Water quality issues in Citarum River Basin

Herman Idrus MAKASSAR, November 2010

JASA TIRTA II PUBLIC CORPORATION – CITARUM RIVER BASIN ORGANIZATION JATILUHUR – PURWAKARTA - INDONESIA



Outline:

 Introduction: Citarum as a national strategic river basin
The basin condition today
Water quality management for Citarum River

1 Introduction: Citarum as a National Strategic River Basin

- Basin area is 11,500 km²
- Three reservoirs in series (Saguling, Cirata, and Jatiluhur) with distinct dry and wet seasons, average precipitation: 2,300 mm/year and runoff 225 m³/s
- Serving multiple uses of water such as DMI demand: 25-30 m³/s (Jakarta raw water supply: 16.1 m³/s), irrigation peak demand 250 m³/s, hydropower 1400 MW
- Contiguous coastal plain irrigation area in one system (240,000 ha)







Highly populated area with 10 million inhabitants (50% urban)

Industrialized area, highly pollutant producers in upper basin









Untreated domestic sewage, solid waste disposal, and industrial effluent reduced capacity of the river and its water quality



Overpopulated floating-net fisheries at reservoirs





Floating-net Fisheries

- Booming in 1990s
 - In 2002: 2,159 units
 - In 2007: 19, 845 units (30% of water surface area)
- Fishes: gold fish, tilapia nilotica, catfish
- Fish kills phenomena occurs almost every year since 1996



Blooming algae

- Every year
- It spreads wider & thicker
- Longer periods and more often

Corrosion in power house



Lack of coordination and integrated action plan, limited budget and weak law enforcement







Water quality monitoring by PJT-II



The next plan (Roadmap for ICWRMIP, 2010)

- Water quality improvement strategy and action plan
- Land and biodiversity conservation
- Community involvement in Citarum River Basin Management
- Reforestry program
- Rural land development (together with PERHUTANI)
- Alternative livelihood for people live in mountainous forests
- Conservation management
- Alternative financial mechanisms for community involvement in sustainable river basin management
- Floodplain management to reduce sediment transport
- Water quality monitoring in Bandung area
- Waste water management in upper Saguling
- Water quality control in Bekasi and Karawang
- Solid waste management in Bandung, Bekasi, dan Cikarang
- Water quality improvement of Saguling, Cirata, and Jatiluhur through proper management of fishery and other activities





