

WATER ALLOCATION IN THE BRANTAS RIVER BASIN

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August 2005



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Sertifikat No. ID03 / 0127

Facts about Brantas River Basin

- One of developed river systems in Indonesia
- Functions as the most important source of water supply in East Java Province
- Support regional and national development benefits: **GRDP Brantas Rp. 150,630 billion – approx. US\$ 17.66 billion – 59% GRDP E. Java – 8% GRDP National (as of 2003)**

Description of Brantas River Basin



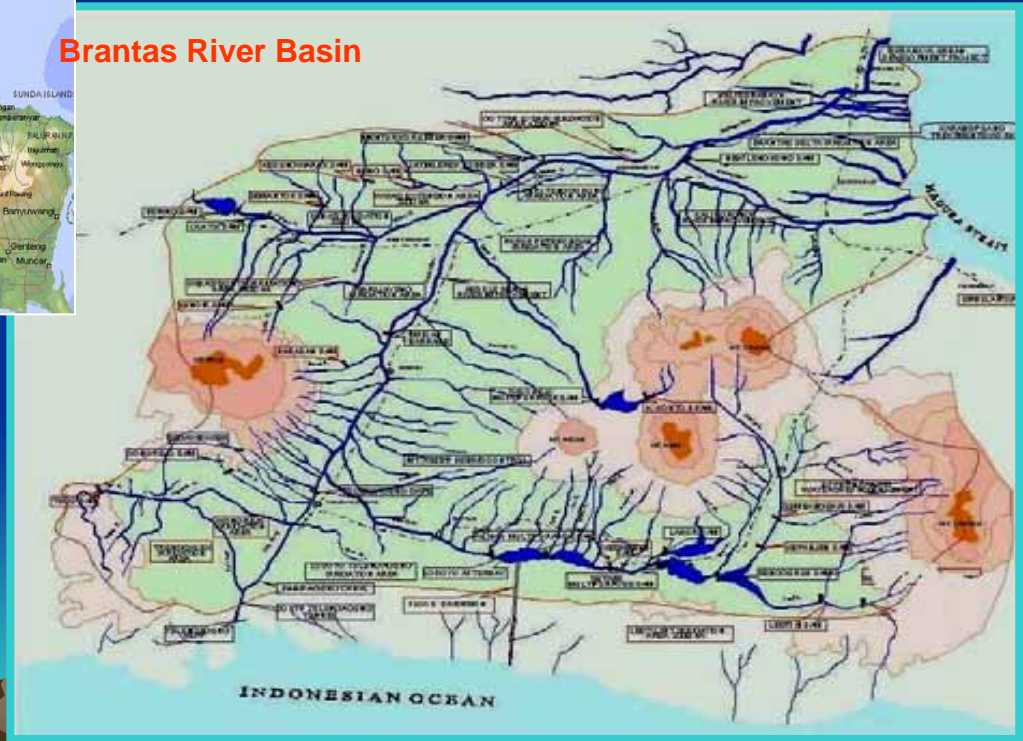
East Java



Brantas River Basin

- Basin Area : 11,800 km² (25% of E. Java)
- Population (2003) : 15.5 million (43% of E. Java)
- Average Rainfall : 2,000 mm/year
- Water Potentials : 12 billion m³/year
- River Length : 320 km

Brantas River Basin



- Active volcanoes: Mt. Kelud & Mt. Semeru
- Land Use (2004) :

- paddy field	39.0%
- dry land	12.0%
- plantation	22.0%
- forest	11.0%
- settlements	12.0%
- others	4.0%

Development of Brantas Basin

Master Plan I
(1961 - 1973)

Master Plan II
(1974 - 1985)

Master Plan III
(1986 - 2000)

Total investment (1960-2001) : 7.3 trillions Rp.
(US \$ 0.097 billions, ¥ 78,8 billions, 258.9 billions Rp.)



Bening Dam (84)



Waru-Turi B. (92)



Selorejo Dam (72)



Wonorejo Dam (00)



T.Agung Tunnel (91)



Lodoyo Dam (83)



Wlingi Dam (78)



Sutami Dam (72)



Lahor Dam (77)



Senggruh Dam (88)



Gunungsari B. (81)



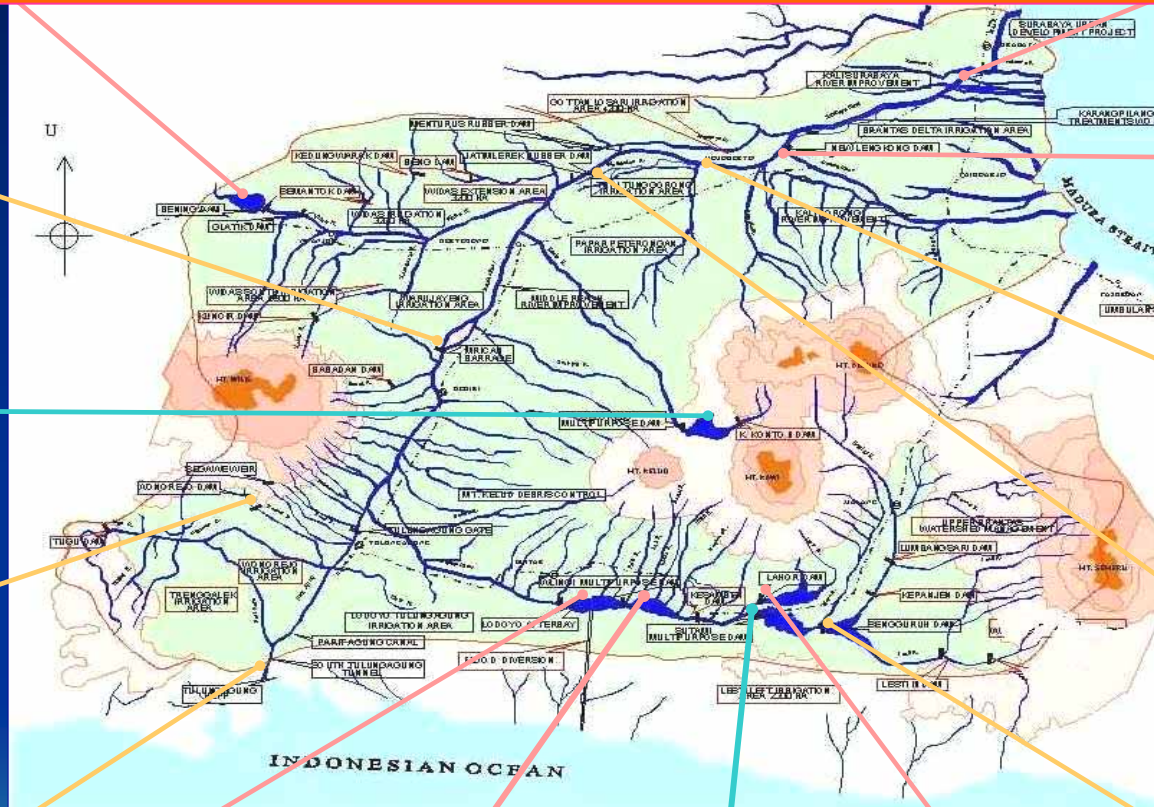
New Lengkong B (74)



Menturus R.D (93)



Jatimlerek R.D (93)



Utilization of Water from Brantas in 2004



Electricity = 1.00 billion kWh/year



Irrigation Area = 304,000 ha
(121,000 ha from reservoirs)



Raw Water for Domestic Supply
= 245 Mm³/year



Raw Water for Industries Supply
= 135 Mm³/year

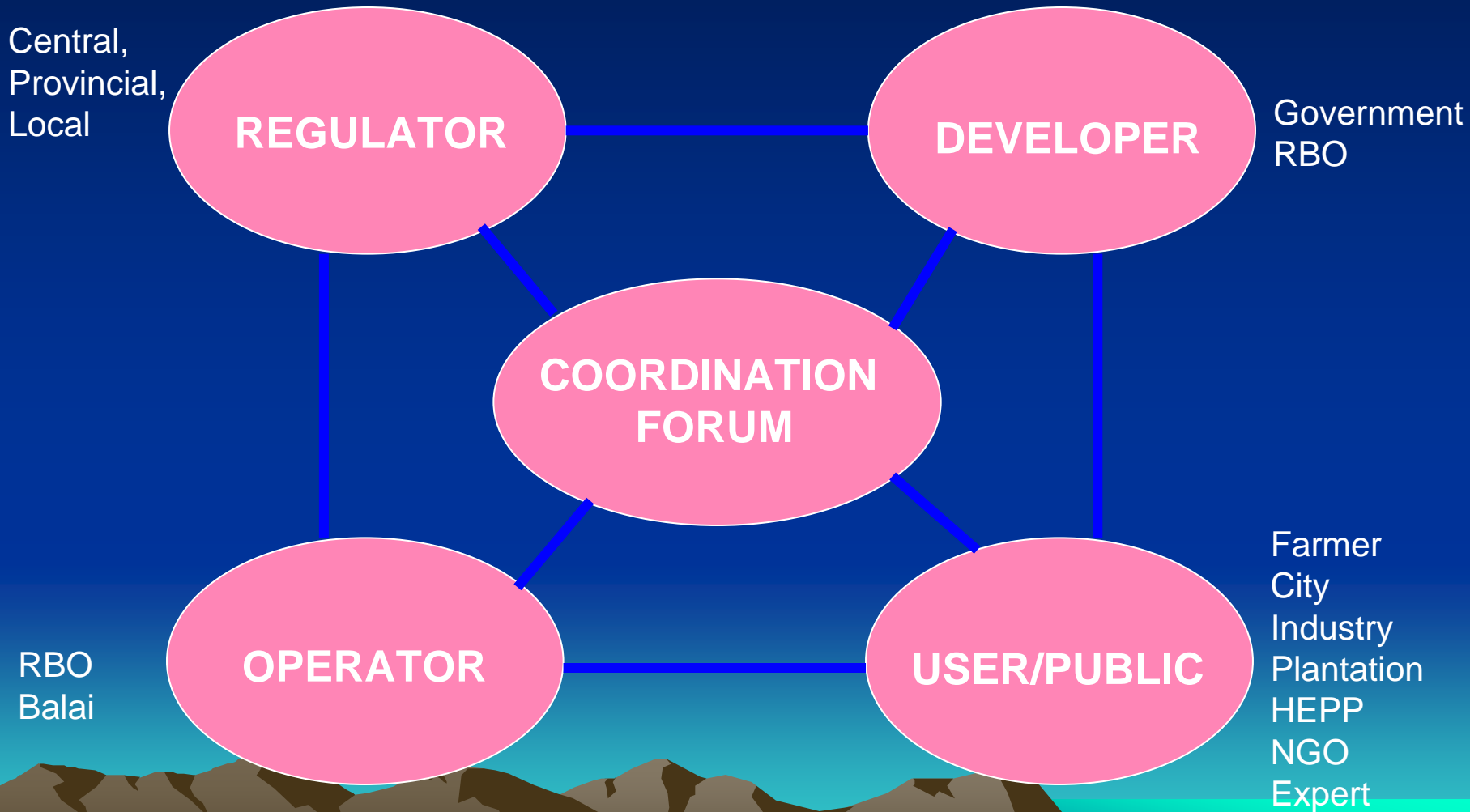


Maintenance Flow = 204 Mm³/year
And Flood Control 50 years
Return Period = 60,000 ha



Fisheries = 41 Mm³/year or
about 15,730 ha
(in delta area)

WATER RESOURCES MANAGEMENT COORDINATION SYSTEM



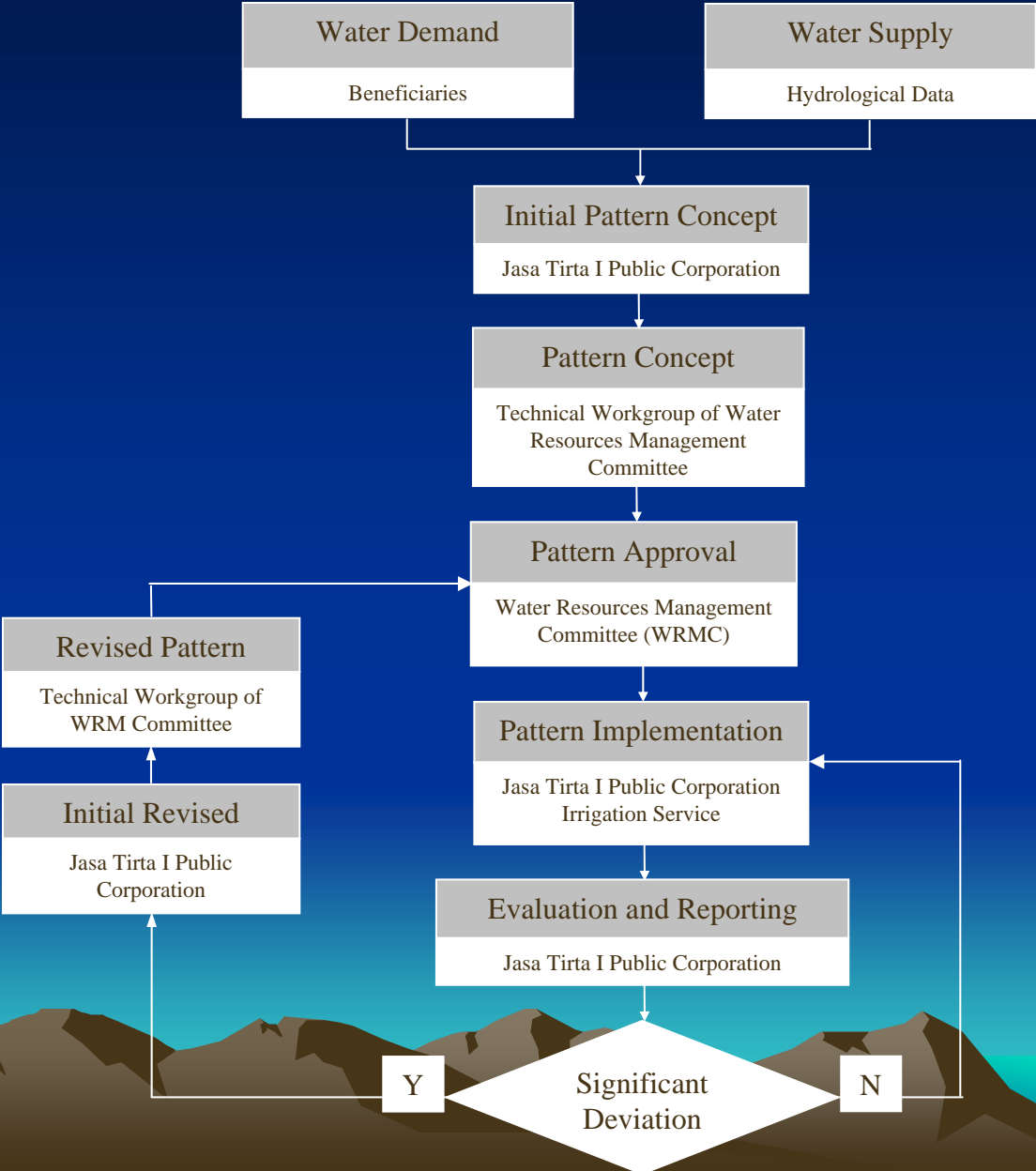
Water Allocation Preparation in the Brantas River Basin (1/2)

- Calculation of water demand (for irrigation, generated electricity, industry, drinking water, fishery, flushing and others) by East Java Water Resources Service (EJWRS) and Jasa Tirta I Public Corporation (*PJT I*)
- Calculation of water availability based on climate, rainfall, inflow and storage prediction
- Preparing draft of reservoir operation pattern by *PJT I*. Reservoir operation pattern is prepared twice a year (wet season and dry season). It is prepared into three (3) alternatives, i.e. wet, normal, and dry pattern

Water Allocation Preparation in the Brantas River Basin (2/2)

- Investigation of reservoir operation pattern is conducted by Technical Team of WRMC and giving suggestion or correction (if necessary) before submitted to Water Resources Management Committee (WRMC)
- WRMC meeting involves discussion, evaluation, and decision making to select one alternative of reservoir operation pattern for guidance at site
- Implementation of the reservoir operation pattern
- Reporting and evaluating of implementation in the site
- Revise on the reservoir operation pattern if it have significant deviation by *PJT I*
- The revision of reservoir operation pattern, afterwards submitted to WRMC to get approval and ratified.

FLOW CHART ON WATER ALLOCATION PREPARATION IN THE BRANTAS RIVER BASIN



Conclusion

- Present water uses in the Brantas River and its main tributaries i.e. for electricity generation, irrigation, brackish water fishponds, domestic water supply, industrial water supply and river maintenance flow will cause potential conflict among water users due to water shortage in the basin.
- To avoid conflict among water users in the Brantas River basin, a provincial Water Resources Management Committees (*Panitia Tata Pengaturan Air/PTPA*) was established based on the East Java Governor's Decree No. 59 of 1994. Until now, this committee has successfully become an essential coordination among stakeholders in allocating water in the basin, but should be improved its membership and advance its capacity in the future.

Thank you very much