

CONCLUDING REPORT

ACTION PLAN TOWARD EFFECTIVE FLOOD HAZARD MAPPING IN INDONESIA

Regional Training Course on Flood Hazard Mapping

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Indonesia

A. The role of Flood Hazard Maps to mitigation flood damages in my country

A-1 The flood status in my country

Indonesia is archipelagic country and located in south-east Asia. Geographical position in 95° - 141° east longitude and 6° north latitude - 11° south latitude. There are more than 17.000 islands with population amount 220 million people.



Figure 1
Location of Indonesia

As country which having location in equator area, Indonesia have tropical climate by two season. That is dry season and wet season. High rainfall cause floods in every wet season. Every floods cause considerable economic losses, untold human misery and suffering and loss of life.

Flood effect measures base on function usage of asset, with can be divided 3 category of classified is followed :

- National Effect
- Regional Effect
- Local Effect

It is base on influence of generated effect. National effect has understanding that floods disaster influence stability of national, influencing national development by totally, swallowing very big victim and knock over in strategic

points like international airport, strategic industrial, location including some provinces (pass by province).

Regional effect has understanding that floods disaster influence stability of regional, influencing development of regional, swallowing big enough victim and location including some districts (pass by districts).

Local effect has understanding that floods disaster have the character of locally, swallowing victim not big.

Tabel. The classification and carategory areal effect flood disaster

PROOFING AREA	NATIONAL Effect	REGIONAL Effect	LOCAL Effect
1. TRANSPORTATION - Airport and access road - Harbour and access road - Road / highway - Treck / trem - Train Station - Bus Station	International Airport International Harbour (outlet Import Export) Road state / tol Road Inter Province & strategic Train Station Clas I Bus Station inter Province	National Airport Domestic Airport Province Roads Road inter City Train Station Clas II Bus Station inter City in one Province	Pilot/Local Airport Pilot/Local Harbour Road Reagen./ Local Road Road internal City Train Station Clas III Bus station internal city
2. INDUSTRIES & TREAD - Industri Area - Market Area - Office Area - Storage Area	Area > 2.000 ha Area > 1.000 ha Area > 500 ha Area > 1.000 ha	Area 500 – 2.000 ha Area 200 – 1.000 ha Area 100 – 500 ha Area 200 – 1.000 ha	Area < 500 ha Area < 200 ha Area < 100 ha Area < 200 ha
2. HOUSING & RECREATION AREA - Urban - Rural - Recreation - Culture - Transmigration Area	Area > 5.000 ha Population > 1 million Area > 10.000 ha Population > 0,5 milllion National scope Ancient heritage Trans > 10.000 family	Area 1.000 – 5.000 ha Population 0,5-1 million Area 5.000 – 10.000 ha Population 0,2 -0,5 juta Regional scope Ancient heritage 1.000 – 10.000 family	Area < 1.000 ha Population < 0,5 mil Area < 5.000 ha Population < 0,2 jmila Local scope Ancient heritage < 1.000 family
3. Agriculture - paddy - Farm - Plantation - fish pond	Area > 15.000 ha Area > 25.000 ha Area > 20.000 ha Area > 10.000 ha	Area 5.000 – 15.000 ha Area 10.000– 25.000 ha Area 5.000 – 20.000 ha Area 3.000 – 10.000 ha	Area < 5.000 ha Area < 10.000 ha Area < 5.000 ha Area < 3.000 ha

A-2 The Outline of the present countermeasures for mitigating flood damages in my country

In general policy of countermeasures for mitigation flood damages divided to:

- a. Structural measures:
 - A) Levees and floodwalls
 - B) Channel modifications

- C) By-pass floodways
 - D) Retarding basins and flood storage areas
 - E) Flood mitigation reservoirs
 - F) Drainage evacuation systems
- b. Non structural measures:
- A) Land use management
 - B) Property acquisition and floodway clearance
 - C) Modification of catchments conditions and on-site storage
 - D) Flood forecasting and warning
 - E) Public information and education
 - F) Flood proofing of buildings
 - G) Evacuation from endangered areas
 - H) Flood fighting
 - I) Flood relief
 - J) Flood insurance
 - K) Flood adaptation

A-3 Why do I think flood hazard maps will be useful in my country?

The reason of flood hazard maps useful in my country:

- It is effective, environmental friendly and not as expensively as structural measure.
- Easy way and not need natural resources.
- Very few structural measures.
- Giving guidance to society in face of floods danger.

B. The allocation of roles in making flood hazard maps in my country

B-1 Which organization should hold the main responsibility for making a fundamental map such as an anticipated inundation area map?

Many stakeholders are concerned and hold responsible for making a fundamental map. They are:

- Government
- Private sector
- and society.

All the stakeholders expected can coordinate in making and determining the map of floods area. From government especially local government have very big role in making fundamental map because it is level government who most understanding area condition.

B-2 Which organization should hold the main responsibility for making and disseminating flood hazard maps?

After finish fundamental maps, next step is making flood hazard maps. These maps give information to people about inundation area, route of evacuation and evacuation center. Flood Hazard Maps disseminate to every one and also is placed at strategic places where people easy read especially at inundation area.

All stakeholders are also expected to coordinate in making and disseminating of Flood Hazard Maps. This Activity is emphasized be achieved every city so that local government very hold responsible in this problem.

C. The Action Plan of making flood hazard maps in my country

C-1 Which area do you choose for the target river basin area? Why?

I choose Ciliwung-Cisadane River Basin as my target in making of Flood Hazard Mapping because:

- including area of Jakarta, capital of Indonesia so that is strategic location
- Floods disaster often occur
- Place where I work and leave.



Figure 2
City Map of Jakarta

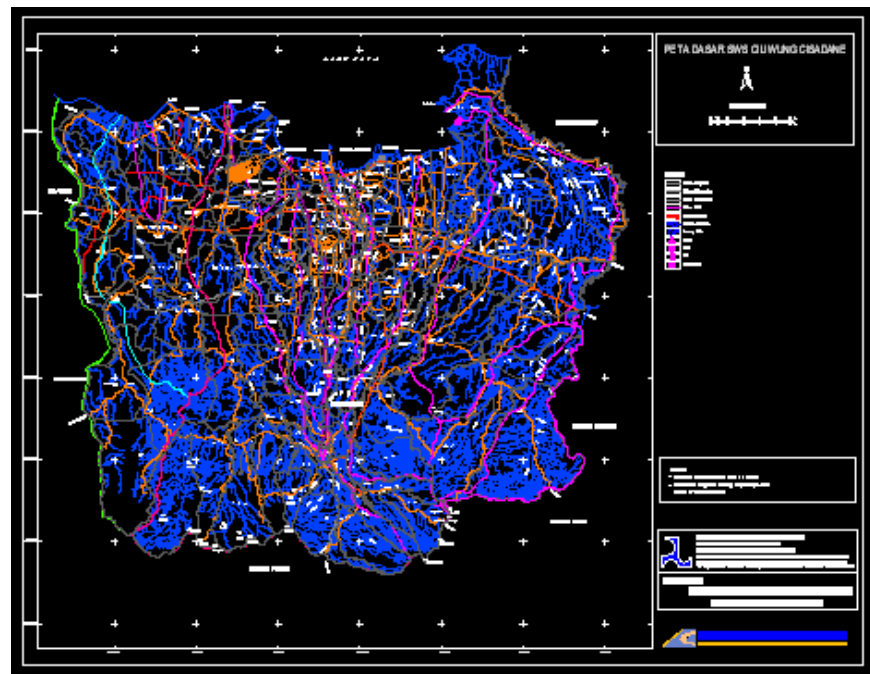


Figure 3
Ciliwung-Cisadane
River Basin

C-2 What do you think is necessary to make flood hazard maps in the chosen area? Do you have data, maps, or budgets necessary for making flood hazard maps?

I try to fulfill the request action plan flood hazard maps, and I take sunter area, a part of ciliwung-cisadane river basin, as my focus. In this location every year floods often occur. I have no much data and map, but I will search and collect from related institute.

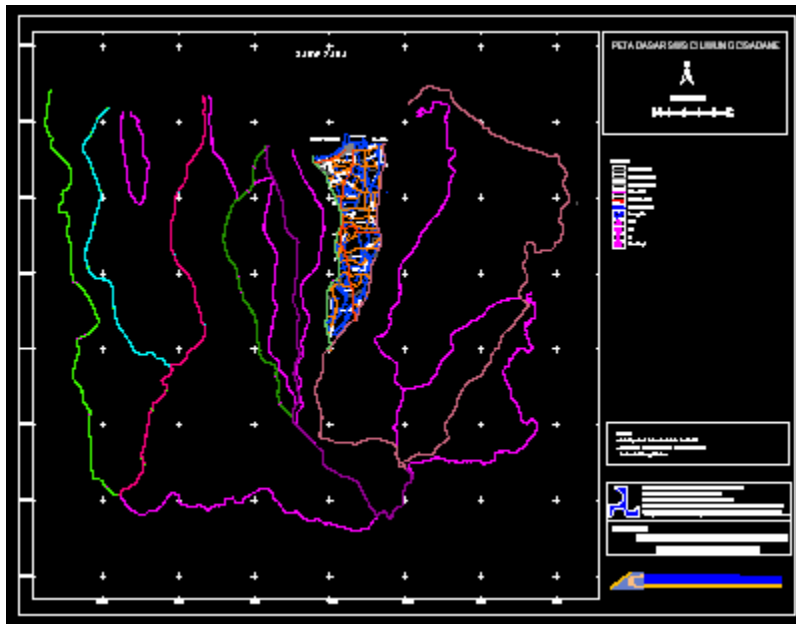


Figure 4
Sunter area in Ciliwung-
Cisadane River Basin

C-3 Propose your own Action Plan within the next five years

I see flood hazard mapping very useful if applied in my country. After I return to Indonesia, I plan to disseminate this activity especially in my department.

My action plan within the next five years:

a. Within one year

- make a report about this training and flood hazard mapping for my organization first.
- Introducing flood hazard mapping in my office especially to our young engineer through symposium and discussion.
- Data collection (historical of past flood, hydrology, topography, dike condition, pumping station condition, drainage system, water gate)

b. Middle term Plan (next 2-3 years)

- Conducting FHM training course for all young engineer of Directorate River, lake and dam
- Data collection
- Monitoring and evaluating flood hazard maps.

- Map verification,
- Identify inundation areas

c. Long term plan (next 4-5 years)

- Propose for making guidance standard of flood hazard maps.
- Data collection
- Improving and developing FHM
- Updating of flood hazard maps.
- Dissemination and use of flood hazard map

C-4 What seems a problem in making flood hazard maps in your country?

The main Problems in making of flood hazard maps in my country are:

- Limited of budget
- Availability of data alike Topographic maps
- Human resources

Solution alternatives:

- Arrange priority of flood hazard maps project
- Collecting data from all institute related with flood hazard maps.
- Flood hazard mapping training course.

D. My own Flood hazard map on Ise city

D-1 What is the improvement from the flood hazard map on Ise city currently available?

I have tried to make Flood Hazard Map on Ise City. Difficult Enough and require complex data. Ise City Flood Hazard map currently have good enough, loading information required by is society in face of floods disaster.

For improvement, this Flood Hazard Map requires to be updated, and be disseminated to society especially young generation.

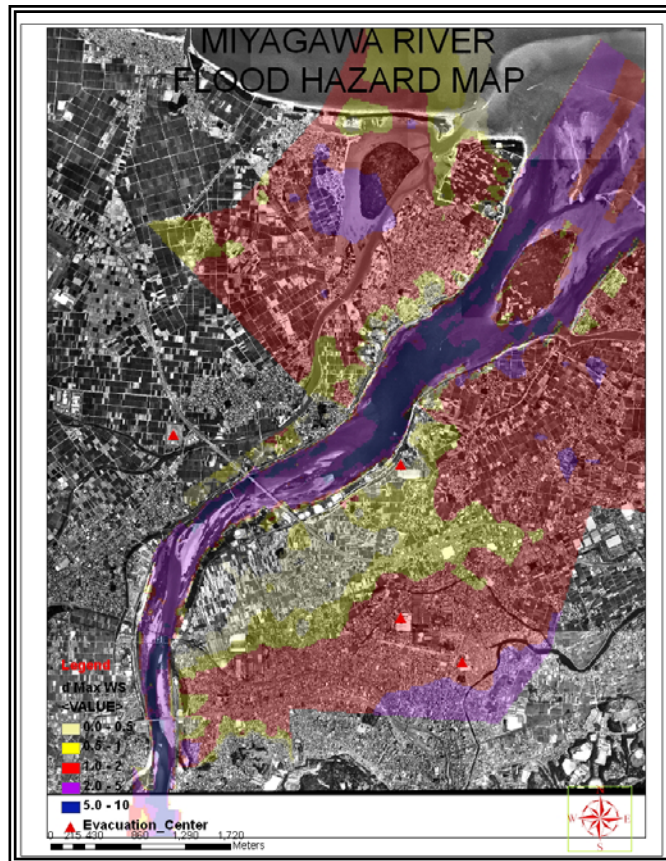


Figure 5
My own flood hazard
map on Ise city

E. Conclusion

- The Flood Hazard Map provided is very informative but needs updating from time to time, review, study and analyzed.
- FHM is very important before any structural measures undertaken
- The cooperation between residents and the Local Government will save a lot of lives and property loss, thus lead to a safe, smooth and quick evacuation.

F. Advise / Suggestion

My suggestion for making this training course more meaningful

1. Exercises and practices are not enough time available. It should be longer.
2. Materials of training should give in book and CD, included software for exercises and file of lecture presentation.