

INTEGRATED WATER RESOURCES MANAGEMENT AND ITS DEVELOPING CAPACITY IN JASA TIRTA II PUBLIC CORPORATION

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J A S A T I R T A I I
P U B L I C C O R P O R A T I O N



Description of Citarum River Basin

- Basin Area : 12,000 km²
- Population (1999) : 8,595 million
- Average Rainfall : 4000 mm/year
- Water Potentials : 12.95 billion m³/year
- River Length : 300 km

• Land Use (2004) :

- Irrigated 33 %
- Agricultural 258 %
- forest 19 %
- settlements 7 %
- Swamp & fish ponds 4 %
- others 9 %



Western part of the world

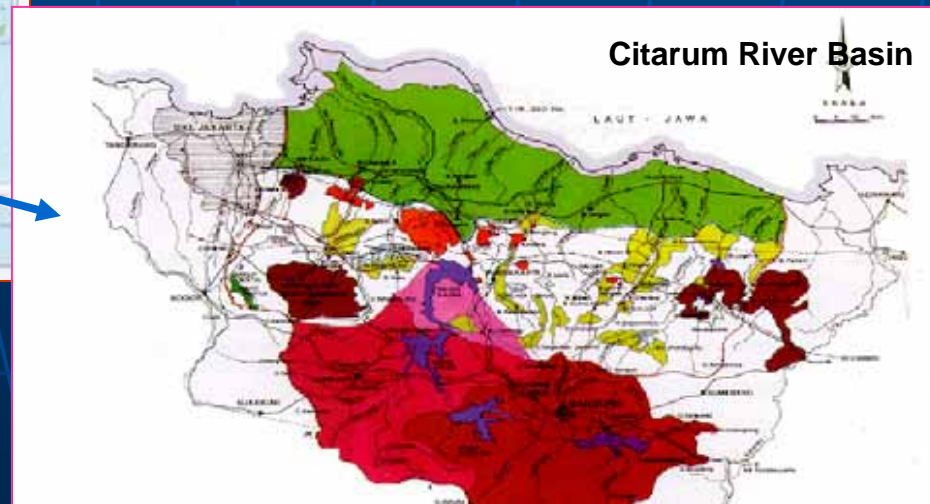


Indonesian Archipelago



Java island

West Java Province



Citarum River Basin

HISTORY OF CITARUM WATERSHED MANAGEMENT

DEVELOPMENT

- Based on the study paper written by *Prof.Dr.Ir. W.J.van Blomestein*, (1948)
- Reviewed by *Ir.van Schravendijk* in 1956
- Designed and supervision by *Coyne et Bellier Consultant* (COB) of France;
- Construction by *Compagnie Francaise d'Enterprise (CFE),Paris of France;*
- Financed by Bilateral Loan from France Government.



CONSTRUCTION PERIOD

- **Jatiluhur Multipurpose Project (1956 - 1967)**

OPERATION AND MAINTENANCE PERIOD

- **Jatiluhur State Owned Company (1970)**
- **Jatiluhur Authority Public Corporation (1990)**
- **Jasa Tirta II Public Corporation (1999)**



SCOPE OF WORKS JASA TIRTA II PUBLIC CORPORATION

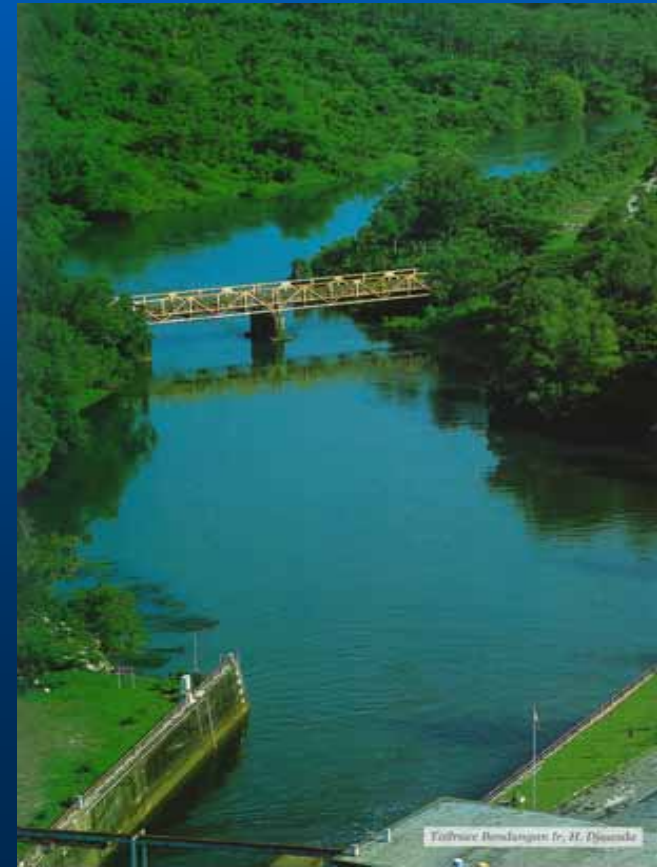
Government Regulation No. 94/1999



1. **EXPLOITATE AND MAINTAIN** water resources infrastructures and hydro-electric power generation.
2. Water resources and hydro-electric power **UTILIZATION,**

3. **WATERSHED MANAGEMENT,** such as: control, develop, and utilize water resources in Citarum River Basin

4. **REHABILITATE** water resources infrastructures and hydro-electric power plant as well.



Technical Issues in the Citarum River Basin

Water Quantity Degradation

- ▣ Watershed Degradation
- ▣ Limited water availability
- ▣ Flood Hazard



Water Quality Degradation

Pollution from domestic, industrial and agricultural sources has polluted the river and the reservoir

Financial Issues in the Citarum River Basin

- Less financial support from the beneficiaries for the sustainable water resources management
- Less funding of water resources management for the welfare and safety of the people and conservation
- Reaching only 40 % of O&M Cost Recovery causes deferred maintenance, and finally degradation of water resources infrastructures occurs

Organizational Issues in the Citarum River Basin

- Lack of proper staff at PJT II
Up to 2004, Human resources condition in PJT II are 1,915 including 0.94% of Magisterial Education, 7.99% of Scholar Degree, 7.05% of Bachelor Degree, 29.61% of Senior High School, 16.45% of Junior High School, and 37,96% of Elementary School
- Numerous fragmentized uncoordinated organizations

Social Issues in the Citarum River Basin

Less awareness from the community for implementation of water resources sustainability. In the catchment's management, the awareness for the conservation isn't gained yet. Also in pollution control is not yet properly gained.

Institutional Issues in the Citarum River Basin

Central and Local Government organizations involved in WRM contributes to an institutional problem in sharing roles and responsibilities characterized by overlapping mandates.

PROBLEM SOLVING

- To cope with watershed degradation
- To cope with Water Shortage
- To cope with Water Quality Degradation
- To cope with Flood Hazard
- To cope with Procedures of Irrigation Implementation
- To cope with Financial Aspect
- To cope with Social Aspect
- To cope with Organizational Aspect
- To cope with Institutional & Legal Aspect



IMPLEMENTATION OF PUBLIC PARTICIPATION

Public Participation Done by PJT II in Implementation of IWRM

Public Participation in river management :

- ☞ Conservation of water quality supply involving community around irrigation area
- ☞ Preserve and maintain irrigation infrastructure together with the company
- ☞ Monitoring the water quality of Citarum river through Clean Water Movement/Program (PROKASIH)
- ☞ Critical Land Rehabilitation Movement. Clean water campaigns to increase people awareness in preserving the environment along Citarum river is conducted routinely.
- ☞ PJT II together with other stakeholders, experts, and Non Government Organizations (NGO) are continually performing dialogues and coordination to realize the better water management in Citarum River.

PJT II's Efforts in Public Empowerment:

PJT II should be able to assist community around in the frame of giving loans and or lending capital to co-operations and small scale enterprises in order to lift up their life welfare. For that, PJT II had established Program of Welfare and Community Assistance (PKBL) since 1992 and provided loans of around **Rp. 6 billion** to both co-operation and small scale enterprises.

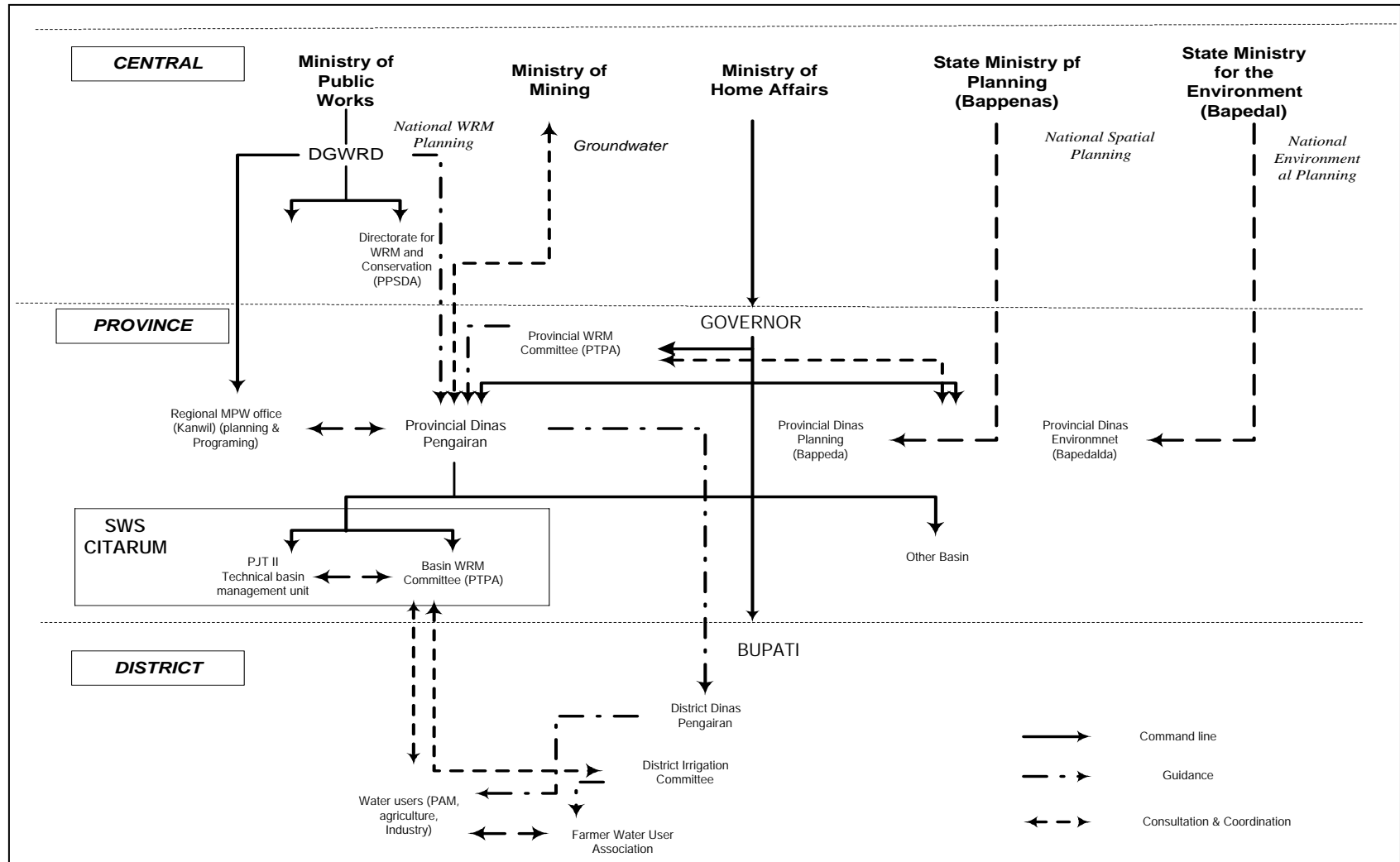
CAPACITY DEVELOPMENT

Strengthening the existing Flood Forecasting Warning System (FFWS).

- 2001 : AWLR and AWS Installation
- 2002 : Characterization of water resource potential for sustainable water resource production of the basins
- 2003 : Impact of land cover change to run off, sediment and water production of basin
- 2004 : Development of *Decision Support System* for sustainable water production on Citarum river basin
- 2005 : Development and Validation of DSS
- 2006 - 2010 : Refinement and Application of DSS

CAPACITY DEVELOPMENT

Involvement of Government Administration Level in Water Resources Management



CAPACITY DEVELOPMENT

Empowering of Staffs through training

- Training program for technical sector's basic engineering skill development for engineering staff.
- Training program for administrative sector's.
- Training programs for laws and regulation, operation and maintenance of river facilities, corporate management.
- The above training programs could be realized in cooperation with other RBOs through networking, training centers of related agencies, academic institutions, etc.



System Information in PJT II

PJT II has developed Support System for sustainable water production on Citarum river basin collaborated with Balitklimat (Bogor) and CIRAD (France). The outcome from this research collaboration is a PJT II's Information System which included the software of AGNPS, GIS, Remote Sensing, Hydrological modeling (data base) where these soft-wares are utilized to acknowledge



CAPACITY DEVELOPMENT

People Empowerment

Law Background :

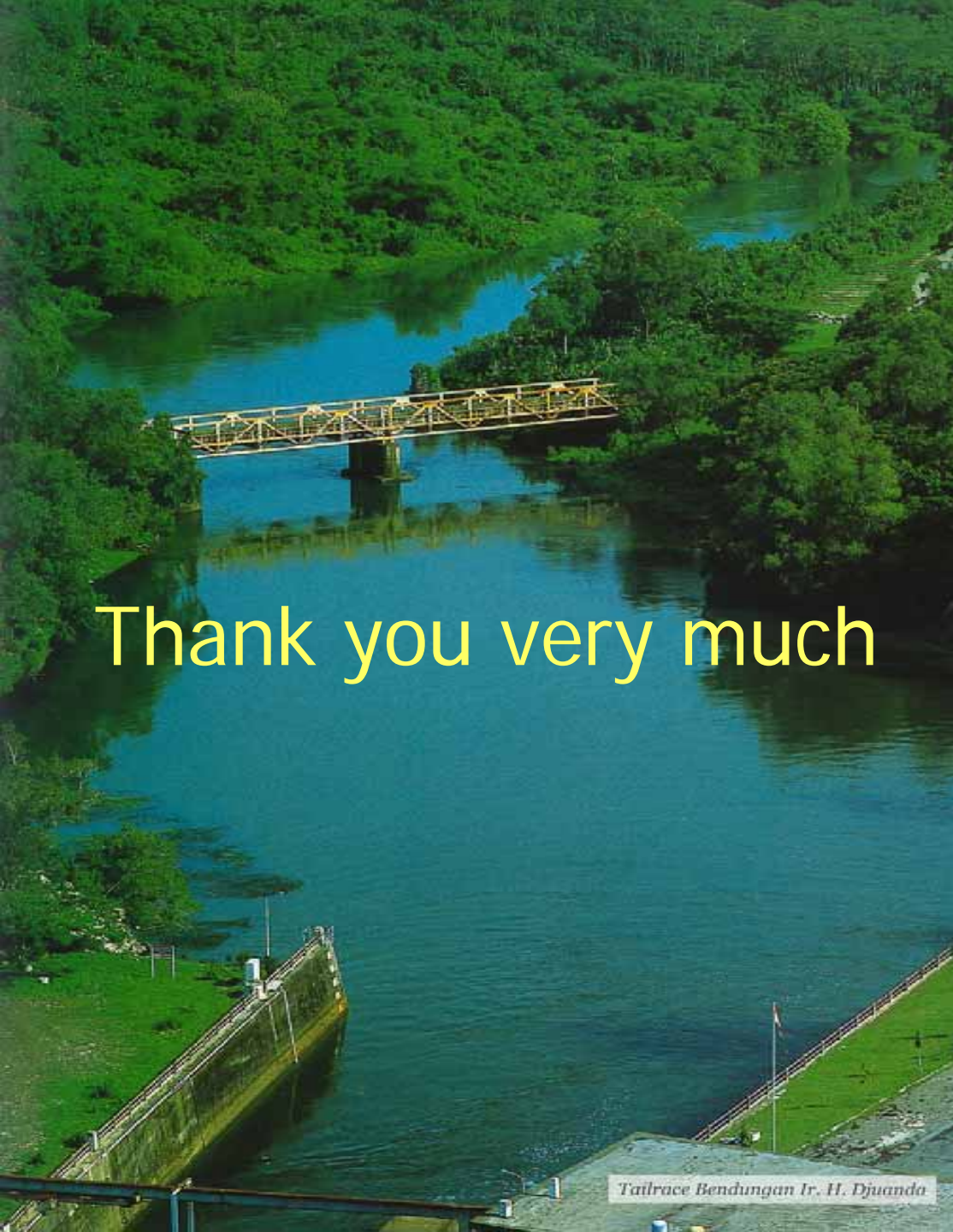
- Ministerial decree of public work affair no. 63/PRT/1993 about the river borderline, river area, and the old river.
- The law no. 7 year 2004 about water resources articles 45 paragraph (2) states that "The exertion of water resources on surface encompassing one river area can be performed by state corporations or other local corporations in the field of water resources management or by joint venture between state corporations and local corporations.

PJT II is able to reach the effective stages in :

- Improving work efficiency.
- Defining the activity priority scale with cost centers.
- Approaching and negotiating with the State Electricity Company (PLN), PAM DKI Jakarta and West Java Province in adapting electricity tariffs and basic water.
- Proposing Public Service Obligation request to the Finance Department, Minister of State Corporation and Minister of Public Works.
- Increasing the tourism income, etc.

CONCLUSION

- Water is a value as an economic good, many past failure in water resources management are attributable to the fact that water has been and is still viewed as a free good, or at least that the full value of water has not been recognized. Therefore water needs to be managed properly, so that can be useful for community welfare.
- In order to sustain water resources management and to address effective water governance in the Citarum River basins, Government of Indonesia has established River Basin Organizations (RBOs) namely Jasa Tirta II Public Corporation (PJT II), respectively, as neutral and professional institutions who apply in balance between healthy corporation principles and accountable public service norms on water resources supported by stakeholders participation.
- PJT II are mainly responsible to operate, maintain and manage water resources (including irrigation system in PJT II) and major infrastructures in these river basins.
- Community empowerment is one of the society development strategy, so that they could be easily develop their selves to solve social economic problems in order to increase their own welfare.
- Community involvement in managing their own environment must be based on sense of belonging, so whatever they have done are in the framework of participation could give huge beneficiaries for their selves, their community and their environment.
- Community participation should begin from small scope inside a group, so it is needed to be coordinated and facilitated by government in order to reach the wider scope.



Thank you very much

Tailrace Bendungan Ir. H. Djuanda