

Theme 2 – Flood Management :

**Increasing time of flood inundation at the cities of
under Bengawan Solo river flood control system
during the high water level period ¹**

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The Bengawan Solo River is the largest river on the island of Java. It drains a watershed area of around 16,100 km², discharging into the Java Sea to the north of Surabaya after traveling about 600 km from Sewu mountain ranges to the south-west of Surakarta. There are some cities along the river that potential being inundated during wet season due to the high water level of Bengawan Solo River, such as Surakarta, Madiun and Bojonegoro.

The drainage system of its cities are drained into the Bengawan Solo River as a main river, using flood control structures facility, such as levee, flap gate, etc. At the condition of high water level of Bengawan Solo river, the local flood due to the local rain at the whole watershed of the city can not be drained into the main river. Accordingly, there are some locations surrounding the cities are inundated until the water level at the main river become low.

The flood problems due to the high water level of the main river and its tributaries is handled by Bengawan Solo River Development Office on behalf of central government, whereas flood problems due to the local flood coming from local raining or from the city's watershed is handled by local government.

After construction of the flood control structures, the facilities was able to function well. During rainy seasons, at the condition of water level of Bengawan Solo river is low, if there was a flood causing inundation area at some locations surrounding city, the water level would be decreased soon and the activity in the city become normal again. In the course of the time, however, there is some changes especially caused by high populations at a certain regions, so any tendency that flood damage in recent years is relatively increase. High populations that is not followed by good spatial plan and its implementation, causes the degradation of environment supporting capacity. The degradation causes some impact especially in the magnitude and the long time of flood occurrence. In Surakarta city, for example, there are some activities causing negative environment impact, that is, people living in flood plain, decreasing the water retention due to the developing of houses and urbanizations effect, etc.

In the flood management, as an agency for economic development in the entire Bengawan Solo River Basin, the role of my organization is to aim overall basin development comprising river improvements for flood control and drainage, watershed management, and water resources development. The Bengawan Solo River Basin Development Office was established in 1969, so there is enough staffs have experience for countermeasure of flood. In order to fight the flood especially during the rainy seasons, the office staffs do coordination with institution involved in 2 (two) provinces (Central Java and East Java) and 19 (nineteen) districts in both provinces to share the job for **"Who do What"**, so if there was a flood occurrence, the activity for fighting the flood is done by all institutions from central, province and district government involving public

¹ Submitted in NARBO General Meeting II

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participatory.

For prevention action of the flood, construction infrastructures in-stream is not enough any more, synergily, it also needs re-greening and techniques civil approach at off – stream beside publics participatory. The Infrastructures have been built are check dams, levees, reservoirs, bank protections etc.

Conceptually, the flood management is supported by all institutions involved in-stream and off-stream activities and public participatory. However, it is not easy to synchronize the activities synergily between “*the three*” of them. The recent years, consolidation of program synchronization between “*the three*” requires much effort in order to obtain the optimal result. So, the difficult issues on flood management is how to consolidate the program synchronization between all institutions involved in-stream activity, off-stream activity and public participatory and how to implement it.

Based on the above phrase and the experiences the writers during involved in water resources development activity in Indonesia, if is analyzed narrower, the difficulty of the implementation of flood management is the limitation of human resources and availability budget of “*the institutions*”. From human resources point of view, for example, each team created to solve one kind of water resources problems, there is a difficulty to get the meeting is followed by big part of the members without pushing part of them. It looks like that there is still a lack of professional personal from the institutions that should be found the way out. From availability budget point of view, it can be seen from the magnitude budget of operation and maintenance of Rivers including budget for river conservation. However, there is a vice versa interconnection between human resources and budget, that is, the inadequately professional human resources is not able to manage the big budget. This is our home work !

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