CHAPTER 3 TRAINING

Training and community participation in flood mitigation in the City of Bandung is the main objective of the Community Based Flood Mitigation in Bandung City. Training is intended for community members who reside within the case study but also attended by government officials such as the *Lurah*, Secretary of the *Lurah*, and *Mawil Hansip* at the *Kelurahan* Level, *Puslitbang Air*, and *Puslitbangkim*, along with some non-governmental parties: *PT. Jasa Marga*, *PMI* and NGO. The participants are expected to become the motivator that will drive other members in their communities to participate in finding solutions to flood mitigation. Training is conducted for 2 days from Saturday, 20th January 2001 to Sunday, 21st January 2001 at the office hall of the *Kelurahan* Cisaranten Kidul.

The first day of training started at 10.00 WIB and ended at 16.00 WIB, while the second day of training commenced at 09.00 WIB to 13.30 WIB. The following table lists the detail of the participants from both RW 09 and RW 14 of *Kelurahan* Cisaranten Kidul:

Table III.1
Recapitulation of the Flood Mitigation Training Participants
Kelurahan ofof Cisaranten Kidul

	RW 09		RW 14		Number of participants		TOTAL
	M	F	M	F	M	F	
First Day of Training	5	-	7	2	24	6	30
Second Day of Training	5	2	5	2	19	4	23

The participants received compensation for their transportation during the two-day training. This was necessary because the office hall of *Kelurahan* Cisaranten Kidul is located far from the residential area of RW 09 and RW 14.

3.1 TRAINING OBJECTIVES

The objectives of the "Community-Based Flood Mitigation in the city of Bandung" are:

1. Introduce policies on city's MasterPlan for the case study and policies on Flood Mitigation;
2. Increase technical-engineering knowledge on flood disaster;
3. Provide information on the formal procedures to gain assistance from government institutions in mitigating and management of flood disasters;
4. Explain the participatory methods that will be used in applying community participation to flood mitigation;
5. Promote the participants to act as motivators in the implementation of the community participation programs and community actions to mitigate flood disasters in the City of Bandung

3.2 TOPICS OF TRAINING

Resource persons involved in this training are expert staffs from institutions related with the community participation program for flood mitigation in Bandung City. The resource persons, in the order of their presentations, are:

1. Krishna S. Pribadi, Ph.D (Institute for Research-ITB)
   Topic: "Understanding the Project/Program of Flood Disaster Mitigation."
2. Dra. Kamalia Purbani, MSP (Bappeda of Bandung Municipality)
   Topic: "Government Policies in Flood Disaster Mitigation/Control."
3. Ir. Joko Nugroho, MT (Civil Engineering Department-ITB)
   Topic: "Information on Flood Control Technical Constructions."
4. Ir. Arief Ilyas (Water Resources R&D Center)
   Topic: "Prediction and Observation of Flood Disasters."
5. Teti A. Argo Ph.D (Planning Engineering-ITB)
   Topic: "Management of Community Based Flood Disaster Mitigation."
6. Mr. Rochmat (SATLAK PB of Bandung City)
   Oral Presentation without Printed Materials
7. Mr. Johansyah (Puslitbangkim)
   Oral Presentation without Printed Materials
8. Pak Soleh and Pak Rusman (LSM)
   Topic: "Description and Explanation of the Participatory Rural Appraisal (PRA) Methods."

The following are documented summary of the topics presented in the training "Community-Based Flood Mitigation in the City of Bandung."

3.2.1 GOVERNMENT POLICIES FOR FLOOD DISASTER MITIGATION

The municipality of Bandung City will concentrate development to the East and South of Bandung City in accordance to the General Spatial Plan for Bandung City (RUTRK) for the period between 1992 to 2003. This can be achieved by increasing the efficiency and effectiveness of the developed areas, the development of the East and South Area and evenly allocating the public facilities and utilities. This topic was presented by the first and second resource persons.

The government policies on flood disaster mitigation is related to the policies to develop the Gedebage area, which is where the observation area is located. Based on the RUTRK, the Gedebage area will be developed into:

- Industrial Area for assembling, automotive, carpentry/furniture
- Secondary service area for the city
- Container Area for Bandung and the surrounding cities
- Residential area
- Office area

The Gedebage area is closely related to the government's flood mitigation policies because it has the lowest topography in Bandung City. There are locations in the Gedebage area that are very susceptible to floods, which are:

1. Cisaranten Kidul Village
   The village is lower than the Toll road connecting Padalarang-Cileunyi and Soekarno-Hatta. Sedimentation occurs in the drainage canals (insufficient drainage capacity) and the Cisaranten River has not been normalized completely.
2. Derwati Village
   This village is also lower than the Toll road connecting Padalarang-Cileunyi and Soekarno-Hatta. Sedimentation occurs in the drainage canals (insufficient drainage capacity).
3. Kujangsari Village

Sedimentation occurs in the drainage canals (insufficient drainage capacity).

4. Margasari Village

Sedimentation occurs in the drainage canals (insufficient drainage capacity).

5. Mengger Village
   Flood runs off from the Cikapundung river and sedimentation occurs in the drainage canals (insufficient drainage capacity)..
6. Rancasari Sub-district
   The estuary is obstructed and the water level for irrigation is higher than the ground level. Flood run off is derrived from Ujungberung, the irrigation canal turns into drainage canals, there is not enough culverts and the water level of the river is higher than the irrigation canals.

Table III.2
Government Policies On Flood Disaster Mitigation Of Bandung City

Government Policies	Description
Basic policy pattern	2. Improving the performance of Northern Bandung Area. 3. Develop and maintain the fasilities and infrastructures 4. Improving the management of the environment and resources natural. 5. Optimizing Open Greenery Areas (RTH) with the participation of the communities.
Technical flood mitigation	• Improve the city drainage systems and construct new channels in the inundation areas. • Normalize the rivers that run through Bandung City. • Prevent rivers from becoming garbage dumping areas. • Improving houses built on the river banks, preventing the river to narrow • Replantation of the Citarum River Network to reduce sedimentation/weathering rate. • Construct flood evading embankments for the Cisaranten and Cipamokolan Rivers. • Construct cascade structures for the rivers in the north.
Non-technical flood mitigation	• Establish the disaster management organizations: Bakornas PB, Satkorlak PB, & Satlak PB. • Implement flood mitigation actions founded on the community. • Finding and identifying problems and the potentials of flood areas and promote those potentials (especially human resources). • Coordinate various parties to realize an integrated and complete flood mitigation system.

Source: Perda No 2/1992. City of Bandung General Spatial Plan (RUTRK) for 1992 – 2002.

3.2.2 FLOOD CAUSES AND MITIGATION FOUNDED ON COMMUNITY POTENTIALS (BOTH TECHNICAL AND NON-TECHNICAL)

This topic was delivered by resource persons from the third to the seventh presentations. Flood disasters are conditions where water inundates at a certain elevation causing disturbance to the routine activities of the people. Flood disasters can be caused by water discharge that is higher than the capacity of the existing channel/river causing water to overflow to the nearby areas. Floods can also be caused by 2 other significant factors:

1. The ground level is lower than the surrounding areas.
2. The channel/river capacity is reduced because of sedimentation and the narrowing due to garbage and mud/sediment.

Flood controlling actions consist of all activities that are aimed to reduce the losses caused by flood. The technical flood controlling actions can be divided into three, which are:

1. Wide-Scale Flood Protection
   This action consists of provision of large-scale physical infrastructures that cover a relatively wide area and will act to prevent the flow of the whole or part of the flood to certain areas. This protection is intended to protect the existence of social and economical activities at these areas during or after a flood disaster. The physical infrastructures are:
   - Flood control dam
   - Flood embankment
   - Flood canals
   - Normalization of the river/canal
   - Land management
   - Flood area/plateau management
   - Provision of drainage pumps

2. Small-Scale Flood Protection
   This action consists of the provision of minimum physical infrastructures to reduce the losses caused by flood for a smaller scale area/individual. This protection is intended to maintain the daily activities during and after the flood thus creating a feeling of security for the people in carrying on their social and economical activities in their environment. This protection consists of:
   - Elevating building floors
   - Constructing temporary water-proof structures around houses
   - Permanently closing all openings (such as windows and ventilation holes)
   - Protecting the openings (doors and windows)
   - Protection against short-circuits
   - Clean water services
   - Selction and maintenance of wooden material
   - Provision of storage facilities that are water-proof
   - Fastening things that may get carried by the flood

3. Preparation for flood
   The Kelurahan of Cisaranten Kidul is one of the locations Bandung that often experience floods. The flood management in this kelurahan is only as far as overcoming, there is not much mitigation efforts. Experts classify mitigation efforts into:

- Emergency Phase
  This phase is characterized by the efforts to save lives. This phase consists of rescue and first aid of victims, medical assistance, and the reparation to the communication and transportation network.
- Transition Phase
  This phase consists of all the efforts implemented to speed the return of the people to their normal lives, such as reparation of damaged buildings, restoring the function of kitchens in houses and curing certain diseases. During this phase there is little of outside intervention because the victims must be able to assist themselves.
- Reconstruction Phase
  This phase consists of numerous physical and non-physical reparations to restore the conditions back to normal, which sometimes may take years to complete.

The management of disasters depends on the characteristics of the disasters and the community struck by them. In general, the occurrence of flood disaster can produce subsequent effects such as:

- Health matters
  This consists of skin diseases and metabolism problems. It is very important to make sure that during the first 72 hours there is no epidemic in the community.
- Financial losses
  Floods can cause loss of occupations and very large financial losses. Crops can be destroyed and job opportunities are reduced to even nothing, causing family income to be drastically.
- Effect to land value
  Generally the land value is cut because of floods. Not many people would like living in flood prone areas.
- Social and political effects
  There are times that the incapability of the government to manage flood disasters cause dissatisfaction amongst the community that may develop into self-sustained efforts to solve the problems themselves.
- Administrative and managerial effects
  Centralized leadership is lost due to the loss of communication with the outside world caused by the flood. This will develop strong local leadership that will in turn strengthen the spirit of unity and togetherness in mitigating the flood.

Solutions to flood disaster by using non-technical ways involve more of behavioral and habit problems. The non-technical aspects of flood disaster mitigation are:

1. Community habit, especially related to garbage disposal both liquid and solid;
2. Organizational activities to identify people who are susceptible to flood disasters such as children, elders, disabled people and pregnant women;
3. Identify the important things that must be brought during a disaster occurrence;
4. Public knowledge on the flood disaster orientation to help plan the development of their houses and residential areas according to flood disaster conditions;
5. Determine locations that are safe during disasters and improve them;
6. Search for financial assistance to construct structures that can resist flood disasters.

3.2.3 PARTICIPATORY RURAL APPRAISAL (PRA) METHODS

Generally, the PRA can be interpreted as a participation method that is able to involve the

community. The objective of PRA is to encourage the community to participate in improving and analyzing, based on their knowledge, their own lives and conditions to help them create action plans. The basic principles in implementing PRA are:

- Learn from the community
- External parties act as facilitators (researchers, experts, government officials), while the community are the actors and decision makers
- Share experiences between the community with the external parties
- The atmosphere should be informal and relaxing
- Involve all groups in the community
- Respect differences that exist in the community
- Trianggulation (collect data directly from the community and cross check them between different community components)
- Optimize the results
- Practical orientation
- Continuous, meaning that PRA activities should be continuously implemented in order to achieve optimum results
- This method is used to identify the community's endurance in facing a flood disaster in order to reduce the losses caused by the disaster and help mitigation efforts accomplish their objectives.

Tabel III.3
Various Techniques in the Participatory Rural Appraisal (PRA) Method Introduced in the Training

PRA Techniques	Objective(s)	Type of Information Produced
Mapping	o Familiarizing with the conditions of the villages and the community o As a means to know the area in detail.	o General map of the local area. o Specific maps on certain aspects that are more detailed.
Transek (field trip)	o Dig for more detail information on the area's problems and potentials by tracing the locations.	o The village physical environment conditions o Information on the existing potentials and problems
Sketching the Conditions of the Locations	o Attain more detailed description of the conditions in the location o Attain visual information on the area's potentials and problems.	o Physical Information o Non-physical Information
History Plot	o Identifying important occurrences in the community in the past times. o Understand the condition of the present community by studying the past occurrences.	o The history of how the residential area was established o The construction of village facilities and infrastructures o Projects that were implemented and their success level
Seasonal Calendar	o Studying the pattern of time utilization in a certain period (one year) o Understand the village conditions and find the focus of the community's activities.	o Problems and potentials that periodically occur. o Other things that may be related with the program
Daily Routines	o Provide a description of time utilization within one day when there is or isn't any problems.	o Work distribution in houses. o Identifying the time to carry out daily routines
Occupation Analysis (AMP)	o Identifying the occupations in the community. o Identifying the problems and potentials from the occupations of the community. o Determining the types of activities that may be developed in the future.	o Occupations in agriculture. o Occupations outside of agriculture.

Venn Diagram	o To know in detail the benefits and role of the organizations existing in villages, local, governmental or non-governmental organizations. o Study the interaction between those organizations.	o Information on the community organizations. o Information on the role of those organizations on the community.
Organizing the Problems and Potentials	o Find the priority between problems and slecting the most feasible alternative suitable to the local situations.	o Issues or criterias, and point of views that are considered important to the community.
Organizing Action Plans	o Organize the information (on the problems and potentials). o Study the relation between causes and effects in problems o Determining the priorities that must be achieved first	o Organize the problems and potentials by more emphasizing on the process to study information.

Source: LBDS 1996. PRA Training Module for Field Personnels at the Sub-district Level and Community Personages.

3.3 METHOD OF IMPLEMENTING TRAINING

This training is a means to technically deliver information on the risk of flood to the community in the *Kelurahan* Cisaranten Kidul especially for the community of RW 09 and RW 14. The resource persons presenting in this training are derived from various institutions that are: the representative from the government of Bandung City, related institutions, researchers (from ITB) and *LSM*, and local government officials.

3.3.1 THE FIRST DAY OF TRAINING

The training in the first day is implemented through a seminar where the resource persons present their topics followed by discussions between the resource persons and the participants. The presentation used various equipments such as Over Head Projector, LCD, etc. The speakers in the first day are representatives from institutions or parties related with the CBFM Project in the *Kelurahan* Cisaranten Kidul.

Beside the substantive or technical topics that were presented, there were also non-technical topics such as the study contract. This topic consists of the rules or procedures in attending the training process. This topic was intended to observe the preparedness of the participants in following the training process.

In general, the study contract consists of: procedure of attendance, time utilization and expectations of the training. The details are as follows:

- Time appreciation by keeping on schedule.
- Increase knowledge on flood mitigation.
- Active partisipation of the community members who attended the training.
- The topics are short, condensed, easy to understand, communicative, and friendly and are presented by experts.
- Train the participants to act accordingly and live up to the expectations.
- The training participants are free but must be polite.
- There is an explanation of flood threat
- The training will be followed by realization in future projects.
- The participants acquire compensation funds.
- The training should not end late in the afternoon.
- Training can be completed in a short time.
- Dense scheduling.
- Prioritize on the welfare of the participants.
- There will be opportunities in turns.
- Related officials directly visit the field.
- There will be discussions.
- People are free to smoke in the training room.

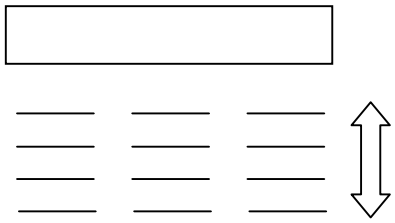
3.3.2 THE SECOND DAY OF TRAINING

The training in the second day differs to the first day. There were only two topics that were presented, which are:

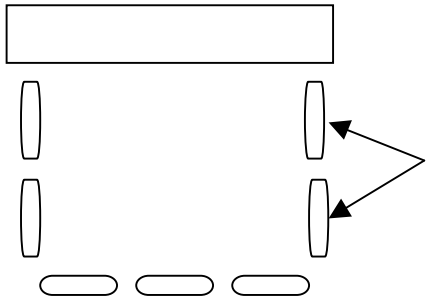
1. *Climate Setting*
2. *Participatory Rural Appraisal* (PRA) Methods

The method used is Climate Setting, which is more participative. By using this method, the speakers try to diminish the "gap" or "distance" between them and the participants for better dialog. One way of *Climate Setting* is to change the arrangement of the chairs provided for the participants and the speakers from model A to model B.

Model A



Model B



The objective of this method is to:

1. improve the active participation of the community in the discussion to encourage them to address their opinions on the programs that will be implemented without fear of being wrong, and;
2. create a feeling of comfort amongst the community members, participants of the training because there is a convergence between the speakers with the participants, and even between the participants. This helps to bring a feeling of friendship between training participants, which is an important asset for the implementation of the program in the fields.

In Climate Setting, the training participants are given many chances to share information on the real conditions in their living environment. The role of the speakers in Climate Setting is only as the facilitator that will direct the discussion to stay on focus on the given topic. This also contributes to the increase of the enthusiasm to participate in the community members. By using the Climate Setting we can also observe the conflict potentials in RW 09 and 14 of the *Kelurahan* Cisaranten Kidul. This differs with the PRA method where the speakers act as teachers. In general, the training in the second day provides a chance to observe the characteristics of the community, who are the subjects and, at the same time, object of the program.

The topics in the second day are organized by the LSM. In the first session, Soleh, a representative from NGO, acted as a teacher standing before the training participants while Rusman, another representative from NGO, merged as if he were a training participant. This distribution of roles produced a very encouraging condition for the participants to reveal their expectations, wishes, opinions and arguments during the discussion.

The expectations from the training participants are:

1. The participants wish to be involved in the training process to:
   - Disseminate information acquired to their living environment in RW 09 and RW 14.
   - Increase their knowledge and experience.
   - Learn how to mitigate flood.
   - Develop the *Kelurahan* Cisaranten Kidul in better ways.
   - Improve the success ratio of the implementation process.
   - Implement flood mitigation as soon as possible.
   - Create cooperation between other related institutions, both governmental and non-governmental.
   - Find solutions to the flood disaster problems.
2. The participants expect the project executives to:
   - Be consistent and efficient in reducing flood disasters.
   - Understand the participants during the training.
   - Be able to fasilitate financial support from the related institutions.
   - Be able to produce concrete/real results.
   - Directly get involved in the fields with the community during the technical ralization.
   - Review the results of projects that had been conducted.
   - Provide counseling for every stakeholders in the kelurahan in order to raise awareness of the community.