# Water resources as a common good in Brazil: Legal reform between theory and practice
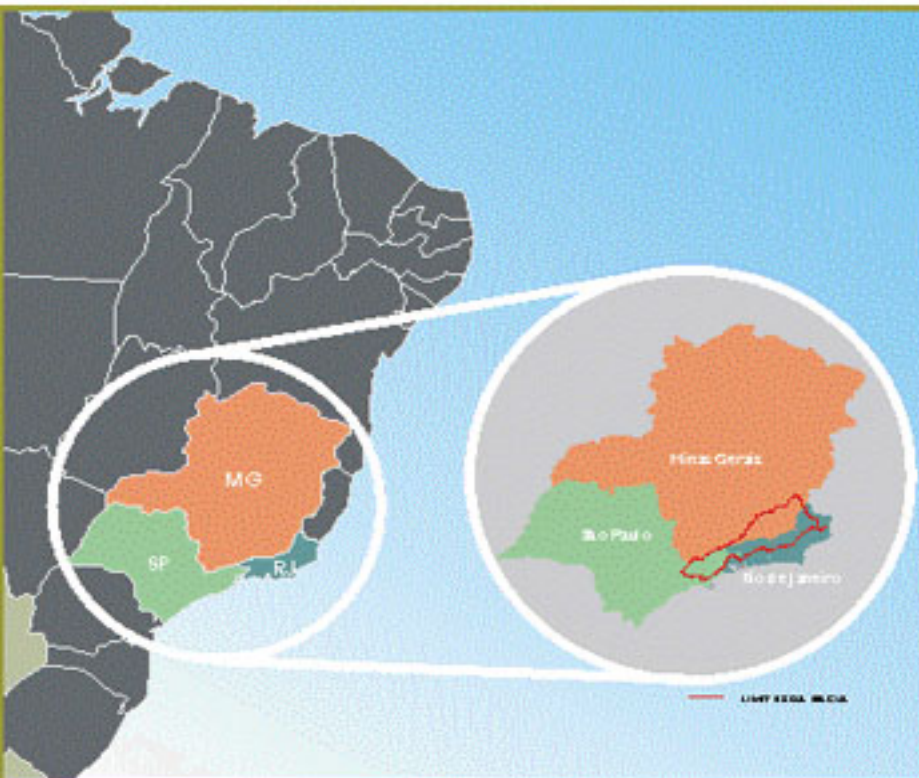
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# Paraíba do Sul River Basin – A Case Study

Mapa de Localização da Bacia do Paraíba do Sul



- Location: Southeast in Brazil, comprising the States of São Paulo, Rio de Janeiro and Minas Gerais

- Map source: http://www.ana.gov.br

# Water Resources Uses

**Agriculture**



**Industries**



**Fisheries**



**Power Generation**

# Some Problems

**Pollution**

**Erosion**

# The Legal Reform

- **Federal Constitution from 1988**

  *Water as a common use good*

- **National Water Resources Act (1997)**

  * *Water is a finite resource that has economic value*

  * *The river basin is the appropriate unit for water management*

  * *Water management shall be decentralized, with the partici-pation of all stakeholders*

# River Paraiba do Sul River Basin Committee - CEIVAP

- Composed of: (1) water users, (water supply and sanitation companies, the industrial sector, hydroelectric plants, and parts of the sectors of agriculture, fisheries and tourism), (2) Government, and (3) civil society

- Responsible for establishing mechanisms for the receipt of fees for the use of water resources and suggest the fees to be charged
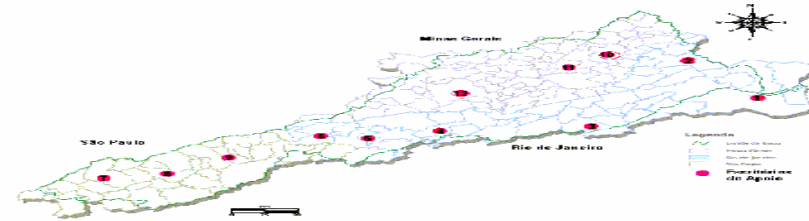
# Charges for water use, considering water as an economic good, take into account:

- In diversions, catchments, and extractions of water, the volume removed and the variation in its flow

- In the discharge of effluents and other liquid or gaseous waste, the volume discharged, the variation in its flow, and the physical-chemical and biological characteristics and toxicity of the effluent

# The Water Charge

$$C = Q_{cap} \times K_0 \times PPU + Q_{cap} \times K_1 \times PPU +$$
$$Q_{cap} \times (1 - K_1) \times (1 - K_2 K_3) \times PPU$$

$Q_{ca}$ = volume of water's impoundment (m³/s)

$K_0$ = 0.4

$K_1$ = consumption coefficient. It is the relation between the volume consumed and the volume impounded

$K_2$ = percentage of the volume of treated effluents among the volume of total effluents discharged

$K_3$ = efficiency level of Biological Oxygen Demand (BOD) reduction at the treatment plant

PPU = public price used for the impoundment, consumption and BOD discharge

# Some Management Problems

- Legal conflicts

- The National Water Resources Policy Act gap

- Lack of other pollutants parameters besides BOD

- Lack of watershed and coastal management integration

# Concluding Remarks

- The Brazilian legislation has strengthened the idea that a healthy environment is a right that belongs to all

- Water is considered a common use good in the Federal Constitution

- The Brazilian model for water resources management from 1997 attributed economic value to water and had its basis in the user / polluter pays principles, putting together economical and legal instruments , which proved to be an effective way of reaching the sustainable use of natural resources

# Concluding Remarks (cont.)

- CEIVAP has been proven to be a good example of a decentralized governance, enabling the stakeholders in co-managing Paraíba do Sul River Basin.

- Water resources management in Brazil is very recent. Notwithstanding the achieviment of some good results, it still has a long way forward in order to be accomplished.

*Thank you*