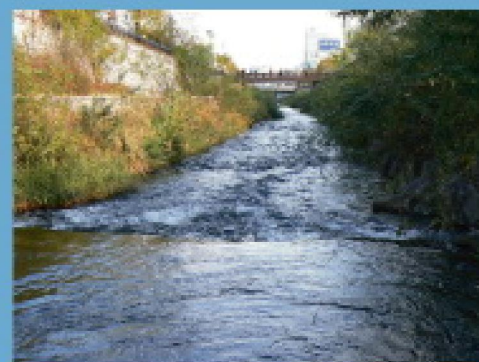
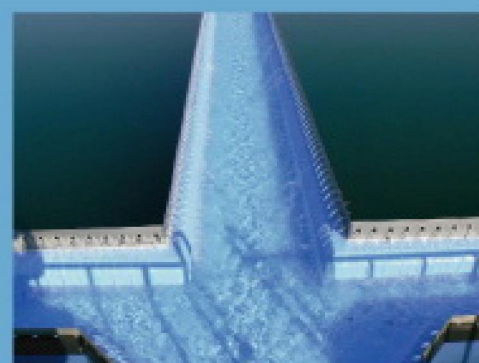
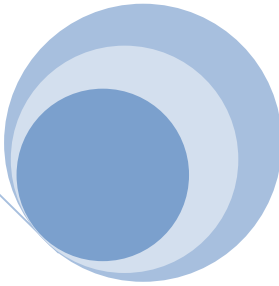
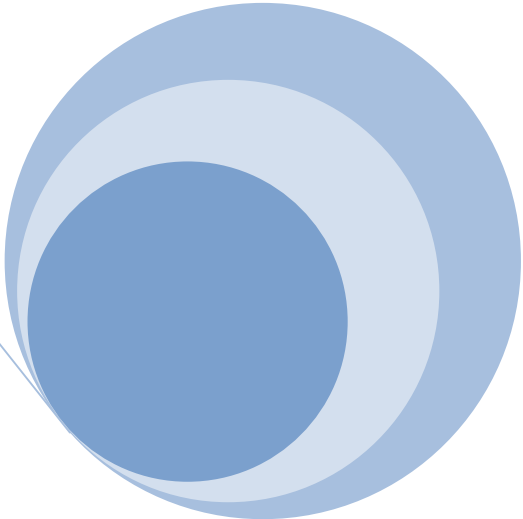


Framework and Action Plans for River Rehabilitation of Small Streams in the Brantas River Basin, East Java, Indonesia



June 2011



FINAL REPORT

Framework and Action Plans for River Rehabilitation of Small Streams in the Brantas River Basin, East Java, Indonesia

**Cooperation between :
The United Nations Economic and
Social Commission for Asia and the
Pacific (ESCAP)
and
Jasa Tirta I Public Corporation (PJT I)**

March – October 2010



FINAL REPORT

FRAMEWORK AND ACTION PLANS FOR RIVER REHABILITATION OF SMALL STREAMS IN THE BRANTAS RIVER BASIN, EAST JAVA, INDONESIA

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Final Report

Framework and Action Plans for River Rehabilitation of Small Streams in the Brantas River Basin, East Java, Indonesia

A. Activities

- 1. To produce a "framework or guideline" on integrated river rehabilitation project, with prioritised activities and anticipated output and potential outcomes".**

The Konto River is a tributary of the Brantas River. The Konto River Basin is divided into the Upper and Lower Reaches by the Selorejo Reservoir which formed in 1972 after completion of the dam.

The upper watershed of the Konto River covers an area of 236 km² between four volcanic complexes which determine its natural setting. The altitude ranges from 2.800 at the summit of Mt. Butak to 600 m above sea level (a.s.l) at the Selorejo Dam.

In January – February 2010, there have been several floods occurs in Konto River, i.e. on 14 January, 5 – 6 February and the last on 24 February 2010. The flood discharge on 24 February 2010 resulted casualties and damages, two peoples died (swept by flood), damaged bridge in Bendosari Village, cliff erosion, eight collapse check dam in Konto River, three houses damaged also paddy and agricultural field were inundated. This flood was also cause traffic jam in the route of Malang – Kediri for two hours approximately.

The Sereng river is a small tributary at the upper reach of Konto River. The river has length of 7.3 km approximately. The floods that happens in the Konto River was indicate the degradation of the watershed in the upper reach of Konto River. One of the efforts was improvement in the watershed area by encouraging public initiatives.

In this "Framework and Action Plans for River Rehabilitation of Small Streams in the Brantas River Basin, East Java, Indonesia" to implementing structural and non-structural measures. Structural and non-structural measures comprising : (1) Implementation of non structural measures, leading to preventing further catchment degradation (soil conservation) based on local community participation (e.g. bio-pores, land terracing, gully plug, regreening and/or re-forestation); (2) Construction or installation at least one eco-efficient modular/in-situ structure to reduce pollution flow into the stream and to improve water quality; and (3) Construction of at least one eco-efficient river protection to prevent river bed or river bank erosion.

In the early of July 2010, the National Development Planning Agency (BAPPENAS) of Indonesia in cooperation with Swedish International Development Cooperation Agency (SIDA), Ramboll Natura, and Stockholm International Water Institute (SIWI), held an "International Training on Integrated Water Resources Management (IWRM) – Batch II Phase I in Selorejo, Malang. The training was attended by senior officials of River Basin Organizations (RBOs), NGOs and national news media. The training included a field trip to see some of the best practices of IWRM implementation in the surrounding area, especially in PJT I working area. One of the area that become destination site was this project area in Bendosari Village. Some of the training participant were interested to know the activities within this project and intend to implement it in their river basins.

Bendosari Green Village Concept

The catchment area of Sereng River Basin is mostly located in the Bendosari Village, Pujon District, Malang Regency. Geographically, the Bendosari Village areas are mountainous and highland areas. The village has the area of approximately 269.23 hectares which consist of 31 ha of settlement area and the rest are dry land and rainfed rice fields. The village is divided into five *Dusun* (sub village), namely: *Dusun Cukal*, *Dusun Dadapan Wetan*, *Dusun Dadapan Kulon*, *Dusun Ngeprih* and *Dusun Tretes*.

The Bendosari Village has population of approximately 3,858 people and most of their occupations are mainly related to agriculture sector. The life philosophy of the people of Bendosari is reflected in their slogan stated in the Javanese Language "*Rumangsa Melu Handarbeni, Rumangsa Melu Hangrukebi, Mulat Sariro Hangrasa Wani*" which means thinking about how the village to be developed, advanced and independent to become self-sufficient villages. (Source: bendosari.wordpress.com).

Jasa Tirta I Public Corporation in cooperation with the Bendosari Village Government has conducted many activities in order to promote the people's awareness on healthy and sustainable environment in the Bendosari Village under the initiative of promoting Green Village. The basic concept of Green Village here is to increase the environment sustainability through a master plan, consists of plan for watershed conservation by conducting reforestation, erosion control structures development and plan for environment improvement by developing wastewater treatment for cattle waste in the form biogas structure and healthy cage for animal husbandry.

Due to the current flood that occurred in early 2010, the watershed improvement activities was conducted more intensively by conducting re-greening activities, building check dams, and gully plugs. Those structures intended to prevent the erosion and sedimentation which flow into the river directly into the Selorejo Reservoir. Other activity is also conducted such as Community Based Bio-monitoring: Participative Water Quality Monitoring using Water Insect to increase the awareness of the society of the environment condition. This activity conducted in cooperation with Non Government Organization (NGO) namely ECOTON (Ecological Observation and Wetlands Conservation) organization.

By implementing Green Village concept in the Bendosari Village, it is expected it will be the pilot project for other area especially in the Brantas River Basin especially in the upstream reach of the basin.

2. To implement "structural and non-structural measures" comprising:

(1) Implementation of non structural measures leading to preventing further

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