

**ACTION PLAN  
TOWARD EFFECTIVE  
FLOOD HAZARD MAPPING  
IN  
INDONESIA**

**By**

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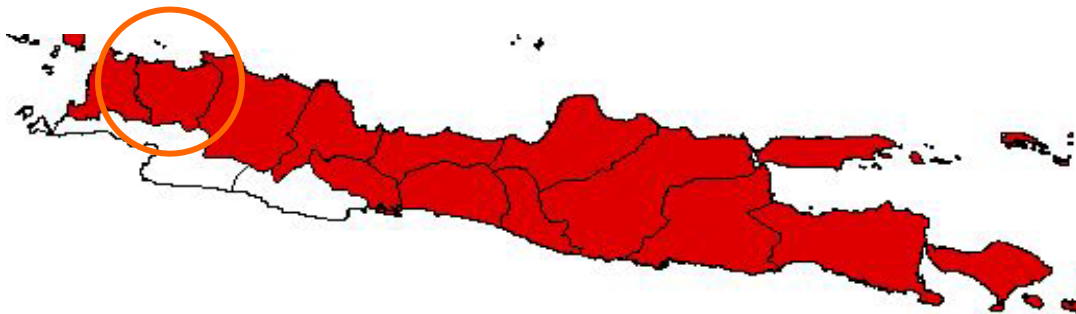
## A. The role of flood hazard maps to mitigate flood damages in Indonesia

### 1. The Flood Status

Flood in Indonesia for recent years is frequently happened. The victim and materials losses increase in significant number.



**Critical River Basin in Indonesia**



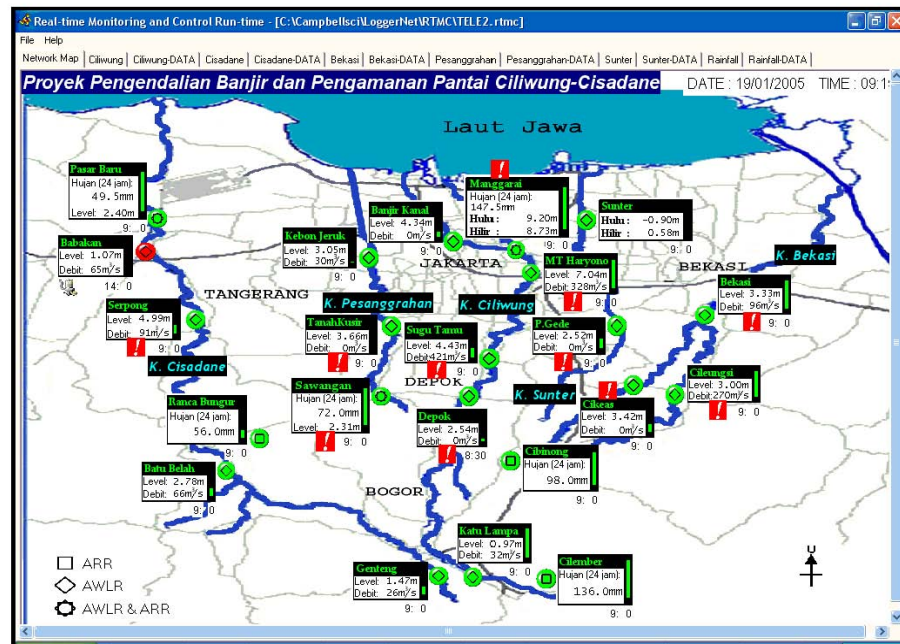
**Critical River Basin in Java Island**

The above pictures show the critical river basin where the flood is usually happened. Flood happen almost in every rainy season in various intensity and frequency. The increase of population and the changes of land use are the trigger of catchments area deterioration. This deterioration increases the frequencies and intensities of flood. The population who stay along the river and the flood plain increase the number of victim and material losses.

## 2. The outline of the present countermeasures for mitigating flood damages

For many years the countermeasure to mitigate flood damages is in structural aspect such as dam, levee, bottom controller and other construction. But recently the government is starting to undertake the non structural aspect. The people should have awareness of the risk and participate to mitigate the flood damages instead of refrain the deterioration of the catchments area.

For the time being, in such city/river basin are developed the early warning system. It means to give an alert to the residents in downstream area that there will be flood in a view hours.



Early Warning System in Ciliwung River Basin

## 3. The Usage Of Flood Hazard Map

Flood hazard map will be useful in Indonesia to complete the early warning system that has been developed. In the area that have not the early warning system yet FHM will enhance the awareness of the people to the risk they are facing. FHM will also be the protocol to every agency that has the responsible of the flood fighting during the flood. The responsible of flood fighting is able to make better preparation to mitigate the flood damages. They are also able to evacuate the people to the evacuation centre as soon as possible concerning the number of the victim.

## B. The allocation of roles in making flood hazard maps in Indonesia

### 1. Responsible organization

In making Flood Hazard Map (FHM) surely will involving many government organization, university, non government organization, community, and others stake holders to flood fighting. The government should designate certain organization to hold the responsibility. In Indonesia the organization that should designate is the Ministry of Public Works c.q. Directorate General of Water Resources Development (DGWRD). This choice is based on that organization have been developing the early flood warning system (EFWS) in several river basin. The EFWS use the digital topography map and equipped with the flood forecasting software there it can be enhanced to anticipated inundation area map.

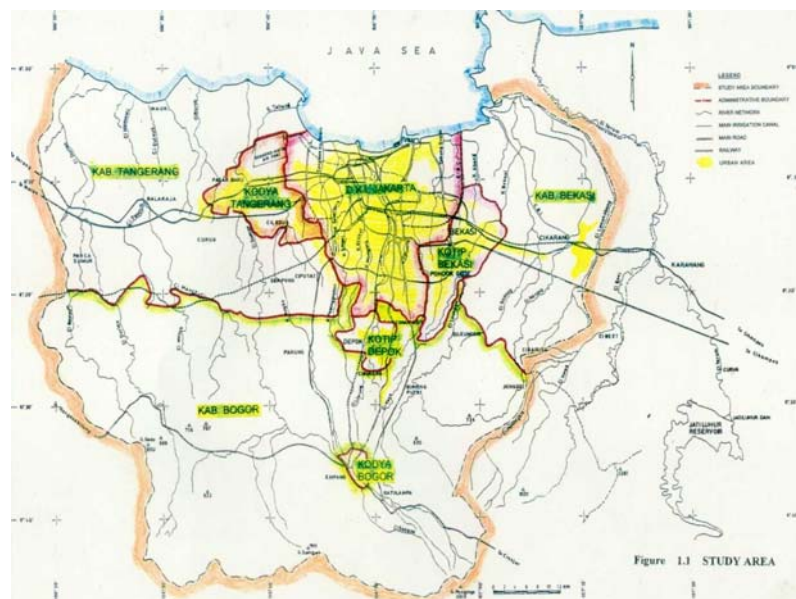
### 2. Establishment and dissemination of FHM

The municipalities should take the responsibility in making FHM. They hold the jurisdiction and budget. Furthermore, they have organizations to setting up and to disseminate the FHM to the citizens.

## C. Action Plan

### 1. Target Area

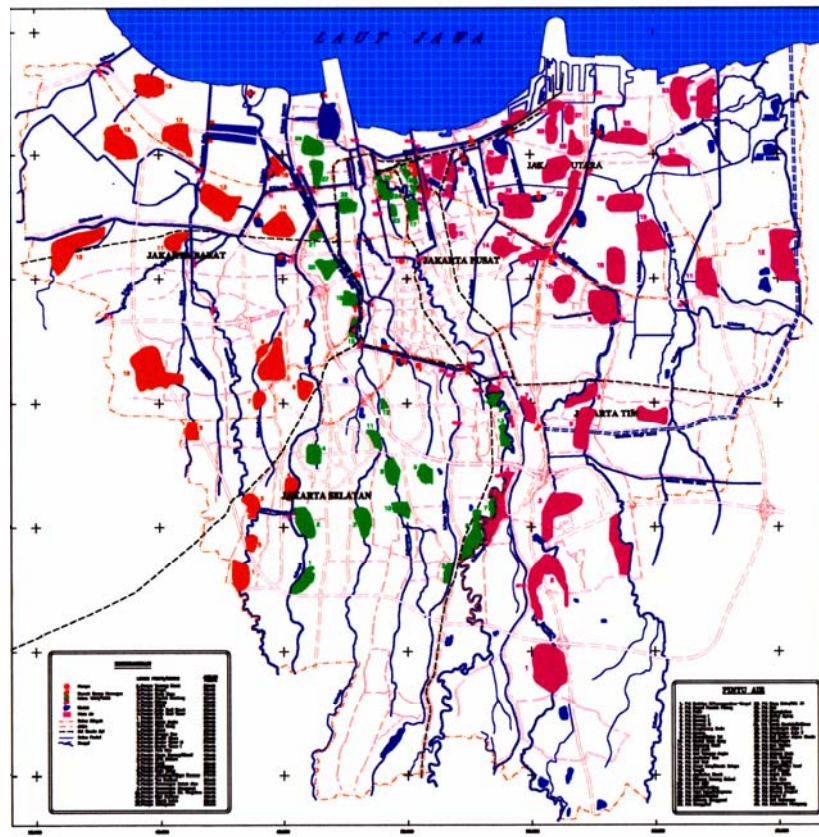
Since I work for Ciliwung-Cisadane River Basin Development (CCRBD) my target area is Jakarta City where my organization hold the responsibility.



Jakarta is the biggest city and most populated in Indonesia. This city has a big problem with flood disaster. CCRBD has established the early warning system for this city but have not covered yet for the entire area.

## 2. The necessity to make FHM

Jakarta is the capitol of Indonesia with around 12 million habitants and billion dollar investment. From this point of view, FHM establishment for Jakarta is a must. The citizens should know about the flood risk and how to prevent and make countermeasures to cope with it. The local government of Jakarta and CCRBD have the record of the past flood event. Jakarta aerial topographic map have been renewed at 2004. This map will be a good start to establish FHM. Based on that map, CCRBD will be able to do the flood analysis for the area.



**Flood prone area in Jakarta City**

### 3. Action Plan

The action plan to FHM establishment for Jakarta City would not start from the years 2007 because the budget has been set up at his years and has greed by the parliament either national or local budget. So in the years 2007 what that could do is disseminate the necessity of FHM establishment and propose the budget for the years 2008.

NO	ACTIVITY	YEARS					
		2007	2008	2009	2010	2011	2012
1	Disseminate the FHM necessity	█					
2	Preparing DEM	█					
3	Flood analysis	█					
4	Field survey of Central District		█				
5	Central District's FHM establishment		█				
6	Field survey of Southern District			█			
7	Southern District's FHM establishment			█			
8	Field survey of Northern District				█		
9	Northern District's FHM establishment				█		
10	Field survey of Eastern District					█	
11	Eastern District's FHM establishment					█	
12	Field survey of Western District						█
13	Western District's FHM establishment						█

### 4. The difficulties

The problem in making FHM is the financial aspect because the local government is facing many problem to be solved e.g. mass transportation, housing for the unfortunates people etc. On the other hand the Central Government has not enough budgets to cover the FHM establishment. However the FHM establishment for Jakarta city should have been started if the responsible of Jakarta City or the Indonesian Gov. want to reduce the victim of flood disaster and number of material and economical losses. The effort that can do is to convince the Government that FHM is very useful for them in flood situation, but in normal situation as well. Furthermore the Jakarta citizen could have enhanced a self-help and mutual help to cope with flood disaster.

#### **D. My own Flood Hazard Map on Ise City**

For Ise City's FHM there are several suggestion could be supposed.

1. Need to add the existing map with other map for each wards (if any) or community.
2. If there are not any ward, the local government should divide their city in many community that has similarity with ward in jurisdiction point of view.
3. Provide the specific map in larger scale.
4. Simplify the symbol/signage