

Water Resources Management in Thailand

Presented to
**The 3rd Thematic Workshop on
Water Allocation and Water Rights**

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Bangkok, Thailand



*By Department of Water Resources
Ministry of Natural Resources and Environment*

Agencies Concerned

➤ **National Level**

Policy Coordination

💧 **Department of Water Resources: DWR**

Service Provider

💧 **Royal Irrigation Department : RID**

💧 **Metropolitan and Provincial Waterworks
Authorities: MWA & PWA**

💧 **Electricity Generation Authorities of Thailand: EGAT**

💧 **Eastern Water Resource Development and
Management PLC: East Water**

Groundwater Management

💧 **Department of Groundwater Resources: DGR**

Agencies Concerned



Areas of work that are cross-cutting

- 💧 **Flood and other water related hazards mitigation**
- 💧 **Water and environmental management**
- 💧 **Maintainance of rivers**
- 💧 **Wetland management**

There are a number of agencies that involve in dealing with such areas.

At the level of national body an apex body is existed which is the National Water Resources Committee: NWRC

Agencies Concerned

➤ River Basin Level

- 💧 River Basin Committee

- 💧 Provincial Office

- 💧 Municipality

- 💧 Local Administrative Body

For the latter three, 30% of national budget is allocated.

Laws Concerning Water

Some major laws concerning water

- **Civil and Commercial Code, 1939**
- **Royal Irrigation Act, 1942**
- **Private Irrigation Act, 1939**
- **Groundwater Act, 1977**
- **Canal Maintenance Act, 1903**
- **Waterworks Canal Maintenance Act, 1983**
- **Navigation in the Thai Water Act, 1913**
- **Enhancement and Conservation of Environmental Quality Act, 1992**

Drafted Water Law

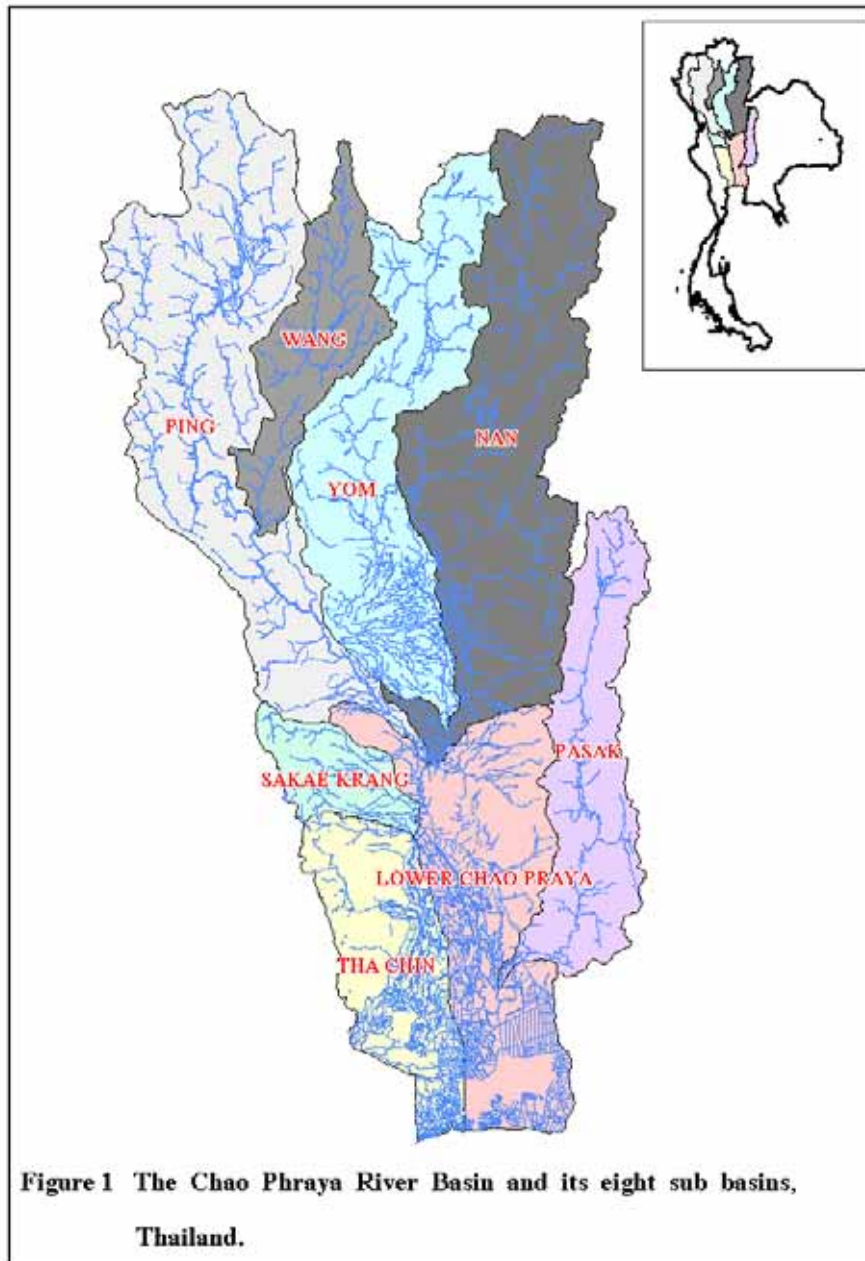
- 💧 **Water is public property.**
- 💧 **All individual have the right to use water as necessarily without causing any damages to the riparian land owners or the customary users.**
- 💧 **In case of water shortage or usage may jeopardize the environment, prohibition or reduction of water usage must be exerted temporarily.**

Drafted Water Law (Cont')

- ◆ **Utilization of water is divided into 3 types and permission might be asked through different bodies, which are no permission, the river basin committee and NWRC**
- ◆ **Organization administration and water fund**
- ◆ **Water resources rehabilitation and solving of flood and drought**

Water Allocation in the Chao Phraya River Basin

- 💧 **23 million people out of 63 million live in the Chao Phraya basin.**
- 💧 **It creates 58% of total GDP of the country.**
- 💧 **It comprises 8 sub-basins.**
- 💧 **Irrigated areas are 30 % of the total agricultural areas of the basin.**
- 💧 **There are 2 major reservoirs in the basin and some other smaller size dams.**





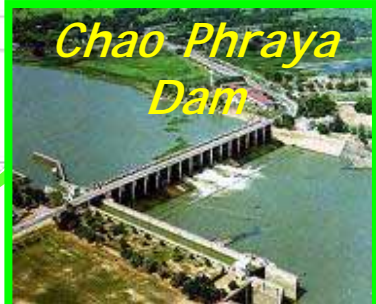
Bhumibol Dam



Sirikit Dam



Thap Salao Dam



Chao Phraya Dam



Krasieo Dam



Pasak Dam

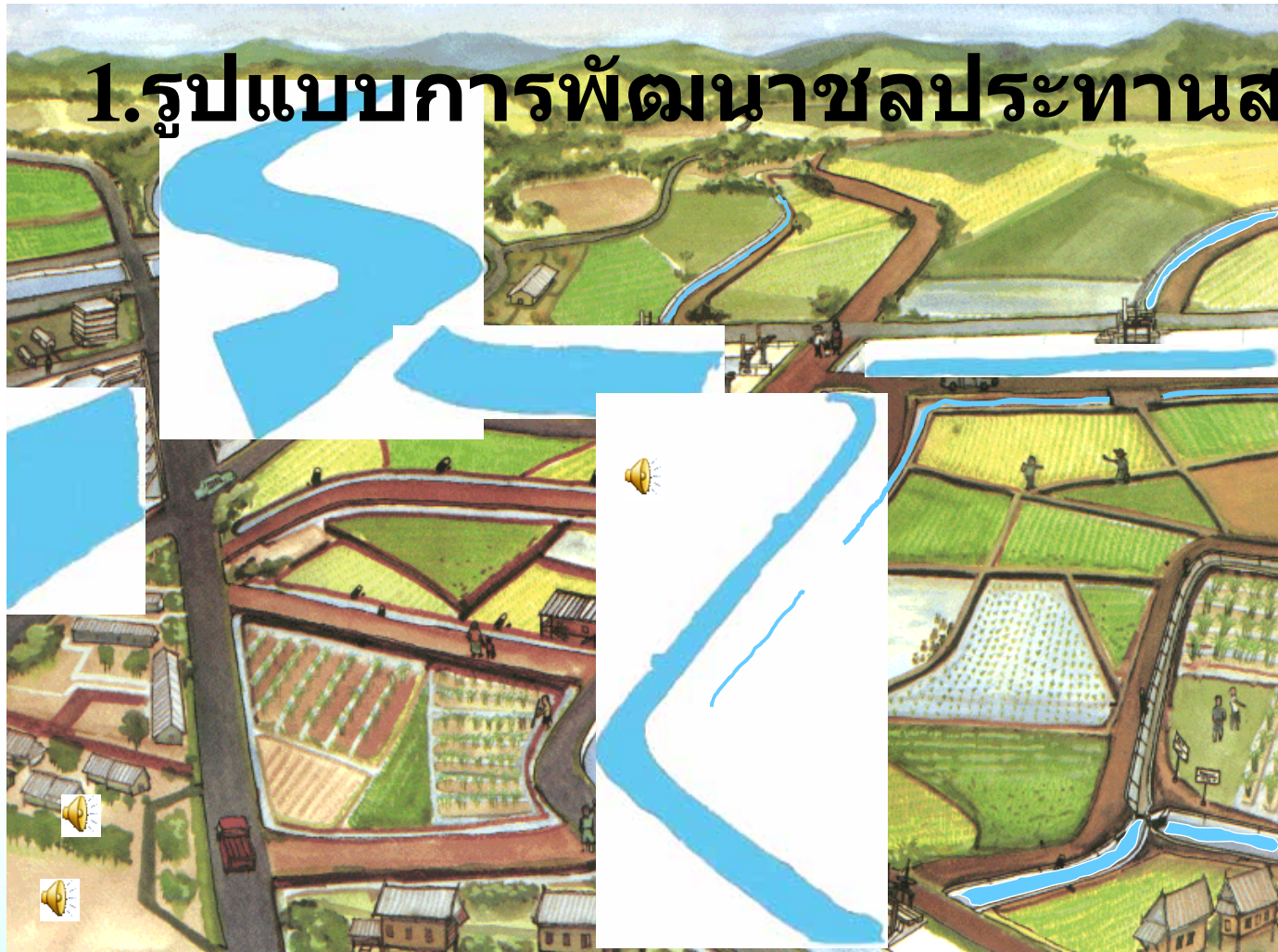


Water Allocation in Irrigated Land of Lower Chao Phraya Basin

- ◆ Lower Chao Phraya is the largest irrigation scheme in the country.
- ◆ Land consolidation involved farm boundary realignment and construction of parallel drains and ditches to allow each farmer access to a tertiary channel and a drain.
- ◆ Water is substantially used in rice production.



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Water Allocation in Irrigated Land of Lower Chao Phraya Basin (Cont')

Different uses cause problems

💧 **In dry season an exact amount of water flow needs to be kept to protect the municipal water intakes from salinity intrusion and to maintain adequate water levels for river transportation.**

💧 **Constraints facing are the land area now served by irrigation systems in the basin far exceeds the water available for dry season irrigation.**

Water Allocation in Irrigated Land of Lower Chao Phraya Basin (Cont')

- 💧 **Less water in dry season may lead to conflicts among users especially between farmers which are the largest group of water uses and this has been regularly evident.**
- 💧 **There is a plan for allocating water from 2 main reservoirs in dry season (6 months from December-May).**
- 💧 **This system helps allocating bulk water but problems usually arise at farm level.**
- 💧 **Stealing and misuse of water aggravate the problems.**

Water Allocation in Irrigated Land of Lower Chao Phraya Basin (Cont')

Proposal

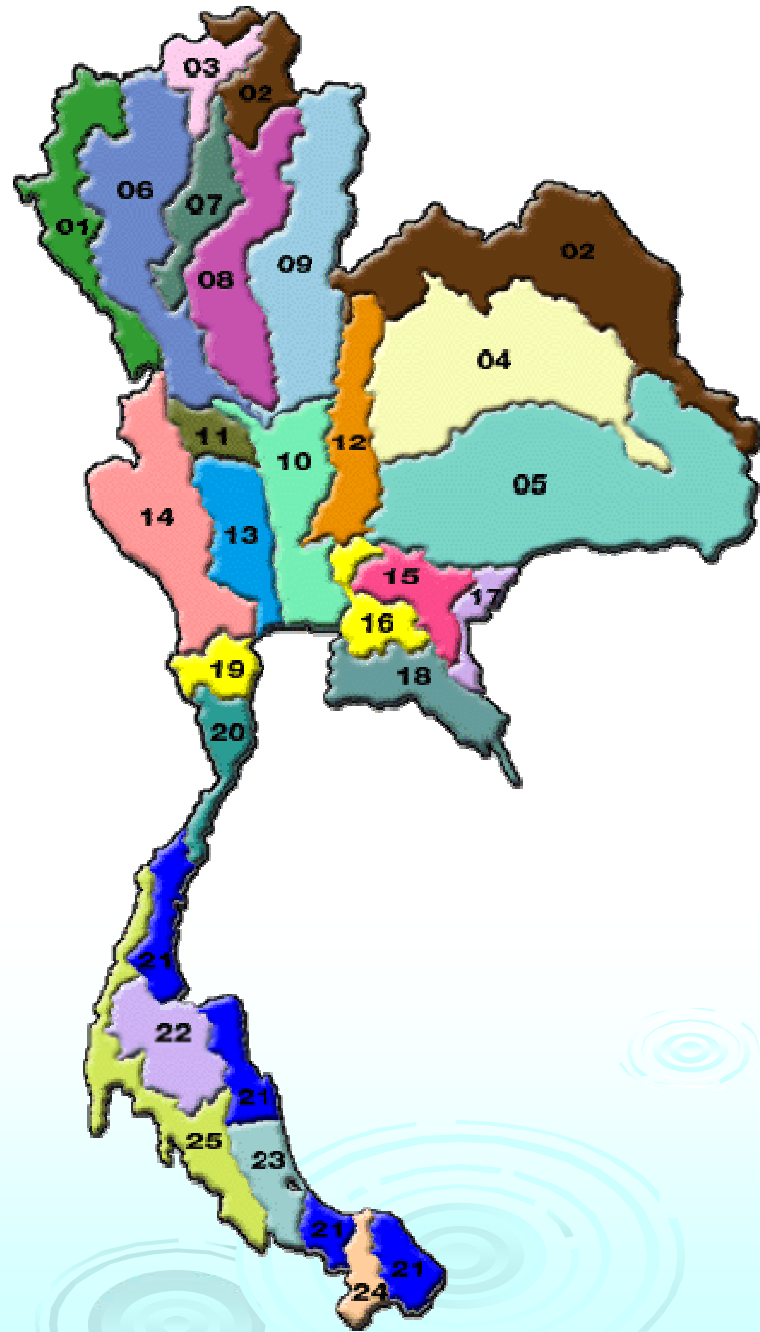
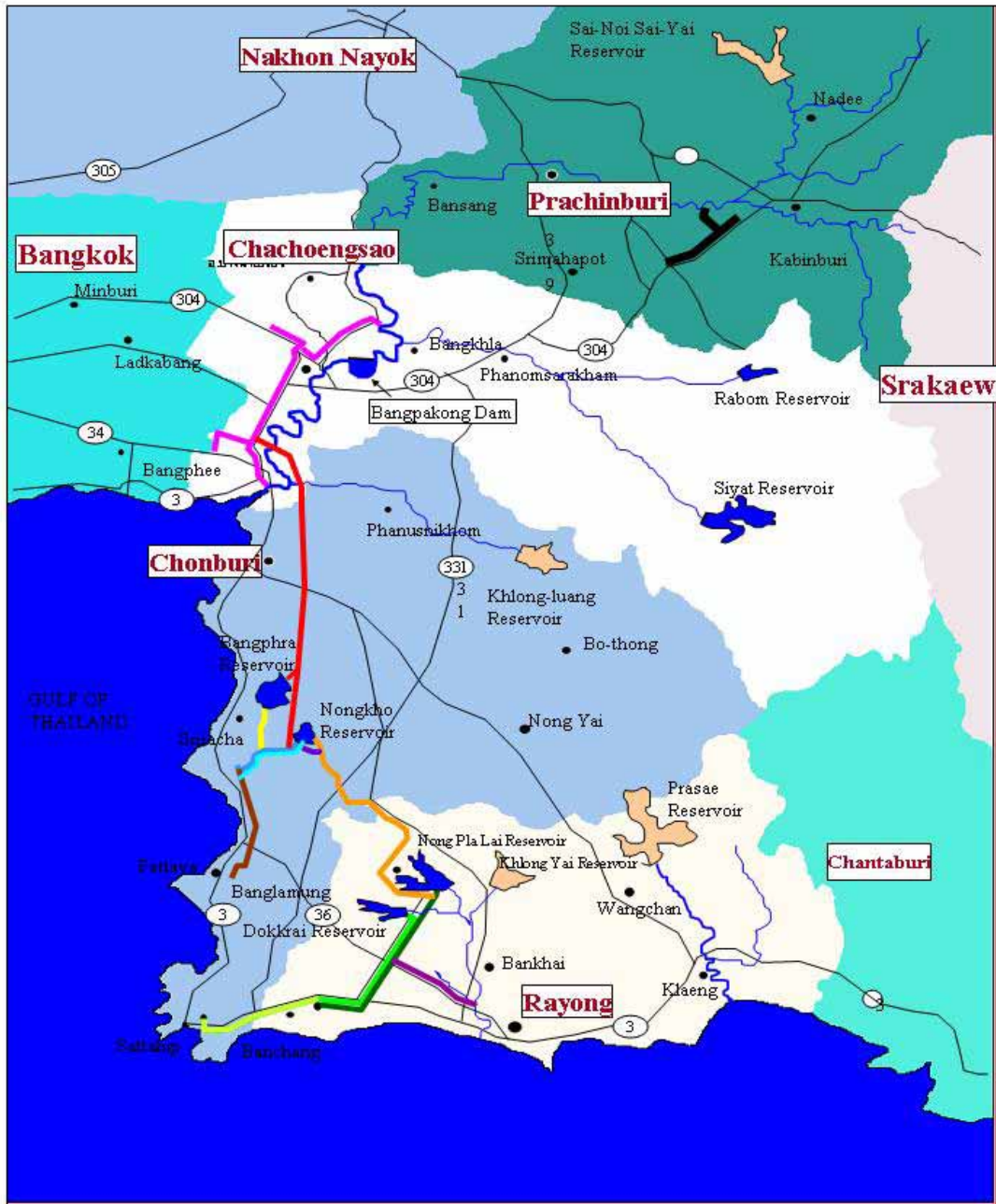
- ◆ In this river basin, there should be a consideration of rights-based allocation of water.
- ◆ However without existing law this can only be done in a pilot project.

Water Uses in Different Sectors

In the eastern part of the country located with areas of heavy industry and there are 4 main river basins that can be grouped into 2, which are Bang Pakong-Prachinburi-Tonselap and Eastern Coast river basins.

There is a problem of water uses that can be categorized into water for city supply, agriculture, industry, and ecological balance.

Industry and city water supply derived water from a raw water pipeline from 4 main reservoirs.



East Water's Water Sources and Raw Water Pipeline System

Water Uses in Different Sectors (cont')

In dry season of 2005 the Eastern Coast basin facing with unusual less precipitation, water stored in the reservoirs was critically low.

The Government at that time made a decision to construct infrastructure to connect the reservoirs and to divert water from a nearby basin, which is the Bang Pakong basin.

There has been an argument on this matter from the farmers in the Eastern Coast basin and also from The Bang Pakong River Basin Committee.

Water Uses in Different Sector (cont')

Proposal

- 💧 **Consultations among users of different groups supporting with technical knowledge and acceptable data are very crucial for reaching a decision made on an equitable, efficient and sustainable basis.**
- 💧 **It has to say that without a law this has to be done in a pilot project with an involvement of the River Basin Committee.**

Thank you...

