issued decree on financial aid beneficiary based on the data of damaged houses received from the Building Assessment team which was made based on the criteria that were set forth by BNPB and the data of the damaged houses as the final result of re-verification carried out by Community Assistance Team (TPM) together with the Facilitators;
3. Pokmas conducted meeting with its members to determine the prospective candidate of beneficiary with alternate turn or the beneficiary carries out the job of rehabilitation of his house individually or employing craftsman.

Head of District/Mayor determined the coverage area for the priority of aid beneficiary on a sub district or sub-sub district (nagari or kelurahan scale). But, for the determination of Pokmas candidate members receiving the financial aid (stimulus fund or BLM) suffices to be approved by the Camat (head of sub district). This is to reduce (minimize) the bureaucratic hierarchy and speed up the implementation

Community Preparation (Mobilization)

Community preparation provides training and understanding on the implementation of rehabilitation and reconstruction program, an activity which should not be neglected, because it is the communities (people) themselves who will decide and plan the utilization of stimulus fund (BLM) and implement the rebuilding of their houses. The activities of community preparation include:

1. Non technical Activity preparation
   a. Community Meeting to establish Pokmas and its executive members;
   b. Determination of agreement on priority of aid recipients at Pokmas level;.
   c. Opening of Pokmas Account with 2 (two) signature specimens of Executive Members of Pokmas;
2. **Technical Document preparation**
   a. Technical Drawing Preparation;
   b. Preparation of Budget Plan;
   c. Planning and staging of house rebuilding;
3. **Fund Disbursement Administration Preparation**
   a. Minutes of Establishment of Group and Pokmas Executive Members and Determination of Priority on Activity proposal (BA-PKM & PPUK);
   b. Letter of Agreement of Fund Disbursement/Utilization (SPPB);
   c. The Minutes of Fund Disbursement/Utilization (BAPPD);
   d. Request for Payment (PPB);
   e. Receipt signed by Pokmas Coordinator;
   f. Report of Work Progress (LKP);
   g. The Statement of Expenditures (SPTB);
   h. Recapitulation of Fund Delivery;
   i. Request for Direct Payment (SPP-LS);
   j. Instruction of Direct Payment (SPM-LS);
   k. Form of Contract Agreement between KPA and Facilitator.

Housing Rebuilding Implementation

The West Sumatra Post-Earthquake Rehabilitation and Reconstruction Action Plan covered 4 (four) sectors; housing; infrastructure; government building and cross-sectored and social sector; and, productive economic sectors.

In accordance with the Technical Guideline of West Sumatra Post-Earthquake

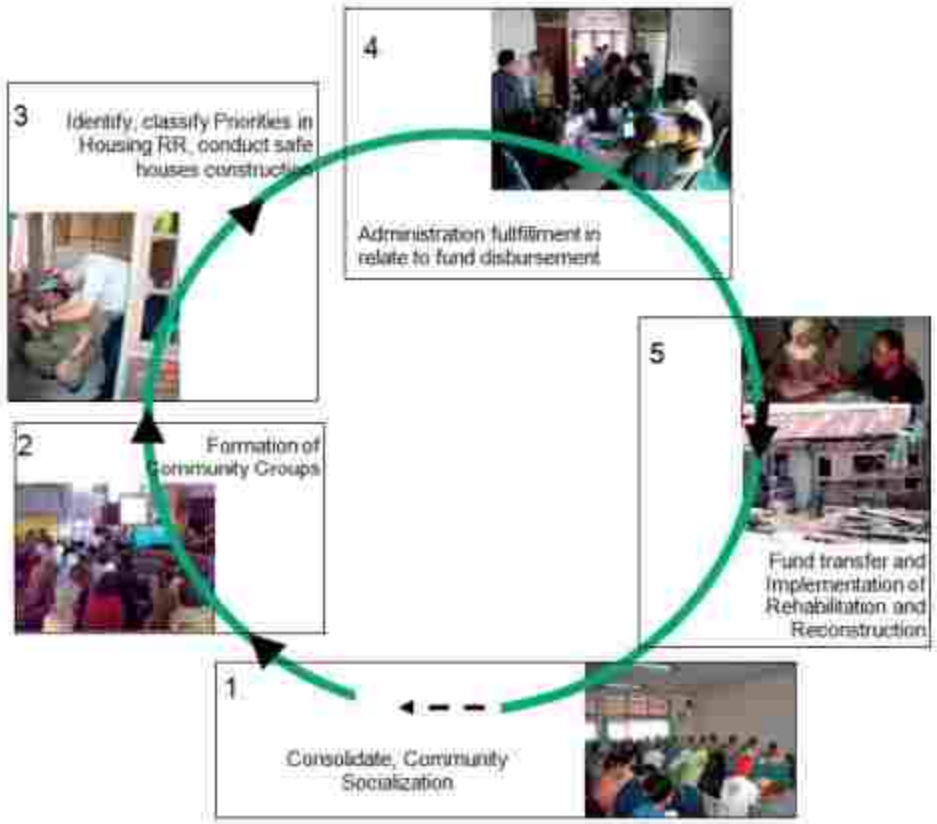
Reconstruction and Rehabilitation of Housing Sector, its activities comprised of preparatory phase (preparation of Implementation Guideline, facilitator recruitment, training of facilitator, extension works), housing rebuilding houses, fund delivery, and facilitation/technical assistance and supervision. The steps in rehabilitation and reconstruction implementation are shown in **Figure 4.5.**
The approach used in house rebuilding was through empowerment of the affected community based on the principle (theme) of building back better and safer quake resistant.

The implementation of people housing rehabilitation and reconstruction in 2010 was carried out in 2 (two) phases; phase I (pilot project), phase IIA and phase IIB as pioneering activities because the fund of IDR 313 billion was not sufficient for rehabilitating all houses in all affected districts. As a result, in this phase only 7 districts were selected, where in each districts one village in one sub district was selected

The implementation of rehabilitation and reconstruction activities was as follows:

1. Dissemination and presentation on rehabilitation and reconstruction policy, strategy and program to the provincial and kabupaten government apparatus and other related stakeholders;
2. Recruitment of Technical and Non-Technical Facilitators;
3. Training for field workers and facilitators;
4. Field extension to the community on housing rehabilitation and reconstruction program;
5. Housing validation that are listed to be rebuild;
6. Establishment of community groups;
7. Opening the Pokmas Account;
8. Preparation of work drawings and budget plan;
9. Delivery of stimulus fund (BLM);
10. Implementation of rehabilitation and reconstruction

Figure 4.5
Steps in the Post-Earthquake Housing Rehabilitation and Reconstruction Implementation in West Sumatra



House rebuilding was based on work drawing and budget plan which were assisted by the government. The aid fund was transferred in 2 phases; phase I at 50% out of the stimulus fund (BLM). Phase II was transferred after the beneficiary disbursed the phase I fund for minimum of 30%. This was to done to maintain accountability of BLM fund utilization. In rebuilding the houses, they were facilitated by facilitator and Community Assistance Team (TPM); and for the construction, mason and carpenter were hired.

From the technical point of view, Pokmas members had been provided with the knowledge and technical guideline of earthquake-resilient construction.

The utilization of government stimulus fund was prioritized for constructing the structure of the building as foundation, column, roof structure, and roof. The works on housing refinishing works would be left over to the owner.
BLM fund was actually a stimulus fund, in which for large-sized houses, it would not be sufficient to completely rebuild the house. However, a number of Pokmas members who could afford or perhaps have family member that lend help, they could finish rebuilding the house well with the cost more than 3-4 time higher than the government stimulus fund.

There were several constraints in the implementation of house rebuilding. Firstly, lack of craftsmen (skilled labors on mason and carpenters) who could actively take the continuous rebuilding/rehabilitation of the house to its completion could be a problem. This occurred because in one fiscal year, the house rebuilding Phase IIA totaling 22,309 units and phase IIB totaling 122,140 units must be carried out altogether at the same time. One craftsman was forced to work on house rebuilding alternately. Besides, it was also confronted with the rise of the waging cost of craftsman, which was originally costing IDR 50,000 per day to minimum of IDR 100,000 per day. Secondly, maximum supervision from the facilitator and TPM could not be obtained. As a result, it was found that the rehabilitation of houses did not meet the technical standard of quake-resistant construction and yet needed some improvement.

- *Supervision of house reconstruction work is important to achieve results that meet the technical guideline of the building quake resistant construction. Thus, the need for the technical facilitators should be met and it is also necessary to optimize their role which allowed their supervision for 4 (four) Pokmas(es) or 100 (a hundred) houses;*
- *Facilitators were required to routinely assist Pokmas. In doing so, they needed to live near the house rehabilitation site;*
- *Craftsmen (masons and carpenters) played an important (key) role in house rebuilding/rehabilitating to meet the technical standard, and therefore, training should be given to craftsmen or prospective craftsmen before the rehabilitation program started.*

FINANCING

For the implementation of house rehabilitation and reconstruction, the government allocated housing sector fund as social assistance in the form of block grant through DIPA BNPB FY 2010 (budget proposal of BNPB for FY 2010) and DIPA carried over under the followings requirements:

1. House classified as heavily damaged would be given IDR 15,000,000 (fifteen million rupiah).
2. House classified as moderately damaged would be given IDR 10,000,000 (ten million rupiah).
3. House categorized as lightly damaged would be given IDR 1,000,000 (one million rupiah) of which the fund came from the districts government.

Fund Delivery System

Delivery of stimulus fund for housing phase I (pilot project) was done by provincial housing KPA directly to the Pokmas Account through Bank Nagari. While, for stimulus fund for housing phase II, its delivery was made through Bank Rakyat Indonesia (BRI) based on MOU between BRI and Provincial Prasjaltarkim Office dated July 2, 2010 No. 5.228/SBTB/VII/2010.

The stimulus fund was provided in 2 (two) phases. Phase I totaling 50% of the housing budget ceiling and phase II at 50% disbursed after the work had reached a minimum 30% of the phase I stimulus fund.

BLM which was quickly transferred from KPPN (State Treasury Office) Jakarta directly to respective account of Pokmas(es), effective and efficient without having to go through bureaucratic procedures at central, provincial, district and sub district levels. For its implementation, the technical and supervisory guidance were still needed in order to reach program objective/target.

The rehabilitation and reconstruction at pilot project phase was implemented at end of fiscal year (in November 2010), causing the fund to be transferred and entered into APBD (Provincial Budget Mechnism) in order not to be retrieved for the reason of overdue. Its utilization was delivered in fiscal year of 2010. Because the fund was included in the APBD, its utilization had to be approved by West Sumatra DPRD (Provincial Legislative Body) and the Ministry of Home Affairs (MOHA). In addition to that, several Governor Decrees were also needed as a basis

for supporting its implementation. On the other hand, stimulus fund for phase II was directly paid by the Jakarta KPPN (Jakarta Treasury Office) to Pokmas Accounts through BRI in Jakarta.

There were several constraints faced in the financing of rehabilitation and reconstruction works the first of which is that the delivery of stimulus fund was first entered into the provincial APBD, causing the delay in disbursement. In addition, even though the feature of stimulus fund for housing rehabilitation and reconstruction reached the total of IDR 10,000,000 (ten million rupiah) and IDR 15,000,000 (fifteen million rupiah), still it was not enough to rebuild/rehabilitate a house in West Sumatra even for the structure work. In the end, it was difficult for the Head of BRI Branch Office in Padang and the Provincial Housing PPK to monitor the direct transfer of the stimulus fund from BRI Jakarta to Pokmas Accounts in BRI Padang. This caused transfer error to wrong Pokmas Accounts, and it was even entered into individual account.

In accordance with the Action Plan, the gap in allocating rehabilitation and reconstruction fund in phase II of 2010 was still found. The government through the Ministry of Finance (MOF) actually has allocated rehabilitation and reconstruction fund for phase III through Ministry/Institutions, however, the checking of its availability was missed out causing the fund is still unavailable in institution.

- *People houses in West Sumatra are generally big in size, so that the amount of the stimulus fund has to be adjusted to the condition of housing in each respective region. In this case, the stimulus fund for rehabilitation and reconstruction of people housing in West Sumatra could be increased at least to IDR. 20,000,000 (twenty million rupiah).*
- *The rehabilitation and reconstruction fund that was first entered into the provincial budget (APBD) caused a delay in the implementation and absorption of the fund. Thus, this system is not recommended as guideline or reference for community housing rehabilitation and reconstruction and the development of facilities and infrastructure financing system.*
- *It is much better if the BLM fund which underwent direct transfer from BRI Jakarta to Pokmas Account is transferred by Jakarta KPPN to BRI West Sumatra Region, than from BRI West Sumatra to Pokmas accounts. This system can prevent transfer error of the stimulus fund to wrong accounts since West Sumatra BRI has all the data of Pokmas accounts for BLM recipient.*
- *The mechanism of BLM fund delivery through BRI that was monitored by the Provincial, districts PPK/PJOK was effective and efficient in accelerating the absorption of this stimulus fund. Only within only 3 (three) months since the fund availability, it could be transferred up to more than IDR 1 (one) trillion. As a result, this system could be used as a reference for managing rehabilitation and reconstruction in other regions.*
- *The fund should be allocated in accordance with the 30 September 2009 post-earthquake Rehabilitation and reconstruction Action Plan.*

Complaint Handling in Rehabilitation and Reconstruction

The implementation of people housing rehabilitation and reconstruction was not fully free from problems in the field. The frequently occurred problems as well as complaint were directly submitted to PPK, PJOK, and TPT RR through SMS or written report, concerning of these problems: 1) people housing validation, 2) the cutting of BLM fund by various parties at sub sub-district (Nagari/Kelurahan) level, and 3) the delay in transferring BLM fund. The steps taken in handling those complaints are as follow:

1. Investigating; identity of the perpetrators, preparing the chronological events, and collecting supporting data.
2. Analysis of cases comprising the problems of classification, trends of problems, the root of the cause, and psychology of perpetrator and the community.
3. Analysis of stakeholders, protogonistic and antagonistic figures and pressure groups.
4. Identification of handling alternatives, i.e. by making a minimum of 2 (two) handling scenarios.

The Facilitators, the District Management Consultant (KMK) and Provincial Management Consultant (KMP) could play the role in addressing those problems in the following ways:

The Role of Facilitators

1. To carry out the analysis of problem solving and the action oriented strategy that must be undertaken.
2. To take up the coordination with KMK, and the collaboration with head of sub sub-district (Wali Nagari or Lurah) or the existing community-based organizations at sub=sub-district (Nagari/Kelurahan) level.
3. To make recommendation and measurable handling strategic plan and could be carried out by the facilitators.
4. To facilitate community meeting at sub sub-district level in the process of handling (addressing) the problems, and inviting community elements in their work area.
5. To be fully responsible in the process of addressing the problems until the problems are resolved.
6. To report every problem that emerges and take up action for resolving the problems to the higher level.

The Role of the District Management Consultant

1. To assist the facilitators and their subordinates in making the analysis up to the implementation of action strategy, and to assist the planning of problems resolution properly, quickly, and measurably.
2. To take up coordination with related Team at districts
3. To conduct monitoring on steps of addressing the problems that have been carried out by the subordinate levels.

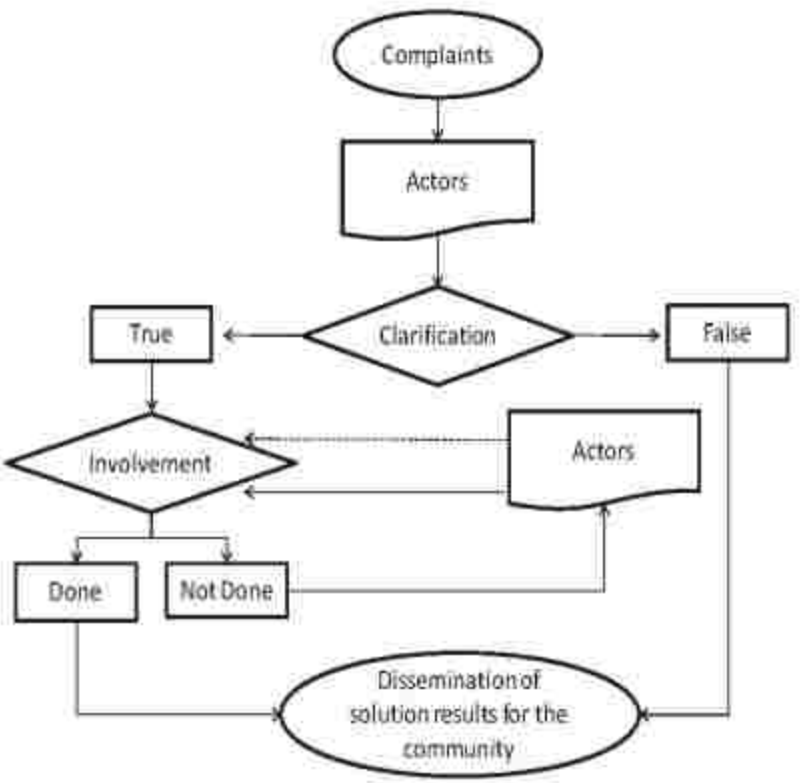
4. To make the clarification, cross-checking and investigation in the field if the problems could not be resolved at the district level or become long drawn in its resolution.

The Role of the Provincial Management Consultant

1. To be fully responsible for the follow-up action of the problems to its completion.
2. To give warning to the subordinates, whenever they are not fully supporting in problems solving.
3. To develop a collaboration with competent institutions and can be accessed by the subordinates for problem resolution.

The Flow Chart Addressing Complaints can be seen in **Figure 4.6**

Figure 4.6
Flow Chart of Addressing Complaints and Problem Findings



LOCAL WISDOM

Every region has a specific culture and local wisdom (family kinship) in handling (addressing) its domestic problems, environmental issues, and the development they faced. The same case can also be found in West Sumatra Province, better known as the Land of Minangkabau. It has culture that was passed from generation to generation which they still adhere and strive in the community. Hence, this section describes the local wisdom that still alive in the Minangkabau region.

Geography of Minangkabau

Cultural-geographically, there are two major territories Minangkabau (Luhak and Rantau). Luhak, Minangkabau land of origin, is culturally divided into three main areas; Luhak Nan Tuo generally known as Tanah Datar, Luhak Agam, and Luhak Lima Puluh Koto. Luhak is the central core region of Minangkabau which is also known as Darek, whereas rantau is the frontier territories (region bordering with and surrounding darek or the extension areas of the Luhak).

Darek is situated in Bukit Barisan highland, lengthwise from north to south of West Sumatra. Hence, most of the nagari (villages) in Minangkabau are situated in the region that is surrounded by three mountains; Mt. Merapi, Mt. Singgalang, and Mt.

Sago. The size of the region reaches 42,000 square kilometers, or 11% of the total land area of Sumatra Island.

The Minangkabau population is scattered to outskirt region/area which is called rantau. In the beginning, rantau was a place of settlement of Minangkabau people who migrated (moved) out or moved from place to place. But later the region becomes the second region of Minangkabau Land which is separated from the original region. However, it is still in contact with the respective place of origin. There is a traditional saying: "Luhak ba-pangulu, Rantau ba-rajo" or luhak is led by datuk-datuk (the chosen male to lead his family clan), rantau is led by small kings.

Minangkabau realm has three meanings. First, it is as a natural environment unit (geography); second, as a cultural unit; and, third as sociological unit of the two regions of Minangkabau which grows and develops following its historical dynamics. The three interconnected meanings could be seen in political and trading bond.

The relation between darek and rantau is rooted from the structure of authority in Minangkabau. All of these can be learned from tambo, kaba (folktales), and pepatah petitih (aphorism) that develop in oral tradition of the society. Tambo is a valuable source in revealing the history of Minangkabau which later was strengthened by primary and secondary sources from outside (based on study). The early form of tambo is conveyed orally-which later after the people of Minangkabau became literate, in 18th century, was recorded in Arab-Melayu writings (Jawi letter). Tambo contains the history about Minangkabau ancestors and the description of the tradition and the rules of its community. As a result, tambo also contains social ethics guiding how an individual should behave and have the proper manner/attitude in different community and social relation and in the government system.

The authority of luhak region stays on the hand of penghulu (community leaders). Luhak consists of tens of nagari as autonomous government units. The penghulu(s) ruling nagari are under the umbrella the Board of Penghulu Nagari or also called Kerapatan Adat Nagari -The Cultural Organization of Nagari- (KAN). Nagari is like a

small republic under the reign of penghulu. Community and political structures are similar to those of the city state in Old Greece. The government of rantau is led by small kings. Minangkabau kingdom is more of a symbol that unites the nagaris in Minangkabau. The power of Minangkabau kingdom after Adityawarman was limited to Pagaruyung area, thus it is better known as The Kingdom of Pagaruyung. Culturally between darek and rantau- without being partitioned with geographic boundaries (regency/town/province), it is today connected by one binding string namely the philosophy of "Adat Basandi Syarak-Syarak Basandi Kitabullah (tradition founded upon Islamic law, Islamic law founded upon the Quran) or in short ABS-SBK. The ABS-SBK concepts passed on in Luhak Nan Tuo, Tanah Datar-which is noted for its Sumpah Sakti (the magic oath) of Bukit Marapalam, between religious groups and traditional ethnic groups around 1873. The traditional Minangkabau philosophical saying later was complemented to become "Adat Basandi Syarak-Syarak basandi Kitabullah-Syarak Mangato-Adat Mamakai-Alam Takambang Jadi Guru". From this philosophy it was borne the concept of Minangkabau leadership which is called: Tungku Tigo Sajarangan or Tali Tigo Sapilin, which consists of three elements: Niniak Mamak, Alim Ulama, and Cadiak Pandai. Cadiak Pandai denotes the intellectuals, youths and scholars.

Because ABS-BSK is a historical Minangkabau cultural journey product, the process of its struggle in the real world still continues in the dynamic era which keeps more advancing. The problem is that its objective social reality shows that the Minangkabau cultural process is facing a challenging era which continues to evolve. Consequently, it needs to reformulate the ABS-BSK operational concept that is well-planned, measurable and sustainable activities as a Minangkabau development strategy in the future that is more religious, traditional, civilized and cultured one.

Minangkabau Kinship (Family) System

The principle of Minangkabau family system is matrilineal descent which defines the family members through the mother lineage. In matrilineal family system there are several principles, namely:

1. The descendants are defined through mother (female), meaning all kinds of rights and obligations in the family are defined only through mother lineage. A husband in the family is considered as an outsider; he is not a member of the spouse family and has no right to wife's heirloom (heritage/property). However, he has the obligation to take maintenance of his wife's heirlooms for the sake of his children. The earnings from his wife's property could not be brought into his parents, because this would mean transferring his wife's possession (property).
2. Clan is defined according to mother lineage. When a mother comes from the ethnic clan of Caniago, all of her descendents will automatically belong to Caniago clan. Thus, all husbands of all female members of the clan must be those from the clans other than Caniago, because if they come from the same Caniago clan, in principle, they could not marry each other, because they are considered brothers and sisters in the big family of the clan.

3. The domination on the family properties lies in the hand of the mother meaning that the right of property ownership of the family group is in the hand of the female. If a female individual in a family them dies, the authority shifted to her younger sister. However, to become the head of the family group, the oldest son is appointed for the task. The son appointed not to cope with the family property for his own sake but to maintain the join possession and to protect family members, all females and their children called kamanakan (nieces). The male son appointed is called "mamak rumah". If he is appointed as a penghulu (a community elder), therefore, he is named "mamak kepala waris" who heads the whole big family in his group.
4. Representation is matrilineal system, meaning the husband comes to and lives in spouse's house which is jointly owned (rumah gadang). He is not a member of the spouse's family, even though he will live forever in spouse's house.
5. The whole wealth and heirlooms from the mamak are inherited to his nieces of his sisters. This means that the traditional power (authority) and heirlooms headed by an individual appointed could not be inherited to his children and grandchildren, because his children and grandchildren belong to other family.

6. The members of the family feel they share similar things: as sisters-brothers, fate, humbleness (humility), and bashfulness. If one of the family members gets embarrassed, then it means that all the members also get embarrassed, because this must be faced and resolved together.

These customary rules appear very real in daily live, such as in rituals: marriage, death, elopement, appointment of penghulu, the ritual to officially bathe a new-born baby in the family, and so on. Also in educating the children, looking for a spouse for a daughter or son, looking for a job, and even in building a house these traditional rules are expressed. The family system and its customary law reigns the entire life of Minangkabau people and its characteristics are continually binding. This condition is called: "Tagak bakampuang manjago kampuang, tagak banagari manjago nagari-Tuan sakato cilako basilang".

Minangkabau Tradition

According to Rajo Penghulu (1988), basically, the Minangkabau tradition consists of two major parts respectively, Laras Koto Piliang tradition and Laras Bodi Caniago tradition. The word Laras is equivalent to law. Laras Koto Piliang is developed by Datuk Katumanggungan and Laras Bodi Caniago is assembled by Datuk Perpatih Nan Sebatang. Developed and assembled mean that the two laws are in other words represent the result from intellectual deep thinking and hard work from the two Minangkabau traditional leaders.

Datuk Katumanggungan and Datuk perpatih Nan Sebatang were two brothers of the same mother but of different fathers. According to Minangkabau tradition, these two leaders were siblings, because according to the Minangkabau tradition society from the mother side is more dominant in the family system of a clan or family.

The father of Datuk Katumanggungan came from a blue-blood family; whereas, the father of Datuk Perpatih Nan Sebatang came from common people, however he was a great teacher. These two differences of family origin are very important in the traditional system that was passed on from one generation to the next But, even though there is a very small difference between the two traditional systems that are developed by both men, they share more in common than in differences.
The traditional principles of Laras Koto Piliang, is what is called by traditional saying: "titiek dari ateh" meaning falling from above. Everything that will be executed

(implemented) by the supporters (followers) of the tradition must come from the leader, i.e. from Penghulu Pucuk (Top Customary Leader). But, before any decision is executed it must be first discussed among the subordinates (followers or nephews) who are already appointed as representative of the family. After being discussed and officially agreed upon, the decision commanded by Penghulu Pucuk must be agreed by all members of the family must therefore be carried out.

In Laras Bodi Caniago tradition, it is like what is called in Minangkabau traditional terminology: "Mambasuik dari bumi" (emerge from the earth.) That means everything that will be executed comes from ideas or suggestions from the nephews and from the consensus. In the consensus, the family representative is not enforced, because all members of family attending have an equal right to their concern in the same capacity to seek for a consensus.

Other differences could be seen on the hierarchical position of penghulu. In Laras Koto Piliang there is a high and low position of penghulu, there is Penghulu Pucuk (who headed several penghulu(s) in a clan) and there is also penghulu biasa (ordinary penghulu). His position in the traditional house or auditorium during the discussion is also different according to their levels of positions in the meeting. The higher the position of a penghulu, the more honorable post he deserves in the meeting. In the customary house (rumah gadang) the honorable place is the anjuang located on the left cornered side. The old (traditional) proverb says, "bajanjang naik, batanggo turun" (upstair up, downstair down), meaning every affair is managed at a certain level from penghulu to Penghulu Pucuk, the one who will give the final say on various matters currently being faced.

In Laras Bodi Caniago tradition, there is no hierarchical level of penghulu. All penghulu(s) have the same position in managing the customary affairs. Its traditional terminology is: "duduak samo randah, tagak samo tinggi' (sitting at the similarly low position, standing the similarly high position). Moreover, there is no difference in the level of position in a forum. Everybody can voice their concerns and all have the same rights.

Other difference could also be seen in rumah gadang (the traditional house or the big house) and traditional head table (balai adat). The floor of Laras Koto Piliang traditional house and traditional head able are on different elevation, whereas the highest points are located on the left and the right structure of rumah gadang

called anjuang (raised floor at the left and right ends of rumah gadang) In the middle of the house there is also a level lowered from the anjuang called "bandua" and the rest is called "lantai biasa" (floor). Those who can sit on each respective level are those who have the same position (rank). O the other hand, rumah gadang and balai adat in Laras Bodi Caniago has all at the same level from one end to another (edge) so that there is no difference in floor elevation. These two customary systems are documented in the form of the compilation of Minangkabau traditional system that must be understood as a compulsory knowledge by the Minangkabau people.

Social Relation System

With the arrival of Islam (between 8th and 12th century), the Minangkabau tradition that was not initially in line with Islam, is gradually replaced by Islamic rules. This can happen because there is no principle contradiction between the Minangkabau tradition and Islamic teachings. Islamic teachings are added to the Minangkabau rules which first concerned only with the nature and the mankind as its inhabitants, and the issue of Supreme Being and life hereafter do not yet exist. Hence, Islamic teachings complement the lacks, correct the errors, explain those that are brief, reduce the excessive, so that Minangkabau tradition does not deviate from the supreme truth.

In daily life, Minangkabau tradition gives guidance in order that an individual stay away from wrong doings for himself/herself. On the other hand from a young age he/she has been guided to do good things for himself/herself and others, so that with a death comes a wise saying: "Harimau mati meninggalkan belang, Gajah mati meninggalkan gading, manusia mati meninggalkan jasa" ("A dead tiger leaves skin, a dead elephant leaves tusks, a dead man leaves good deed).

Thus, an individual must always strive to do good deeds for many people as well as for the family, so that he leaves with a good name in the later days. Moreover, it must be maintained in order not to leave indebtedness, because: "Hutang Emas

dapat dibayar, utang budi dibawa mati". (Gold debt can be paid back; indebtedness debt is carried to the grave).

From these sayings, the influence of moral obligation (indebtedness) is very deeply instilled in Minangkabau, because indebtedness is carried to the grave, indebtedness could not be repaid and indebtedness is not to be remembered only, but it will become a moral stake until death comes, as in the saying: "Pulau pandan jauah di tengah, di baliak pulau angso duo, hancar badan dikanduang tanah, budi baiak takana juo".

Therefore, in social life, every family is guided by the sayings as follows (roughly translated)

Kaba baiek bahimbauan (Good tidings are encouraged)
Kaba buruak bahambauan (Bad tidings are assisted mutually)
Nan Baiek iolah budi (What is good is moral ethics)
Nan indah iiolah baso (What is beautiful is language, good manners)

Community Group

The term community group used here denotes those things that are related to the organizational structure of 30 September 2009 post-earthquake community housing rehabilitation and reconstruction in West Sumatra. It is expected that by the presence of community group consisting of beneficiary of fund assistance from BNPB could be realized smoothly and resulted in maximum improvement under the guidance of the appointed Community Assistance Team (TPM) and facilitators. In fact, the community group which is in short Pokmas is another word of the realization of mutual cooperation (community-self-help system) or togetherness as the identity of Minangkabau people. Because in Minangkabau, living in social groups is part of the identity in implementing the life philosophy (ways of life) which is revealed in the following sayings (proverbs):

1. Duduak surang basampik-sampik	*(Living exclusively makes difficult)*
2. Duduak basamo balapang-lapang	*(Living socially creates happiness)*
3. Barek samo dipikua	*(Heavy becomes light when carried together on shoulders)*
4. Ringan samo dijinjiang	*(Light carry together on hands)*
5. Ka lurah samo manurun	*(To the gorge all descending)*
6. Ka bukik samo mandaki	*(To the hill all climbing)*
7. Saciok bak ayam	*(Same saying same doing)*
8. Sadanciang bak basi	*(One tinkling like iron)*
9. Katiko lai samo dimakan	*(Eating together when available)*
10. Katiko indak samo dicacah	*(Holding together when unavailable)*
11. Hati gajah samo dilapah	*(Sharing when making good profit)*
12. Hati tungau samo dicacah	*(Mutually concerning for the loss)*
13. Ka mudiak sahantak galah	*(Working together on difficult situation)*
14. Ka ilie sarangkuah dayuang	*(Easy working when it is light)*
15. Tatakunguik samo makan tanah	*(Mutually suffering for the loss)*
16. Anyuik dipinteh	*(Taking a short cut to save the drifting)*
17. Tabanam disilami	*(Diving to rescue the drowning)*
18. Ilang dicari	*(Searched when lost)*
19. Manangih dibujuak	*(Soothed when crying)*

Hence, the principle of the presence of Pokmas in the utilization of assistance for 30 September 2009 post-earthquake rehabilitation and reconstruction is the actualization and reflection of the feeling of togetherness that is inspired by the spirit of mutual cooperation. Thus, the spirit of Minangkabau personal identity "yang saiyo sakato" (togetherness) which motivated the Pokmas could speed up the completion of people housing rebuilding process efficiently and effectively in every sub-province/city affected by the disaster, Hence, it is hoped that togetherness and the spirit of solidarity could be felt as a unique characteristic of Minangkabau people since the old days. This has been proven by how the spirit of old people soared long time ago in building rumah gadang (traditional house); building mosques, building balairung (hall/auditorium), clearing off the rice field and working on un-irrigated agricultural field and opening the field for soccer game and community bathing center and road. It seemed impossible to realize

those things, because at that time there was no heavy duty equipment available like it is today, but hard work and intelligent work could produce extraordinary works.

In Minangkabau, we learn several terminologies related to the collaboration and mutual cooperation in realizing a wish, like: Mandatakan perumahan (Leveling the land for housing before constructing the foundation), Batagak kudo-kudo (Making roof frame, when housing construction is ready for roofing). Bakuah mambarasihkan kapalo banda means cleaning irrigation channel while discussing when to start working in the rice field. Barodi (mutual cooperation in building new/pilot road or emergency bridge), Badoncek (paying retribution and competing to give money to build an object/carrying out a ceremony in families of a kampong/tribe/clan)

It is true that the power that emerges from the result of the synergy of various potentials could become a compelling force. It seems that there are no hills that could not be climbed and no deep gorge that could not be descended, because that afar could become close (near) and those heavy could be light. All these could be resolved through togetherness and mutual cooperation that grow from sincere internal awareness (conscience), because it is bound by a common fate to rebuild proper houses as shelters when raining and a place of refuge during hot days for the grandchildren affected by the natural disaster of September 30th. When all are solid and unified and sincere, by God's Will there would be amenities, what is important is there is a will and togetherness

COMMUNITY BASED DEVELOPMENT

As described earlier, the implementation of rehabilitation and reconstruction program covered the housing sector, social sector and productive economic sector. As a result, the discussion on community based development will be related to those sectors. The culture of helping each other or to community group has been passed on from generation to generation. The mutual cooperation that has the characteristic from individual to individual is practiced in building a house, renovating the house, assisting the members in ceremonial activities, assisting the members who are having misfortune and so on. These activities are called community mutual cooperation (self-help). The community has also organized its group for the activities that are general in nature, such as repairing rural road, periodic or monthly maintenance of rural road, construction of religious facilities. As already previously discussed, in Minangkabau, cooperation among members of community is also called gotong-royong (mutual cooperation or community self-help system).

The Definition of Community

Community is defined as a group of communal people at local level that is characterized by intensive social interaction (horizontal) among the members. In this context, the coverage area of community starts from a family unit to communal neighborhood-RT and RW-association of traditional community or national community and even to international community. But in discussing the community in this section, what is meant by the term community here is characterized by relations of intensive social interaction as individuals among the agents in the community that can be clearly identified.

Based on what is going on in a region, communities could be viewed as tribes, membership of town/village residents are characterized as non-voluntary based on kinship or in a specific territorial unit. But, in a more advanced organization, there @Wis a relation among communities that is formed in various environments, such as work places, school alma-mater and sport clubs and other hobby clubs that have big influence on business transaction and political activities.

The Role of Community

The role of community today becomes more important, especially in these last years, especially for the country like Indonesia that inherited centralistic government, resulting in many traditional norms which were previously effective in regulating and coordinating behavior of the members of the society (community) which has not been enforced.

The traditional norms in regulating community behavior with respect to the conservation and utilization of common property resources or in a narrower meaning, to provide effective local public goods, such as in the forest management, cattle grazing, fishing area and irrigation system, which is called as local common or in the form of information dissemination, because in local common is characterized by the difficulty to apply user cost-price charge, are technically non separable form the said resources (technological in-excludability).

Hence, the public goods are not expected to be produced as a sufficient effort for the resources conservation and others which are in different condition from the incentive system as shown by profit motive of the agents in the open market economic activities.

The role of the local community in managing local commons, of course, must not be

excessively managed. However, for the sake of the capacity improvement of local people in order to attain a much better role is an important issue that must resolved in the present development review agenda. From popular point of view which we commonly obtained, the previous opinions are often stating that the occurrence of penetration of market economy activities to the oriented subsistence community is predicted to damage the traditional norms which contain institutions with mutual cooperative and helping each other and a guarantee of subsistence needs due to destitutions and the sufferings experienced by the poor rural citizens/community. Besides, from other model believed by enlighten philosophers like Montesqieu, who viewed that the traditional community rites and norms are oppressor on the mind and the work of the mankind, it is suggested its alternative that the market development should be viewed as a liberator to the people. But, the two contrasting models have the same view which believes that community and market as an institution are mutually exclusive institutions viewed from normative perspective.

The Roles of the Government and Non-Government International Institutions

The role of the government through National Agency for Disaster Management (BNPB) in this context denotes as an institution that has the central function in giving Community Direct Fund (BLM) and stimulus fund for the housing rehabilitation and reconstruction and non-stimulus fund (Non-BLM) for infrastructure and facility development. Besides, it also provides Manual/Technical Guideline facilitates related stakeholders, and encourages (promotes) the implementation of rehabilitation and reconstruction program, as well as the enforcement the protection of property right of its citizens through legalizing the government monopolistic power.

On the other side, the interaction among the members of the local community which repeatedly takes place in the community, based on the experience, shows that the community, as a matter of fact, is capable in endogen way to create the rules (in the form of community social norms and values) which enables coordinating activities of its members, and thus, is oriented to self-enforcing mechanism, without any intervention from the third party-and this will therefore become more efficient. In other words, the community norms are informal institution that could provide guidance to community members to attain the result of mutual cooperation in voluntarily (voluntary-cooperation) otherwise its alternative fail to carry it out, in fulfilling the objective of the empowerment in broader term.

International Agency or non-government institutions participating in the rehabilitation and reconstruction activity have the main objectives to facilitate the government, non-government organizations, community organizations in coordinating the recovery after the earthquake, to facilitate capacity building of human resources to staff of provincial and sub-provincial BPBD for sharing information in disaster preparedness, and to provide advocacy to donor countries, ministries, government agencies on the lack of financing. In facilitating physically, they give support in providing the software and/or hardware. In providing software, for example, they conduct (organize) training assistance, seminar, workshops and manual. And in helping with the hardware they develop some assistance in the construction of earthquake-resistant school buildings, spiritual facilities and the construction of infrastructure and facility for human settlement.

Why is Partnership with Community Needed?

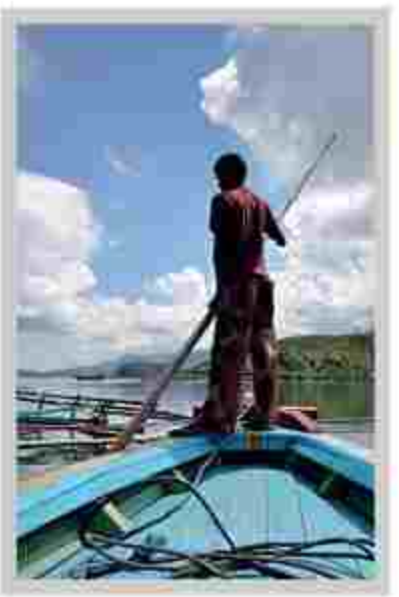
The wide empirical experience in utilization and effectiveness of rules that are directed to the utilization of natural resources toward sustainability has clearly showed the importance of the key stakeholder direct involvement in the process of rehabilitation and reconstruction and the management of natural resources. As an example, an autocratic regime, that is exclusively implementing the management that is specifically narrowed base and centralistic from the experience, has, in fact, experienced total failure to take into account adequately the public interests in community group. This practice actually often leads to the development that is neither sustainable nor running the conservation practices that are required.

In the development era in Indonesia when the community interest is not voiced (represented) in the decision making, the gap or the failure in smooth running in the implementation of the activities will occur. However, when they are the given the freedom in decision making, the un-synchronization with the policy directions of the government will likely to occur. This still exists in the decision making process. The community based management in placing the community groups will be fully responsible for the success of the implementation. Collaborative management that is based on the participation from all individuals and groups who have interest in the management of the natural resources should be encouraged.

Partnership and Community Empowerment

In an agribusiness system several experts have the opinion that the need for coordination of a series of activities among the supply of agriculture commodities management will vertically promote the creation of partnership with farmers. This partnership is one way to link (based on mutual needs) small farmers and craftsmen to activities outside the agriculture undertaking, making agricultural commodities to have higher value in the market goods, especially in relation to the liberalization of economy.

Thus, with the emergence of this requirement in the system of agriculture, the commerce and trading system of food and non-food commodities become involved in the partnership of production or in other words, it creates commercial ties between farmers and industrialists in the developed countries, or for the interest of Indonesia to attain coordination needed, in order to obtain supply in the standard of adequate quantity, quality, and delivery of agriculture commodities needed.



The agricultural partnership system could have several forms which are rather varied (diverse), but its essence lies in the form of agriculture and small scale industry partnership where traders/brokers associate with the farmers or craftsmen to buy the quantity and quality of a product at a certain price and a certain time, which is determined and agreed upon mutually. The level of price of agriculture product perhaps can become fixed in the growing season or is determined by the interaction between the demand and market offer in the harvest season. In many experiences, it results in benefit/profit for the farmers having access to information technology and the extension of services provided by the traders/brokers. It is also often the traders/brokers who give inputs (production) based on preliminary (initial) credit. With the partnership scheme, it is expected to reduce two risks, production and commercial risks.

Awareness of the impediment and failing development achievements which are not actively engaging the communities calls for reorientation of development approach with a new paradigm. According to Sumodiningrat (1996), people-oriented development gives every citizen the opportunity to take parts in the development process by gaining the same opportunity and enjoying the development outputs due to their capacity. The requirement for the society participation, apart from the same opportunity and access, also includes the capacity of the people to participate. Consequently, the people must be empowered to take part in the development process. Therefore, the development plan (design/concept) must start with empowering the people.

According to Pranoto (2005) people empowerment is an effort to make the people self-reliance through realization of their capacity potentials. The concept of people empowerment as a thought could not be separated from the people centered development or community base developments. In the people empowerment concept there are two actors that are involved, namely the community which have not been developed as those who need to be empowered and other parties that need to be empowered. The empowerment step basically focuses on the gradual, consistent, and sustainable change to carry out

Thus, in the empowerment conceptual framework the community could be viewed from three sides, namely:

1. Empowerment by creating an atmosphere that makes possible the community potential to develop,
2. Empowerment to strengthen economic potentials,
3. Empowerment through economic development to prevent the occurrence of imbalanced competition and creation of partnership between the advanced (developed) community and the developing one.

According to Mubyarto (1999), the main key in the community empowerment process is the presence of the active participation of the community in various forms of activities. In the effort to develop people's economy these following guidelines could be used:

1. Giving freedom to the community (people) to understand all their potentials and problems, to seek the solutions to the problem, and to take decision by

themselves on a number of options, in order they could learn to be self reliant from the failures as well as successful experiences;

2. Strengthening the local institution in transformative way. The institutional strengthening starts from giving room for the "natural" institution to form appropriate mechanism in promoting the potential and social energy of the community. After this condition is formed, the opportunities to improve other areas are opened;
3. Maintaining the position and role of the existing formal and non-formal leadership in capturing the essential mutual aspirations (egalitarian) of the local community. Giving support to an open (transparent) leadership and emphasizing actions that follow the proper and natural development process

In every empowerment effort carried out both by the government and business entities as well as other stakeholders (parties), the effort taken must be viewed as a trigger to activate people economy. The people empowerment effort must at least contain five main components, namely:

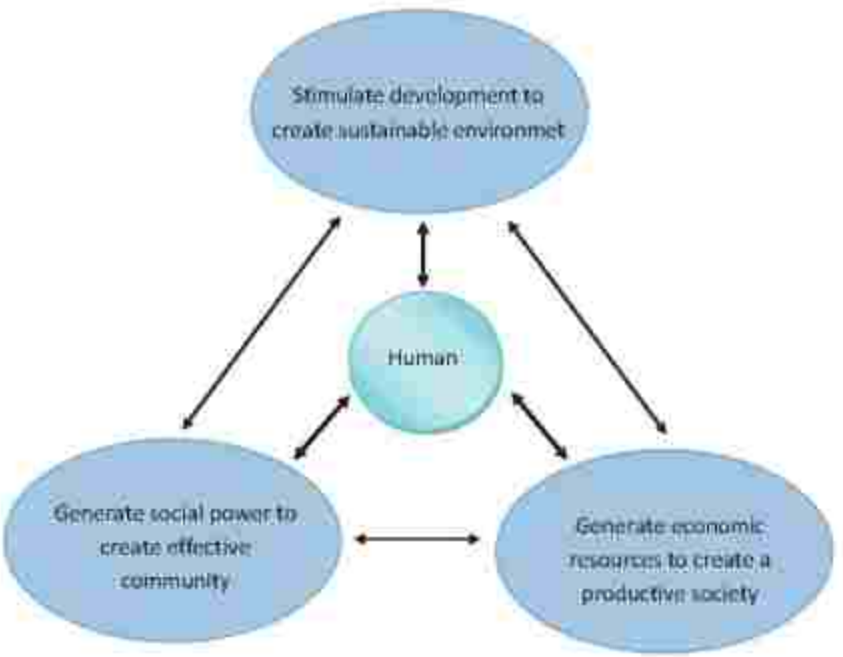
1. *Funding assistance as working capital;*
2. *Infrastructure development as a support to the development of people socio-economic activities;*
3. *Provision of facilities to facilitate marketing of community social activities;*
4. *Training for the apparatus and community;*
5. *Strengthening of community socio-economic institution.*

The community empowerment concept will run effectively if it is designed properly, to manage natural resources and develop infrastructure and basic services. Through self-help scheme, the social solidarity, voluntary, and self-reliance, the community is expected to be prepared to forge synergic partnership based on equality and interdependency. Community orientation not only mobilizes the potentials of internal resources but also takes the move to mobilize and utilize those potentials from such outside the community as the local government, interest groups, and others. The partnership is very much needed to strengthen the community capacity and at the same time to expand its development efforts.

People oriented development is realized by what is called TRIDAYA (three-capacity) approach. The TRIDAYA approach is determined by the individuals expected to

be able to build critical awareness and positive behavioral changes, self-reliance and independence. The individual behavior change that becomes the pillar for collective community behavioral change, resulting the capability of the community to build up and develop the social resilience of the community, housing and human settlements infrastructure and basic service independency, and economic reliance. The TRIDAYA implementation at community level, in principle, is adjusted to local priority needs of respective area by taking into consideration the three pillars of the balanced TRIDAYA as shown in **Figure 4.7**.

Figure 4.7.
TRIDAYA (Three Pillars)



Why Adopting a Community Based Development Strategy? (Deepa Narayan)
In many countries, the government success limited to the management of natural resources, and the provision of basic services, and the ensuring primary social services, has led to the search for alternative institutional options. In recent years, there has been a change resulted from supply-driven approach to demand-driven, and from central-command-and-control to local management or co-management

of the resources and services. This change is intended to increase efficiency, equity, empowerment, and cost effectiveness.

One of these options is community based development. The experience in community based development is substantial, both about what works and what does not work. From this experience it is clear that there is no single model appropriate for all places and times. Supporting community based development on a large scale requires new institutions which support: Adoption of goals and processes which strengthen the capacity of a community, its networks or groups, to organize and sustain the development and benefits:

Community based development process is more efficient and sustainable, because:

1. *In the group, members of community can be more dynamic in developing social and humanitarian activities and values; for example, honesty, sincerity, reliability, sacrifice, togetherness, forging unity, helping each other, solidarity among the members, and so on;*
2. *Empowerment process runs more effective and efficient;*
3. *Sharing the process of mutual care and sharpening understanding the community members;*
4. *Mutual strength consolidation both among the weak and between the strong and weak in a community group;*
5. *The group could function to develop and institutionalize mutual responsibility, develop character guarantee among members, a place of learning/interaction process among members, and develop the business/occupation of its members;*
6. *Reorienting the bureaucracies to support community empowerment and investment in social capital through user participation in decision making including the formulation of the rules;*
7. *Achieving a match between what people in a community want and are willing to pay for and manage, and what agencies supply.*

Experience also shows that community based development does not automatically include marginalized groups, the poor, women or ethnic minorities unless their participation is specifically highlighted as a goal, both at the agency and community levels. Community based development is concerned with the involvement of local stakeholders in decision making. If people in communities are to take initiative,

be creative, learn, and assume responsibility for their own development, they must be actively encouraged to participate. This requires building into policies and projects features which enable people's participation.

In order to encourage community based development on a large scale, it is important to initially understand the dynamics at the household group, or community levels. Based on this understanding, what needs to happen to support community action can be defined at successively higher and more distant levels. Community based development requires reversing control and accountability from central authorities to individuals, groups, and communities. Success is dependent on tapping into local needs and creating local ownership management (rules, control, authority, and responsibility), and organizational capacity. The challenge facing the agencies is to "reinvent" them so that they can support community involvement, participation, and capacity building for a sustained change. Community based management on a large scale requires fundamental changes in the policies, incentives, and structures of agencies. This has the costs, but when done properly, the benefits are considerable.

When Is Community Based Development Appropriate?

Community based development is not an appropriate strategy for every situation. There are three factors which influence the prospects for participation. These three factors need to be considered prior to adopting a community based approach. These three factors are the nature of the good or service, the nature of benefits, and the nature of the task.

1. **Resources/Service Availability**

   Collective action requires the availability of human resources and they are willing capable to contribute their service, it could be in the form of workers (laborers) or materials/ fund for carrying out collective action. The resources could be in the form of materials/building materials, laborers and work places. The resources must be managed collectively, and regulated to give mutual contribution and complied with the agreed rules. Those who do not give service or contribution to the activities to be carried out collectively and not

following rules can be denied from involvement.

The ability to regulate compact (close) and evenly working relations is crucial for the success and is usually determined by a combination of cultural, technological, social and ability to apply sanctions. People must able to identify the boundaries of the resources. This is particularly important with common margin property resources such as building materials, construction workers/craftsmen, raw water supply, water catchment area, and rangeland. If people do not know what resources they are responsible for, they cannot be expected to manage those resources rationally.

2. Nature of the Benefits

Collective action is easier to stimulate when benefits are quick, visible, and local, and when they are considered to be proportionate to contributions. Benefits are affected by ownership, the rights for the tenure and the land use. The benefits from the participation in the conservation such as forestry and fisheries protection, road and bridge construction, that occur only at sub-provincial or national level, local communities have little incentive to participate. However, when the participation is implemented at local level (Nagari/kelurahan), community groups have the opportunity to fully reap for the benefits.

If the resources does not lend itself to quick, visible and localized benefits, community based development should not be attempted unless strategies can be developed except by formulating one that is developed to provide quick and visible benefits.

3. Nature of the Task To Be Performed

Community-based development is dependent on action and change at the community level. This requires a clear goal orientation and definition of the tasks to be performed at the community level and agreed upon outcomes at the community level (both physical and capacity building). Among the task characteristics which must be considered are specificity, coordination, and continuity.

The specificity of the task is important so that communities can understand what it is that they are committing to undertake. Most successful examples

are of induced collective actions based on agreements negotiated with communities on the specific tasks they will perform. Task continuity is also important. Some tasks can be completed over a short period of time and are basically one-shot activities. When tasks have to be performed on a recurrent basis for an extended period of time, the organization is needed to undertake activities on a recurrent basis and this is much more complex.

Key Features of Successful Community Based Development

Enabling stakeholders to control decisions requires that new rules and mechanism be put in place. For aid agencies, this means creating an enabling environment for communities. Emphasizing user involvement at the community level requires going beyond technological factors to understand the social fabric in which the project will be embedded. These social dimensions are particularly important when the goal is to reach the poor. Successful community-based development is determined by a variety of factors. These factors are the use of appropriate strategies for encouraging participation, the existence of viable community groups, the use of appropriate technology for the project and communities, effective agency outreach strategies, client responsive agencies, and enabling policies.

Strategies for Encouraging Participation

Whenever a change is introduced, initial resistance is likely to happen. It is important, therefore, to adopt clear strategies to introduce community-based development. Achieving success is based on creating the incentives for the organizations to interact with each other to achieve the desired outcomes. In the meantime, experience shows that the results of large scale community-based development projects are very limited. There are four strategies that are used by task manager to generate support for community based approaches and project effectiveness. These strategies consist of involvement of stakeholders, consultation with different actors/agents, pilot activities, and structured learning.

1. **Stakeholder Involvement**

   Nowadays, many projects employ participatory workshops to involve government officials, NGOs, universities, and community representatives. People housing rehabilitation and reconstruction uses participatory methods in which the participants drew their own visions on the community management. This workshop uses a series of interactive methods to develop

consensus about which decision has to be delegated to different government levels to make community management possible. This workshop involves sub-district, sub-provincial, provincial, and central government officials together with NGOs and project consultants.

2. **Consultation**

   Not everyone is involved in decision-making. Hence, the project uses a variety of survey methods, beneficiary assessments and consultative meetings with potential clients. These are almost always managed by local leaders and facilitators. Women facilitators from the locality are usually required to ensure the success of the consultation with women at the community level.

3. **Pilot Activities**

   Task managers generally utilize one of the two approaches in making a pilot project to start learning process. Pilot projects can be used to test different approaches and to build capacity along with the project preparation. Monitoring and evaluation are very important components of pilot activities. If the links between the project under a preparation and the pilot projects are not clear, the pilot projects have little relevance.

   Alternatively, the initial year of a project can be conceptualized as a pilot, with funds flexibly structured to allow trial of different strategies as well as to support training for the agency staff. The scale of the project can then be gradually expanded.

4. **Structure Learning**

   A fourth strategy is to conceive the entire project as a structured learning process. As such, the focus is on learning by doing, trying different models, careful monitoring and evaluation, and refinement of systems with experience.

   The phase 1 rehabilitation and reconstruction project (pilot) has used a structured learning approach. During project preparation, at technical design (detailed engineering design) preparation, the focus has been on trying a community based approach responsive to demand. A limited number of engineering designs are prepared for different technology options in one region and others. Through this process, an approval of community plans has been devolved to lower levels.

Characteristics of Successful Community Groups

Collaboration at the local community level occurs when the members of a group realize that they cannot carry out certain tasks or achieve their goals individually. This may be because of the nature of the benefits or the task, or because of the limited skills they have, capacity, and resources. When embedded in the existing local organization of a group, communal interest provides the basis for trust, loyalty, rules, and reciprocity.

- *The group addresses anything they feel they need and a common interest;*
- *The benefits to the group who work together outweighing the costs;*
- *The group is embedded in any existing social organization;*
- *The group has the capacity, leadership, knowledge and skills to manage the tasks; and*
- *The group has and enforces the rules and regulations.*

Viable community groups are often the key to the success of community-based development. No matter what the activities are, experience indicates that the five features above characterize well-functioning groups.

The group addresses a something they feel they need and a common interest

When people can clearly see the problems that they are facing, they are obviously more likely to mobilize to change the situation than if they are blind to it. Equally important, they are more likely to be interested in working with support agencies to address the needs. The needs and priorities are not static but keep changing over time, so that the programs have to be created by assistance-giving agencies to adopt, adapt, and evolve to maintain a compatibility with community priorities.

The benefits to the group of working together outweigh the costs

To carry on the community actions, the perceived benefits must be greater than the perceived costs. The calculations of benefits are affected by the clarity, security, rights of the ownership, capability and utility. Benefits received are not static but keep changing over time. Benefits received are not the same for everyone, and the most important benefits to individuals within groups may be different from those conceived the by planners. But the bottom line remains constant: if individuals in groups do not see benefits outweighing costs, they will not participate.

The group is embedded in the local social organization

Experience demonstrates that the importance of nurturing institutions at the local level has their roots in the local community. The problem with the existing social organizations is generally unnoticeable and often excludes women and the poor from the decision making. Building on existing organizations does not always work. It is therefore necessary to understand it to allow the utility of the existing potentials and make a change based on those already existed.

The group has the necessary capacity, leadership, knowledge, and skill

The capacity of the groups to organize themselves to undertake coordinated action is important to determine their success. Local elites often take leadership roles, and although this not necessarily bad, special care must be taken to prevent any hijacking on resources. For example, in community-based people housing rehabilitation and reconstruction, the success in community organizing was closely linked to the presence of strong leaders interested in changing the conditions of the settlements. Getting local groups and organizations to become self-managing organizations can extend to over several years and does not happen without investment in capacity building.

The group owns and enforces its rules and regulations

All successful groups and associations are characterized by internal rules and regulations that are known to its members. For this reason, building on existing groups or indigenous principles of organization becomes particularly important. If people do not trust each other and are not equitable in allocating work, contribution and benefits, conflicts escalate and the group becomes ineffective

Steps in designing large scale community based projects.

1. *Clarification, simplify, and prioritize goals, relate goals with outputs;*
2. *Identify key social actors/agents, capacity, and interest at community levels and donor agencies;*
3. *Make assessment on demand;*
4. *Apply self-selection process for sub-projects, groups and communities;*
5. *Structure the subsidy that is not violating demand;*
6. *Restructure fund delivery to support demand;*
7. *Plan learning and alternative models;*
8. *Make investment in expanding outreach mechanism and social organization;*
9. *Institutionalize monitoring and evaluation and participation feed back;*
10. *Redefine rules of procurement for supporting procurement at community level where appropriate*

Participation of group members in decision making process regarding rules and regulations, and having the authority and control to change the rules to fit their needs, is critical in effective group functioning. When rules are imposed from the outside without any discussion, the rules become alien, or they feel compelled not to follow them, especially when enforcement mechanism are weak. Free riding then becomes common. If members do not know the group rules, it is generally, a sign of their lack of involvement in the rule formulation process.

Questions to guiding decision making on community based development

1. *Does it give a benevit?*
2. *Can the community be excluded from the project?*
3. *What changes or outcomes desired at the community levels?*
- *Physical outcomes*
- *Capacity outcomes*
4. *What demand or felt needs for goods or service?*
5. *Who has the key role at the community level?*
6. *What role or function of members of community in reaching the outcomes?*
- *Financing*
- *Design*
- *Planning*
- *Construction operation and maintenance*
- *Improvement action*
7. *Describe the community capacity to undertake those functions?*
8. *Describe donor agency capacity to support the community?*
9. *What strategies are fit (appropriate) to outreaching or empowering?*
10. *How is the gap between:*
- *Existing community and needed capacity?*
- *Donor agency capacity and capacity needed?*
11. *What are the characteristic of design and strategies to undertake investment in community capacity building?*
12. *What are the characteristic of design and strategies for:*
- *Restructing donor agencies in development?*
- *Redefining the existing donor agency role?*
- *Involving other agents?*
- *Creating new financing mechanism?*
13. *What are the structure, incentive and process to make the client oriented agency*

POST-EARTHQUAKE ECONOMIC GROWTH

The potential disturbance on socio-economic daily life is always there for the people living in the disaster-alert area (Vidgor 2007). The risk of natural disaster brings about negative impact on the development, especially economic development. Natural disaster erodes the productive capacity in large scale causing financial loss. Hence, the natural disaster calls for recovery, rehabilitation and reconstruction efforts in order that the economic life is back to its normal condition. However, these have financial consequences which often exceed the local economic capacity that is being hit by the disaster. The huge socio-economic need for the rehabilitation and reconstruction consumes the development results.

Natural disaster has negative-sum game impact. A region struck by disaster faces economic declines; whereas the region not hit by the disaster is not experiencing economic progress. The recovery efforts for a disaster-hit region not only become a burden for the region affected by the disaster, but also affect the region not hit

by the disaster. The national disaster management effort is certainly becoming a burden to the national budget (Negara and Bary, 2008).

The natural disaster affects almost all aspects of live with no exception in the economic area. Directly the disaster brings about losses of human lives and goods, either for those with financial or non-financial value. We could directly estimate and calculate the losses due to the disaster. All forms of losses further affects on the human livelihood, either economically or non-economically. Once the disaster comes, some productive factors by no mean lost their roles in driving human lives. The direct impact and indirect impact have the potentials to decline economic scale. However, as a whole, the recovery, rehabilitation and reconstruction efforts to mitigate the negative impact of the disaster could bring positive impact in macro economy (Mechler, 2003). These efforts could bring about bigger positive impact for post-disaster economy.

There is an indication that there is an exodus of West Sumatra economic actors heading to other regions. If this phenomenon is continuously ignored, the consequences are not only threatening the local economic growth in a short term, but also in the long term. This trend could continue to grow due to natural disaster, but the natural disaster is not necessarily becoming the main cause. Before the natural disaster becomes a public issue, the trend of exodus of economic actors leaving the region has already started. The cause that makes sense mostly is a great attraction of the other areas outside West Sumatra. The neighboring areas (regions) are more incessant in building their productive capacity to ensure local economic growth. In building up public infrastructure, West Sumatra is relatively left behind, especially when compared to Riau. Even without facing a disaster, the productive capacity of West Sumatra is relatively small. This problem becomes an obstruction for accelerating development. The natural disaster has worsened the West Sumatra economic productive capacity. However, it cannot not be denied that the 30 September 2009 natural disaster which not only has become local government agenda, but also that of public at large, nationally and internationally, which could become a new momentum for the improvement of public infrastructure required to accelerate the development.

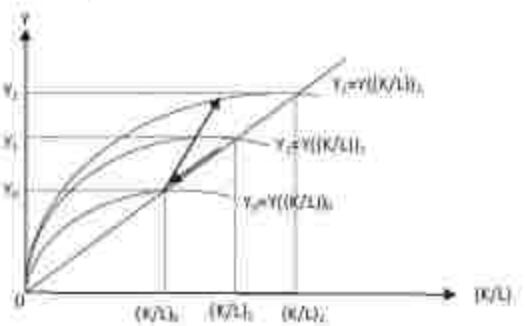
Before the disaster, the aggregate production level can be simply expressed as: $Y = f(K,L)$. Before the disaster, the real aggregate production level is Y. We produce Y with all the production factors we have, both the capital (K) as well as other

production factor (L) other than capital. The combination of these two production factors K and L determine the level of production that can reached. Without technological change the increase of total K and L will increase the production, on the other hand, the vice versa could occur if we face the decrease of the total K and L. Moreover, if we face technological change, the production could experience a change in term of increasing or decreasing, even though there is no alteration in the total K and L which we used in the production activities. Technological progress can increase total production without changing the total K and L. On the other hand, the decline of technology can also decrease the production level without changing the total K and L used.

The natural disaster can be understood to affect the aggregate production level to decrease. The declining production could come from the damage of production factor due to disaster. This condition is comparable to the technological decline. The declining production is reflected in the shifting of production function to below $Y1 = f(K/L)$ to $Y0 = f\{(K/L)0\}$. The decrease of production could cause economic stagnant. If there is no intervention, the disaster could lead to economic crisis.

In reality all stakeholders gave response to overcome the loss caused by the disaster. There were many people responding by donating their own belongings. Many people withdrew their savings to finance the need for restoring the damaged housing or work place. The government and international institutions also carried out rehabilitation and reconstruction works. All these gave impact on the improvement of production capacity. The improvement of production capacity with the implementation of large rehabilitation and reconstruction works will not only be able to restore the production level before the disaster, but it could bring the economy to a higher level. Consequently, production level will increase. The increase of production is reflected in the shifting of production function from $Y0 = f\{(K/L)0\}$ to $Y2 = f\{9K/L)2\}$ as shown in ***Figure 4.8.***

Figure 4.8.
Shifting of Post Disaster Production Function



30 September 2009 earthquake that struck West Sumatra has affected the economic livelihood, especially the economy in Padang City where the worse damage occurred. The damage due to earthquake disaster has suddenly influenced the economic activities. This condition is reflected from the economic growth pattern of West Sumatra during the period of 2008 to 2010. The economic fluctuation tends to form a U letter that is flat as described in **Table 4.2.**

Table 4.2
West Sumatra Economic Growth Rate by Sector

	2008	2009				2009	2010				2010
		1	2	3	4		1	2	3	4	
Agriculture	5.47%	3.91%	3.03%	3.10%	3.87%	3.47%	4.13%	4.44%	2.82%	3.27%	3.66%
Mining and quarry	5.66%	5.38%	4.80%	4.23%	4.26%	4.66%	5.03%	6.04%	6.10%	6.03%	5.80%
Industry	7.14%	6.42%	5.81%	3.87%	-1.57%	3.57%	-0.84%	-0.35%	2.35%	9.07%	2.51%
Electricity, Gas and water supply	3.33%	5.07%	6.75%	10.77%	0.81%	5.80%	-0.17%	-0.21%	1.24%	8.78%	2.35%
Construction	7.64%	5.62%	5.15%	4.07%	1.44%	4.04%	5.92%	11.00%	16.88%	21.03%	13.73%
PHR	6.74%	7.15%	5.79%	8.14%	-5.68%	3.76%	-2.15%	0.52%	0.60%	15.87%	3.48%
Transport	9.55%	6.53%	5.80%	5.66%	5.91%	5.99%	7.73%	9.31%	10.58%	11.91%	9.91%
Finance	7.97%	4.92%	4.23%	4.05%	3.13%	4.08%	4.23%	5.20%	6.66%	6.88%	5.75%
Service	6.59%	6.72%	5.69%	5.32%	2.88%	5.12%	6.46%	8.48%	9.50%	12.15%	9.17%
PDRB	6.88%	5.84%	4.99%	5.06%	1.35%	4.28%	3.29%	4.80%	5.48%	10.15%	5.93%

In 2008 West Sumatra reached an economic growth rate of 6.9%. The disaster that hit West Sumatra on September 30th, 2009 has decreased the rate of economic growth. Although the signs of economic slow-down were already visible since the first quarter of 2009 to the third quarter of 2009, the annual economic growth rate dropped sharply in the fourth quarter of 2009. As a result, the economic growth rate in 2009 dropped sharply 4.3%. All these showed indirect impact of natural disaster on the macro economy of West Sumatra. This condition was not as bad as predicted by many people considering how big the earthquake disaster was to strike the City of Padang severely as the heart of economic activities of West Sumatra.

All work sectors experienced the decrease in economic growth rate during the period of 2008-2009. There were sectors that, since quarter 1 to quarter 3 year 2009, had shown the decrease in economic growth rate. Included in these groups were agriculture sector, mining and excavated minerals, industry, building, transporta-

tion and communication, finance and services. The agriculture sector showed a decrease in economic growth rate from quarter 1 to quarter 2 of 2009, in quarter 3 at the time the earthquake disaster happened and in quarter 4 after the disaster it showed the increase of economic growth. The low rate of economic growth in agricultural sector which tended to decrease rather reflected low productive capacity and quality of infrastructure in agricultural sector than reflected the impact of natural disaster itself. The same condition also almost occurred in mining and mineral-excavating sector, as well as in transportation and communication. Meanwhile, the industrial sector, electricity, gas and water, trade, hotel and restaurant, finance and service sectors showed economic growth rate that dropped sharply and even reached negative level in the fourth quarter 4 of 2009. The decrease of economic growth rate in these sectors was rather reflecting the impact of the earthquake disaster, especially in trade, hotel and restaurant sectors in the third quarter of 2009 reaching an economic growth rate above 8%, and after the earthquake disaster on the fourth quarter of 2009 it experienced a drop in real output resulting in the economic growth rate to become negative at 5.7%. The negative economic growth rate was also experienced in industrial sector after the earthquake even though the growth rate in this sector has shown a decrease since early 2009.

The response to 30 September 2009 earthquake showed a significant influence on the economic recovery activities. People, businesses and government strived to restore back the businesses that were directly and indirectly hit by the earthquake. There were many houses that were damaged and work places that were destroyed were immediately rebuilt with the strong spirit of the people and businessmen to restore their livelihood. Those who had the savings withdrew their money for rebuilding the houses and work places that were damaged and for those who had access to banking and financial institutions also applied for loans. The impact of all these were reflected in the improvement of economic growth rate in the first quarter of 2010. The economic growth rate in that year increased from 1.4% in the fourth quarter of 2009 to become 3.3% in the first quarter of 2010. The increase in economic growth rate was rapidly going on up to quarter 4 of 2010. When in quarter 2 of 2010 the economic growth rate increased to 4.8%, in quarter 3 of 2010, the economic growth rate increased to 5.5%. This was an impressive prestige that occurred in quarter 4 of 2010 where the West Sumatra economic growth rate was enjoying new economic development momentum by increasing public investments that entered the region as a positive response to earthquake disaster that hit the economy of the region

The improvement of economic growth rate in quarter 1 of 2010 stems from the economic growth rate in agriculture, mining and mineral excavating, building, transportation and communication, finance, and services sectors. Meanwhile, the industrial, electrical, gas, and water supply, and trade, hotel and restaurant sectors still experienced decrease of real output up to quarter 1 of 2010.

In quarter 2 of 2010 the economic growth rate in agriculture, mining and mineral excavating, building (construction), transportation and communication, finance and services sectors, and trade, hotel and restaurant made increasing contribution for the regional economic growth rate. Meanwhile, the industry and electricity, gas and water supply sectors still experienced decrease in real output.

The regional economic growth rate that was rapidly rising in the third quarter 3 of 2010 was followed by positive economic growth rate in all sectors. All sectors showed rapid increase of economic growth rate except for the economic growth rate in agriculture sector which dropped drastically. The acceleration of economic growth rate occurred in building, and transportation and communication, and services sectors.

The rapid economic growth rate in the fourth quarter of 2010 showed the improvement of economic growth rate in almost every sector. Only mining sector showed a slight drop, however it was still relatively high. Building, trade, hotel and restaurant, services, transportation and communication, industry, electricity, gas and water supply sectors reached a much faster economic growth rate. This reflected the impact of public investment that has been more significantly implemented since the middle of 2010. The rehabilitation and reconstruction due to earthquake disaster started to show its impact in 2010. The momentum of acceleration of economic growth rate that occurred in the 4th of 2010 is expected to continue in 2010 where the rehabilitation and reconstruction process will take bigger role.

The earthquake disaster directly caused damages in material goods which monetary value of loss can be financially calculated. Moreover, it also brought changes in production structure, demand and supply. Indirectly, earthquake disaster impacted on macro-economic change that can be reviewed (analyzed) from aggregate demand side and supply side. From the aggregate supply, the influence of natural disaster has been reflected in the change of economic growth rate different from

one sector to another depending on far damaged production infrastructure was due to disaster and how far the intervention was in the form of rehabilitation and reconstruction had been carried out. Further, **Table 4.2** shows how the aggregate supply component gave change respond after the earthquake disaster.

Table 4.3.
West Sumatra: Economic Growth Rate by Utilization

	2008	2009				2009	2010				2010
		1	2	3	4		1	2	3	4	
Consumption	4.73%	3.82%	4.48%	4.77%	-0.83%	3.01%	-0.50%	-0.48%	3.16%	10.40%	3.79%
Household consumption	2.80%	3.13%	3.80%	4.12%	-3.24%	1.94%	-2.00%	1.85%	0.04%	8.54%	1.10%
Government consumption	5.32%	6.68%	7.46%	7.38%	9.11%	7.67%	11.90%	14.10%	16.91%	18.92%	15.51%
Investment	13.70%	57.95%	22.73%	-11.01%	-22.29%	8.38%	-20.84%	12.38%	6.34%	17.26%	3.96%
Net Exports	8.75%	32.43%	6.51%	-24.84%	38.02%	4.91%	22.26%	14.25%	12.44%	4.66%	23.37%
Exports	22.26%	-10.03%	8.62%	14.25%	11.68%	1.78%	29.17%	19.16%	9.01%	12.19%	16.56%
Import	44.49%	20.49%	11.61%	2.17%	16.49%	2.09%	11.49%	16.78%	4.25%	25.48%	7.52%
PDRB	6.88%	5.84%	4.99%	5.06%	1.35%	4.28%	3.29%	4.80%	5.48%	10.15%	5.93%

All aggregate supply components in West Sumatra economy experienced the decrease of performance in 2009, except for the government/public consumptive spending. Government/public consumption was one of the aggregate supply components that continually experienced increase during 2008-2009. Meanwhile, household/domestic consumptive spending dropped significantly. Investment and export also showed decreasing growth rate. Import experienced decrease in real value.

During the two quarters before the earthquake of 30 September 2009, the household consumption had still been experiencing increasing growth rate even though it was lower than the government/public consumption growth rate. In the same period real investment experienced rapid growth rate with the speed dropping sharply. Unlike the export that experienced real value decrease in the two same periods. Import activities in the first quarter of 2009 experienced of growth rate higher than 20%, in quarter 2 year 2009 experienced negative growth rate of 12%.

In the third quarter of 2009 where earthquake disaster occurred, consumption, export and import experienced real increase. Meanwhile, investment experienced a big decrease in real value. The investment condition worsened in the fourth quarter of 2009 after the earthquake. But, export still experienced sufficient real increase even though it was lower compared to the previous quarter. Meanwhile, export experienced big negative growth rate. In line with import activities, household consumption also experienced negative growth rate. Beside export, only public consumption that experienced a big positive growth rate in the fourth quarter of 2009, after the earthquake.

During 2010 the role of public consumption became more important. This situation clearly reflected the implementation of rehabilitation and reconstruction on earthquake disaster. The public consumption growth rate in 2010 was almost twice as much as the public consumption growth rate in 2009. Household consumption still experienced lower growth rate compared to 2009. The negative growth had occurred since the fourth quarter of 2009 remained negative up to the second quarter of 2010. But, since the third quarter of 2010, household spending once again showed better hope. Although, the consumption growth in 2010 was still lower than that in 2008, it was far above the consumption growth rate in 2009.

The role of public consumption spending, the export in 2010 also showed much lower growth rate compared to 2009. If this momentum could be maintained, export will be able to become the machine of economic growth in West Sumatra together with the effort in rehabilitation and reconstruction through dominant government role. By maintaining all of this momentum through regional economic development policy that put improvement of productive and efficient undertaking, the post-earthquake West Sumatra building back better effort (program) is not something impossible.

Just like in the export, investment as an aggregate demand component has a position to activate the sustainable economic growth. Export and investment are the two engines of regional economic growth that work mutually to speed up the growth. The issue of investment in West Sumatra is lack of mobilizing and strengthening local investment which at early stage was low and under the medium to small scale business (entrepreneurs). It cannot be denied that economic growth needed to realize building back better of West Sumatra will require large investment. No matter how big or small the local investment is, both made by the private sector and government in the form of infrastructure development or public investment, it becomes an indicator for local economic risk. Low local investment sends a signal indicating that local business risk is high. The region that has high business risk signal is not attractive for investment, especially investment that is expected to come from outside the region.

The natural disaster, especially occurring repeatedly in one short period of time, has negative influence on incentive for further investment. The investors need stable climate and certainty to be motivated to invest money. When the disaster occurs, the investment condition becomes blurred. Furthermore, job opportunities disappear pressuring market demand and causing stagnation restricting the growth as a whole. West Sumatra economic growth that is predicted to experience drastic decrease by end of 2009, as a matter of fact, still reached positive growth. In 2008, West Sumatra economic growth reached 6.8%, illar

in 2009 it drastically dropped to 4.3% as an indirect impact of natural disaster that had wide impact. This figure is still under the economic growth rate in 2007 of 5.7% when there was no severe natural disaster like those on 30 September 2009. The post-earthquake positive economic growth performance was more reflecting positive impact on recovery carried out by all stakeholders; the people suffering from the disaster, the government, entrepreneurs, as well as the national and international assistance as an effort for immediate restoring from severe damage.

If compared to neighboring regions that did not experience the disaster, West Sumatra economic growth rate in 2009 was far leading. Riau as the richest province with economic growth sources, in 2009 only reached an economic growth rate of 2.9%. Meanwhile, the central parts of Sumatra covering West Sumatra, Riau, Riau Islands and Jambi only reached the economic growth rate of 3.6% in 2009. This situation gives lessons to West Sumatra how important is the productive capacity improve-

ment that due to natural disaster it becomes absolutely necessary. West Sumatra was very supported in its productive capacity improvements due to natural disaster. Without natural disaster those improvements could be viewed as something not urgent. If the momentum of rehabilitation and reconstruction process is well maintained through some helpful local government policies, it is not impossible the regional economic growth can be made faster from the normal situation.

The magnitude of supports for the implementation of recovery effort, rehabilitation and reconstruction process became the source of the economic growth that was more clearly seen at the end of 2010 when the economic growth rate was very rapid. During the year of 2010 many improvements had been made for kinds of damages, especially those experienced by the people and business communities. Meanwhile, the government buildings have not experienced much improvement, and even on the main roads in the capital city of West Sumatra, many ruins of the building debris are still seen. If in 2011 the rehabilitation and reconstruction of public infrastructure can be made on a larger scale and systematic, the impact on economic growth will be even much bigger. Furthermore, it will encourage demand on construction workers and non-worker inputs; such as, building materials that will ensure the price increase, especially on the worker wages. This macro process could speed up aggregate regional economic growth and welfare improvements.

Actually, West Sumatra has an investment engine that has not yet activated through regional economic development strategic policy. All urban areas and districts in West Sumatra have locally owned enterprises or BUMD, even in West Sumatra Province itself. From the total BUMDs using local financial resources, only Bank Nagari showed good performance just like a business entity. Bank Nagari is engaged in financial sector whose shares are owned by the local governments of the entire West Sumatra. The financial sector is one of the two pillars of economic development. Other pis the real sector. West Sumatra needs to have the equally strong financial and real sectors by engaging the people in its capital ownership and professional management to speed up post-earthquake West Sumatra economic development. All these need a strategic policy and well experienced professionals. This effort is believed to also speed up the realization of the West Sumatra-building-back-better vision after the disaster.

BUILDING BACK BETTER

Post-earthquake rehabilitation and reconstruction's motto building back better covers general and operational policies for the implementation of the people housing rehabilitation and reconstruction and the construction of the government buildings. General policy contains earthquake resistant development approach strategy and sustainable development with technological outlook. While operational policy comprises procedure on earthquake resistant buildings.

General policy comprises:

1. **Enhancing People Concern and Behavior Awareness of Disaster in Daily Life.**

West Sumatra is located in a disaster-alert area. This means that the people in West Sumatra people are exposed to disaster-alert situation. With this regard, the concern that needs to be taken is as follows:

a. Recognizing and reviewing the likely threat of disaster and its mitigation
b. Understanding the environmental condition and situation and people vulnerability
c. Analyzing the feasible impact of disaster

d. Action alternative to reduce the disaster risk;
e. Being prepared to manage the disaster threat and its impact;

The readiness-alertness calls for periodic and continuous measures to increase people awareness, concern, and capacity in facing the disaster. This improvement could be carried out by the central government and local government in formal and non-formal education, such as trainings, simulations and rehearsals. In addition, to enhance knowledge on disaster, it is important and necessary to provide evacuation procedure (know-how) to face the disaster and formal education on disaster starting from the level of Elementary School to Junior High School and Senior High School are very important. People also need to be provided with counseling, earthquake resistant building technical know-how both through printed media, electronic media and training.

2. Complying to Laws and Regulations

In undertaking government or individual/ private building construction, prevailing national and regional laws and regulations that regulate construction of earthquake resistant building must be complied.

Regional Spatial Plan becomes a reference for utility control of regional spatial plan. Utility control of space comprises application of regulations related to spatial planning, safety standards and application of sanctions on violation of use. The District/City Spatial Plan, especially in West Sumatra Province, of course still needs to be updated so that it enacts as Local regulation in a respective region, hence, it calls for preparation of zoning map in the district/ cities that are earthquake prone. The zoning map could become a local guideline regarding what areas are still safe as location for development and what areas are not permitted for development location.

Furthermore, application of sanction in land use control needs to be enforced, particularly in new building construction that are earthquake resistant.

3. Enhancing the Facilitation and Technical Guidance Activity

Facilitation regarding strengthening human resources capacity building in the province and district/city needs to be conducted. This can be done to prepare the regulations, implementation and facilitation guideline for the project manager.

Extension and dissemination of regulations and technical manuals for earthquake resistant house need to be conducted. Application of building permit (IMB), particularly for constructing new building is an absolute requirement that must be enforced. In addition, introduction of Building Permit in the rehabilitation and reconstruction of people housing could be conducted. Information dissemination on earthquake resistant building through printed and electronic media is also important

Operational policy

Operational policy is determined to realize targets and sub-target of rehabilitation and reconstruction program. The implementation of rehabilitation and reconstruction is also determined based on the chosen rehabilitation and reconstruction activity scenario and can anticipate a variety of issues and developing environment. Operational policy comprises as follows

- Restoring the function of building, housing, infrastructure and basic services that are environmentally friendly or earthquake resistant;
- Providing knowledge on hazard knowledge and risk knowledge;
- Commitment from policy maker both at central and regional levels;
- Preparation of law and regulations (legislation) to support smooth implementation of rehabilitation and reconstruction process;
- Damage and loss preliminary need assessment or DALA;
- Make building code;
- Help people by giving design;
- Determination of economic infrastructure building location in accordance with the land use;
- Recruitment of facilitators and Community assistance Team;
- Provide house repair stimulus fund that is implemented through community empowerment;
- Supervision of housing rehabilitation and reconstruction work and construction of infrastructure and facilities

Several important items that need to be taken into consideration in constructing earthquake resistant building are:

1. Conduct the control of a good spatial plan to realize a continually safe space.
2. Make building code and standard.
3. Conduct training for improving the capacity and professionalism of apparatus responsible in spatial planning;
4. Consider the use of safe earthquake resistant technology (dumper, seismic isolation, and so on);
5. Conduct training to enhance contractors and consultant capacity and professionalism in adopting the new technology in the construction of earthquake resistant building;
6. Construct government building and public building in accordance with the construction technical standards, design approved in a specified time;
7. Enhance the field supervision quality on building construction;
8. Conduct building material test in accordance with the standard, before use in building construction.

The Main Requirements for Earthquake Resistant-Housing

The main requirement for the house construction is that the construction should meet the following standard and requirements:

1. Good quality of building materials;
2. Appropriate site and structure dimension
3. All elements of main structure are well connected
4. Good workmanship

Several building material elements are shown in **Figure 4.9**.

Figure 4.9
Building Material Elements

Gravel steel bars bricks

Concrete

Cement, sand and gravel are used to make concrete. Good mixture of concrete is 1 part of cement: 2 parts of sand: 3 parts of gravel: 0.5 part of water. In mixing these materials attention needs to be taken in adding water little by little and adjusted so that the concrete become slurry (not too much water and not too hard-pourable). Sand and gravel must be free from silt and organic materials, steel bar must have proper diameter and quality, and brick must have uniform dimension and not easily broken. See **Figure 4.10**

Figure 4.10
Concrete

Foundation

Housing foundation should be made of hard river/mountain stones and has rough surface (not rounded). The depth and dimension of the foundation is adjusted with the upper-part of the building structure. Multi-storied building and those functioned for public use, such as hospital and governor office should be designed in such a way that they can resist earthquake. Its technology can be applied by strengthening the building structure or by using isolator devices, such as seismic isolation, dumper, and so on. River stone foundation is shown in **Figure 4.11**

Figure 4.11.
River Stone Foundation

Timber

Timber used for housing must be of good quality, hard, dry, dark colored, crackless, and straight. Some of the timber material used in the 30 September 2009 post-earthquake rehabilitation and reconstruction were taken from the collapsed houses which were still in good condition. And, some were obtained from the trees that people chop down in their yards or in the forest. The timber blocks are shown in **Figure 4.12**

Figure 4.12
Timber

Foundation

The minimum size of foundation for a simple house should follow standard; the minimum width of the upper foundation is 30 cm, the width of the lower foundation is 60 cm for minimum, and the height of the foundation is 60 cm for minimum. On top of the foundation a foundation beam is installed with the dimension of 15 x 20 cm. The anchor bolt uses: 10 mm diameter for the main reinforcing steel bar, share bars with the diameter of 8 mm, the distance of steel of the share bars is 15 cm, and the covering concrete of 15 mm height. Dimensions of foundation are shown in **Figure 4.13**

Figure 4.13
Dimension of Foundation

Column

The column dimension should be 15 x 15 cm, with the main reinforcing steel bar of 10 mm in diameter, share bars of 8 mm in diameter, distance between each share bar is 15 cm and the thickness of the covering concrete is 15 mm. The distance from one concrete column to another is 3m for maximum. The beams and column joints are shown in **Figure 4.14**

Figure 4.14
Reinforcing Bar and Column Size

Peripheral Beams/Ring Balk

Peripheral beams should be built above the wall or the filling wall measuring 12 x 15 cm. Reinforcing steel used must be the steel bar of 10 mm in diameter and reinforcing frame of the share bar of 8 mm. Peripheral beams serves as connector for one column with another so that housing structure becomes strong/rigid. Peripheral beams and ring balk are shown in **Figure 4.15**.

Figure 4.15
Peripheral Beams and Ring Balk

Roof Structure (Frame)

The roof structure consists of truss made of wooden or light steel. The truss is equipped with standing rings with the dimension of 8/12cm, the beam of 8/12 cm, the smaller one of 5/6 cm, and that of the smallest size of 2/3 cm. From one truss to another, a timber beam is installed to resist the wind with the size of 6/12 cm. The join between the truss and the column is tied through the bar and the column which will then be extended to the truss. To join the truss a thin steel plate is used and bolts are used to tie the beam.

Figure 4.16
Roof Structure

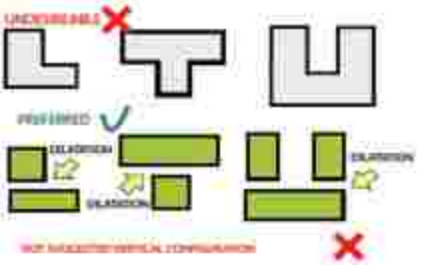
THE MAIN REQUIREMENTS FOR EARTHQUAKE RESISTANT BUILDING CONSTRUCTION

In many cases, the general public do not know how far the level of damages occurred in building construction, so that many traumatic people do not dare to enter the said building, even though the building itself is actually still safe structurally. But there are also many buildings structurally unsafe for use due to the damage of the structural elements that are still used for residing by people and that could endanger their residents if an earthquake reoccurs. To reduce the impact on human lives caused by the building damage, earthquake-resistant buildings needs to be developed. The building aspects have to be taken into account to make the building earthquake-resistant:

1. Building Layout and Site
   a. Building layout should be symmetrically designed on its two axes, because unsymmetrical layout will cause torsion. Square shape is more resistant to earth-

quake and rectangular shape should be avoided as it will cause bigger torsion;

b. Large size building should be separated into symmetrical blocks and given dilatation;



c. Installation of partition walls should be symmetrical with the two axes of the building;

d. The type of soil in the area should be taken into account for building site. Very fine sand and sensitive sandy clay and water saturated must be avoided because of liquefaction and it is likely to lose its strength causing damage to the building when shook by earthquake;

e. Land slope should be given attention to prevent danger of landslide;

2. Foundation

a. Strong building on top structure often experiences failure/damage because of the weak foundation;

b. Foundation for multi-storied building should be placed on hard soil;

c. The position of the leveled foundation position should be avoided;

d. Soil investigation should be first carried out for storey building, the data of which will be used to calculate the support capacity of the foundation.

e. A closed shape, square or similar shapes are preferable to U or L shapes.

f. Buildings having plans with shapes like L, T, E and Y should preferably be separated into rectangular parts by providing separation or crumble sections at appropriate places.

g. Shape of the structure: Buildings should be symmetrically designed with respect to mass and rigidity in such a way that the center of the mass coincides with center of the rigidity in order to avoid torsion.

3. Structural Design

In structural design, all of the following should be taken into consideration;

a. Strength

Strength is the ability of the structure to resist earthquake motion and influence of rocking. All parts of a building should be firmly tied together and stiffly braced at corners in such a way that the whole structure will tend to move as a unit.

b. Ductility

Ductility is the comparison of the deformation/deflection when collapsing to the deformation when destroyed or molten. The ductility of the materials must be taken into account.

c. Flexibility

Flexibility is the ability of a structure to withstand big bending without collapsing. This flexibility concerns only with structure.

To design the structure of multi-storey building (structure analysis) the newest regulations must be complied with, especially in the planned earthquake load calculation. At the present, it must use earthquake zoning map 2010 issued by the Ministry of Public Works.

Besides, building structure analysis must be made by experienced and certified specialists in the field of construction.

In designing earthquake resistant building Detailed Design Engineering (DED) must be prepared as a reference for the contractor in the field. The drawings must have clear details, especially details on connection bar between the structural elements (the joining of beam-column, and so on). This requirement is necessary to fulfill so that some mistakes in the implementation of the construction can be eliminated.

4. Building Materials

Building materials used in the construction should first be examined in the testing laboratory. The test for the materials used for the construction should follow the prevailing regulations.

The quality of the materials tested in the laboratory must go together with that of planned materials.

5. Evacuation Facility

Evacuation facility is an item added to the building structure which will function to facilitate the building users to evacuate during the earthquake or tsunami.

This is exemplified by the two buildings currently under a construction of the post 30 September 2009 earthquake rehabilitation and reconstruction phase:

a. West Sumatra Escape Building
   This building was constructed of reinforced concrete for 4-floor storied building which is supplemented by helipad that is one of the evacuation facilities;

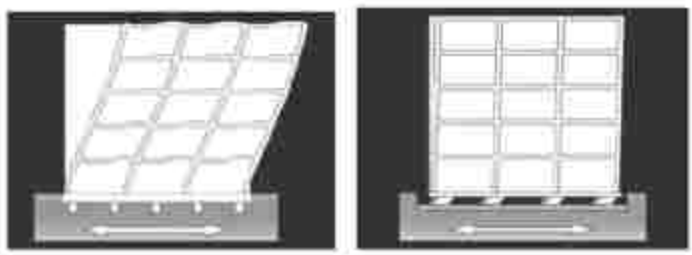
b. Road, Spatial Plan and Human Settlements West Sumatra Office Building
   This building was constructed of reinforced concrete supplemented by helipad as one of the evacuation facilities.

6. Seismic Isolation

To resist seismic load on the multi-storied building, a seismic isolation usually is used. Seismic isolation is a part of the building that can separate the upper structure from foundation, or the other part that can actually separate the upper structure from the bottom structure. Moreover, base isolation is now usually called seismic isolation because it is actually created to anticipate seismic loads.

Comparison between a conventional building and a building using isolator is shown in **Figure 4.17**

Figure 4.17
Comparison between Conventional Building (fixed base building) and Building using Isolated Base



As an example in the building under construction, namely:

a. West Sumatra Province Escape Building. It applies seismic isolation of rubber isolator type.

b. The Building Road, Spatial Plan, and Human Settlements Office of West Sumatra Office. It applies seismic isolation of rubber isolator type.

c. West Sumatra Governor Office Building. It applies seismic isolation of rubber isolator type.

Detailed Drawings of Seismic Isolation on the above buildings are presented in **Figure 4.18.**

Figure 4.18
Detailed of Seismic Isolation on Building

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AUTHOR'S AND CO-AUTHORS BIODATA

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Sugimin Pranoto, was born 63 years ago in Kabupaten Ngawi, East Java Province. Educational background: Diploma Degree in Planning, Housing and Building from the Institute of Housing Study (IHS) Rotterdam; graduate degree in Building Construction Technique from State Educational Institute of Vocational Science, Yogyakarta; post-graduate degree in Rural Regional Planning/Human Settlement Development, Asian Institute of Technology (AIT), Bangkok, Thailand; and doctorate degree in Natural resources and Environment from Bogor Institute of Agriculture (IPB) in 2005. Present position is a member of Steering Committee of Professional Society Representatives, National Agency for Disaster Management and Coordinator of Technical Support Team for 30 September 2009 Post-Earthquake Rehabilitation and Reconstruction in West Sumatra. Work experiences: retired as civil servant in 2008, held various positions in the Ministry of Public Works as echelon IB. The experience in Disaster Management: International Course on Disaster Management (Certificate), Turkey; Referee on Asean Regional Disaster Emergency Respond Simulation (ARDEX-7), Singapore; Member of Working Committee in Preparation Team for drafting Law on Disaster Management; International Seminar on Post Disaster Reconstruction, Yogyakarta; 2nd Post Disaster Need Assessment Workshop (Government of Indonesia Rehabilitation and Reconstruction Guidelines); UNDP-BNPB Jakarta; Speaker on Disaster and Risk Management -2nd, Sustainable Urban and Cities Local Government ASPAC Congress, Pattaya, Bangkok; Lecturer for Disaster Management Post Graduate Students, University of Indonesia Defense (UNHAN), Jakarta.

Sugeng Sentosa, was born in Purwokerto, Central Java, 14 March 1952. He graduated from University of Indonesia in Architecture in 1982, continued to post graduate study in Texas A&M University, Texas, USA in construction management. He worked as staff at the Ministry of Public Works in 1982 to 2008, last position as the Head of Sub Directorate of Management and Revitalization Area at the Directorate of Public Buildings, Directorate General of Human Settlements (Cipta Karya). He was active in the field of disaster management in Naggroe Aceh Darussalam (NAD), Yogyakarta Special Region, and West Sumatra. Headed the Housing Division at the Technical Support Team at the National Agency for West Sumatra Disaster Management Rehabilitation and Reconstruction from 2009-2011. Presently, he is working at Suramadu BPWS, East Java, as the Head of Technical Planning Division.

RB.Khatib Pahlawan Kayo, was born 64 years ago. His daily activity is as a Lecturer at the Social Training Unit Regional I Sumatra in Padang. Pak Khatib, as he is usually called, beside as a Lecturer, also active in Muhammadiyah, West Sumatra, as the Chairman of Executive Committee Regional (2005-2010). In academic field, he was an alumnus of the Faculty of Islamic Law IAIN Imam Bonjol Padang (1988). He gives lecture in several universities such as Faculty of Dakwah IAIN Imam Bonjol, Faculty of Economy University of Muhammadiyah, now in Islam Muhammadiyah Islamic College Singapore. Besides, he has also worked as Public Relations Officer at the Ministry of Social Regional Office of West Sumatra (1989-1993), a reporter at Suara padang. A number of his articles published such as Basic Leadership of Contemporary Dakwah Management; Islamic Leadership and Dakwah

Syafruddin Karimi, who was born on 9 October 1954, in Payakumbuh, is a professor at Andalas University. He earned his graduate degree in Economics from Faculty of Economy of Andalas University in 1980, pursued his MA degree in School of Economics University of Philippines in 1983. Syafruddin Karimi earned his PhD degree from the Department of Economics, Florida, in 1995. Since 2008 he has held a position as the Dean of faculty of Economy at Andalas University. At the same time he was elected as Head of Indonesia Association of Economic Graduate (ISEI) Padang Branch. International Trade, Economic Growth, and Poverty are among the subjects he teaches and conducts research which always draw people's attention. Since 1996 to the present he is involved as a researcher by OECF in community socio-economic performance of Waduk Koto Panjang Area study. Since the 30 September 2009 earthquake that struck West Sumatra, he took part actively in conducting study on disaster impact on regional economy.

Fauzan, was born in Padang on 12 June 1974. His graduate degree in civil engineering was earned from Andalas University in 1997. In 2001 he obtained M.Sc (Eng) degree from University of Sheffield, UK, and in 2007 doctorate degree in structural engineering from Toyohashi University of Technology, Japan. His daily activities are as lecturer and member of Quality Assurance Unit Civil Engineering, Faculty of Engineering of Andalas University from 2009 to present. He is given the task as the Head of the Clinics for Construction Study Center for Disaster at Andalas University from 2009 to present. In the rehabilitation and reconstruction of West Sumatra post-earthquake disaster he was appointed the head of Infrastructure of technical Support Team National Agency for Disaster Management from 2010 to the present

Zulfa Ermiza, was born on 8 June 1971 in Bukititnggi, West Sumatra, graduated in environmental engineering from The University of Satyanegara Jakarta in 1996, continued to graduate study in Magister Management with MM degree from Padang State University in 2004. She has working in programmed that progressed from emergency and relief activities to longer-term development interventions. She has extensive experiences in Java, Aceh and West Sumatra with more than 12 years experience in working on several programs for international organizations and UN, in capacity building, management, partnership, humanitarian affairs, good governance and public service improvement

Siri Antoni, was born in 23 December 1977 in Sipangkur, Kecamatan Tiumang, Kabupaten Dharmasraya, West Sumatra, graduated from Faculty of Ushuluddin IAIN Iman Bonjol in 1997-2002). He is currently continuing his study to graduate program at the Sociology Department of Andalas University in 2010 to the present. Since October 2005 to the present he has been working as a reporter at ANTARA News Office. Previously, he worked for two years in the non-government organization in 2003 to 2004. His journalistic experience covered disaster starting in earthquake in Muaro Sipongi, Mandailing Natal, North Sumatra in 2006, flood disaster, landslides, and earthquake that struck West Sumatra

LESSONS LEARNED

Rehabilitation and Reconstruction

Dr. Sugimin Pranoto & Co-Authors

West Sumatra September 30th 2009 Earthquake

Building Back Better