

**Parallelism between the Mekong
and Tisza Rivers?
- *A Similar Initiative from Asia***

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<http://www.iwarp.org.vn>



River basin organizations in Vietnam

Ten RBOs have been established

1 RBO managed by the Prime Minister

7 RBOs (including sub-RBOs) managed by Ministries

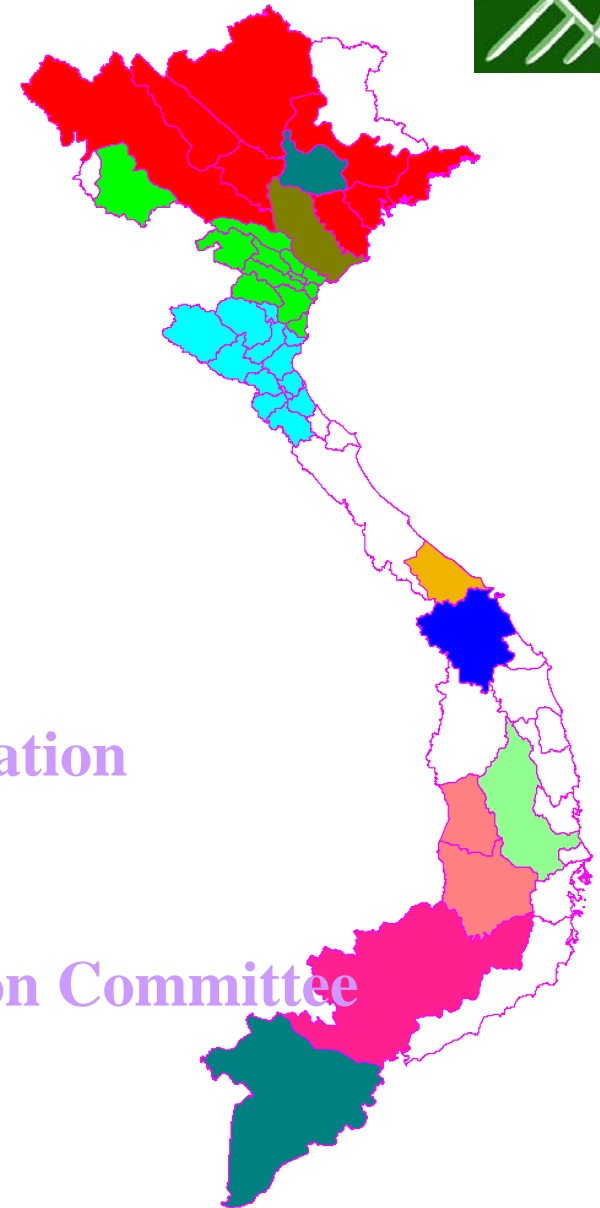
2 RBOs managed by Provincial People Committees





RBOs in Vietnam

- Vietnam National Mekong Committee**
- Red River Basin Organization
- Cuu Long River Basin Organization
- Dong Nai River Basin Organization
- Vu Gia – Thu Bon River Basin Organization
- Day River Basin Organization
- Cau River Basin Organization
- Cau River Basin Environment Protection Committee
- Srepok River Basin Organization
- Ca River Basin Organization





Issues of river basins in Vietnam

Decline in river flow

Shortage of water resources in the dry season

Water pollution, environment degradation

Salt water intrusion

Conflicts among water use sectors (irrigation, navigation, environment, flood control, etc

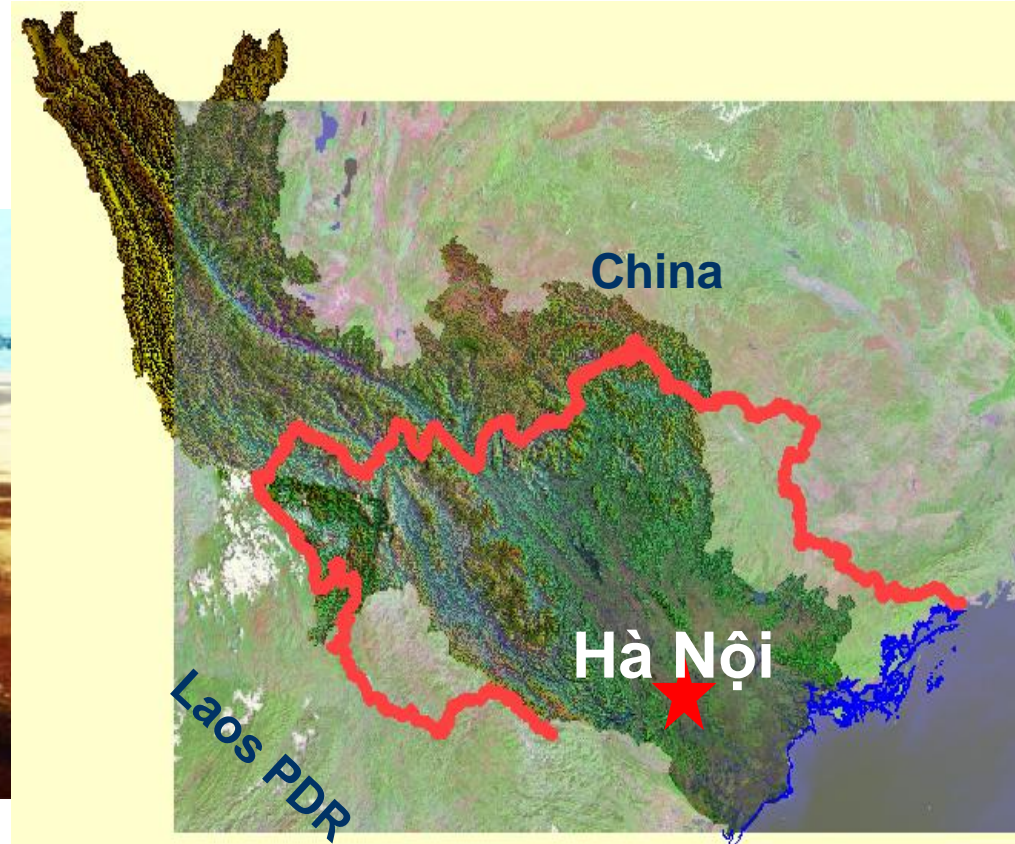
<> hydropower)





Issues of river basins in Vietnam

Recent droughts in Red river basin





Cross-border subjects of concern

Discontinuity in cooperation

Different in levels of data availability, formation, standards

Different in technology capability level

Inefficiency cooperation between upstream and downstream local authorities





Issues of local RBOs

Red River: water shortage in dry season, water pollution

Cau River: water shortage, water pollution due to industrial and domestic wastewater

Day River: water shortage in dry season, water pollution due to domestic and industrial wastewater, inundation in rainy season.





Issues of local RBOs

Ca River: water shortage in dry season, salt water intrusion

Vu Gia – Thu Bon River: flooding in rain season, bank erosion, water shortage, water pollution

Srepok River (one of Mekong's tributaries): inundation in wet season, water shortage in dry season, groundwater reduction.





Issues of local RBOs

Dong Nai River: salt water intrusion, water pollution (industrial wastewater, acid water...)
Cuu Long River (Mekong Delta in Vietnam): water shortage in dry season, flooding in wet season, salt water intrusion, water quality degradation, soil erosion





IWRM activities

- Field measurement of flow
- Water quality measurement
- Data collection of water use activities, regulation of hydraulic structures





IWRM activities

- Carry out research and development on
- River flow, water demand calculation
 - Hydraulic structure operation
 - Water resources allocation





IWRM activities

Modeling studies:

VRSAP, KOD, TL_VC, TANK

MIKE NAM/11/21/21c/21FM/FLOOD/SHE/ECOLab/BASIN

SWAT, HEC-RAS/HMS/RESSim, MITSIM, SSARR

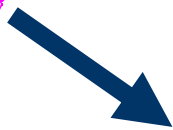
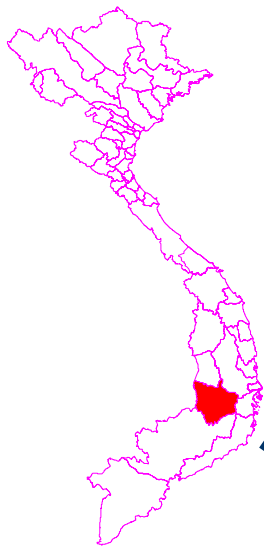
ISIS, SOBEK, RIBASIM, HYMOS

GAMS, MIKE BASIN OPTIMIZATION, AUTOCAL





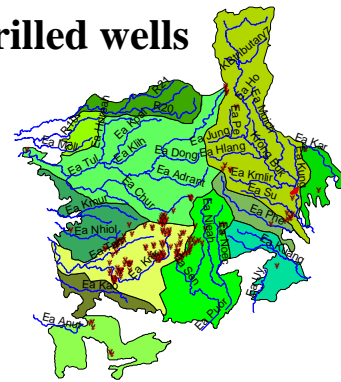
Groundwater-surface water modeling study for Srepok River Basin



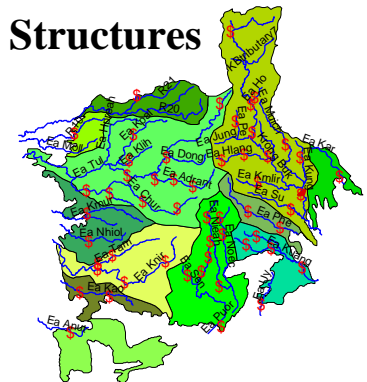
Study Area



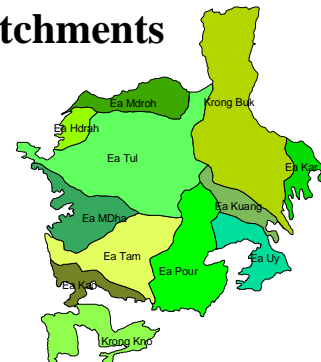
Drilled wells



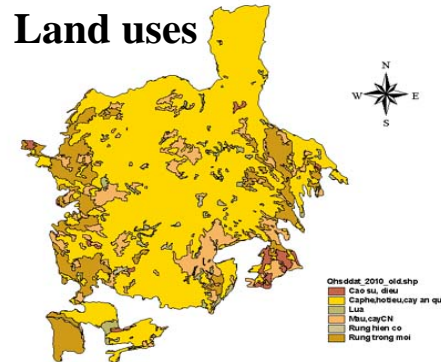
Structures



Sub-catchments

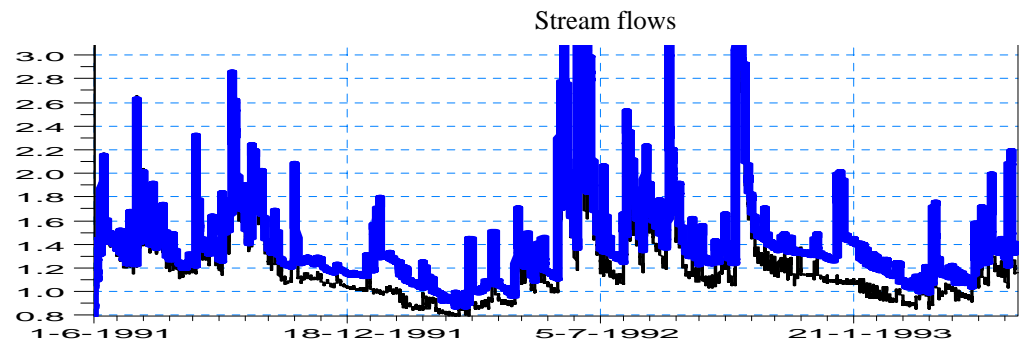
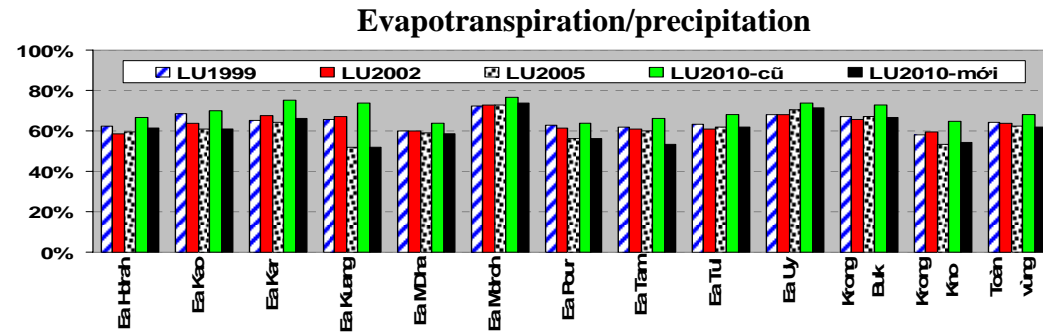
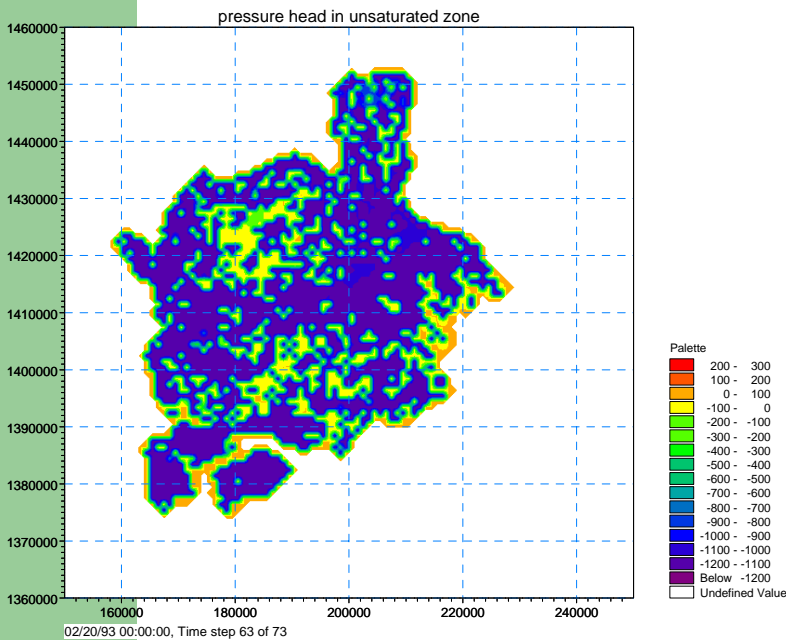


Land uses





Groundwater-surface water modeling study for Srepok River Basin





IWRM activities

- Preparation of water resources master plans at nationwide and river basin levels.
- Preparation of water utilization plans for river basins, provinces, districts, and for specified water use purposes.
- Preparation of flood control plans.





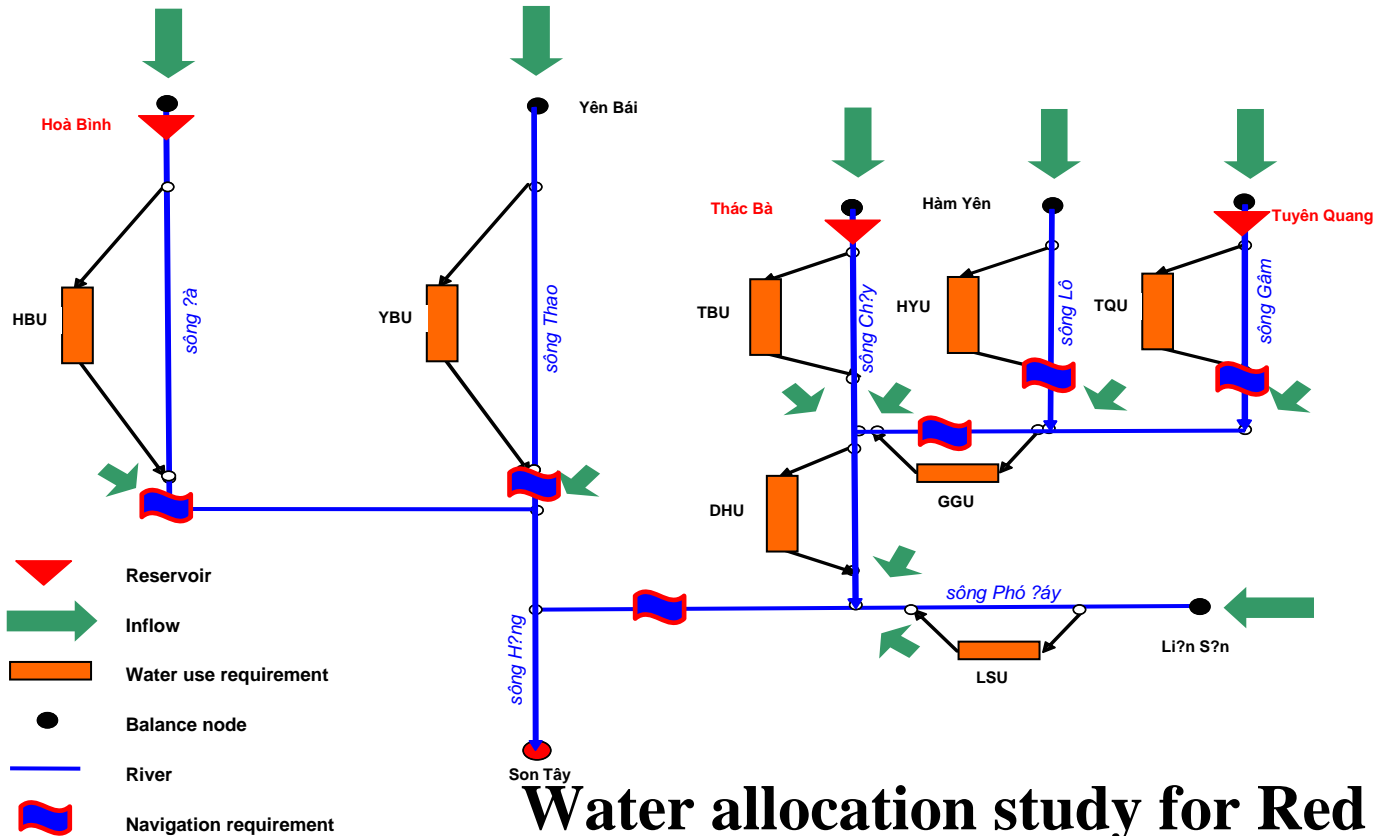
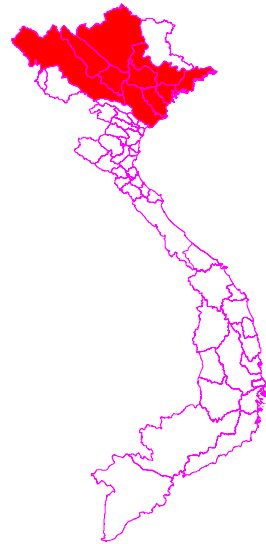
IWRM activities

- Change in cropping patterns, in cropping seasons**
- Development of new hydraulic structures**
- Development of operation rules for water resources systems**





IWRM activities



Water allocation study for Red river basin





IWRM activities

- University/graduate level training.**
- Training of water resources planning and management skills.**
- Sending officers to study abroad for post-graduated degrees.**
- Cooperation with international organizations to carry out research studies, training of advanced technology skills.**





Areas for potential cooperation

- Drought management**
- River basin environment management**
- Sewage management**
- Water resources system operation**
- Multipurpose-multi-reservoir system operation**

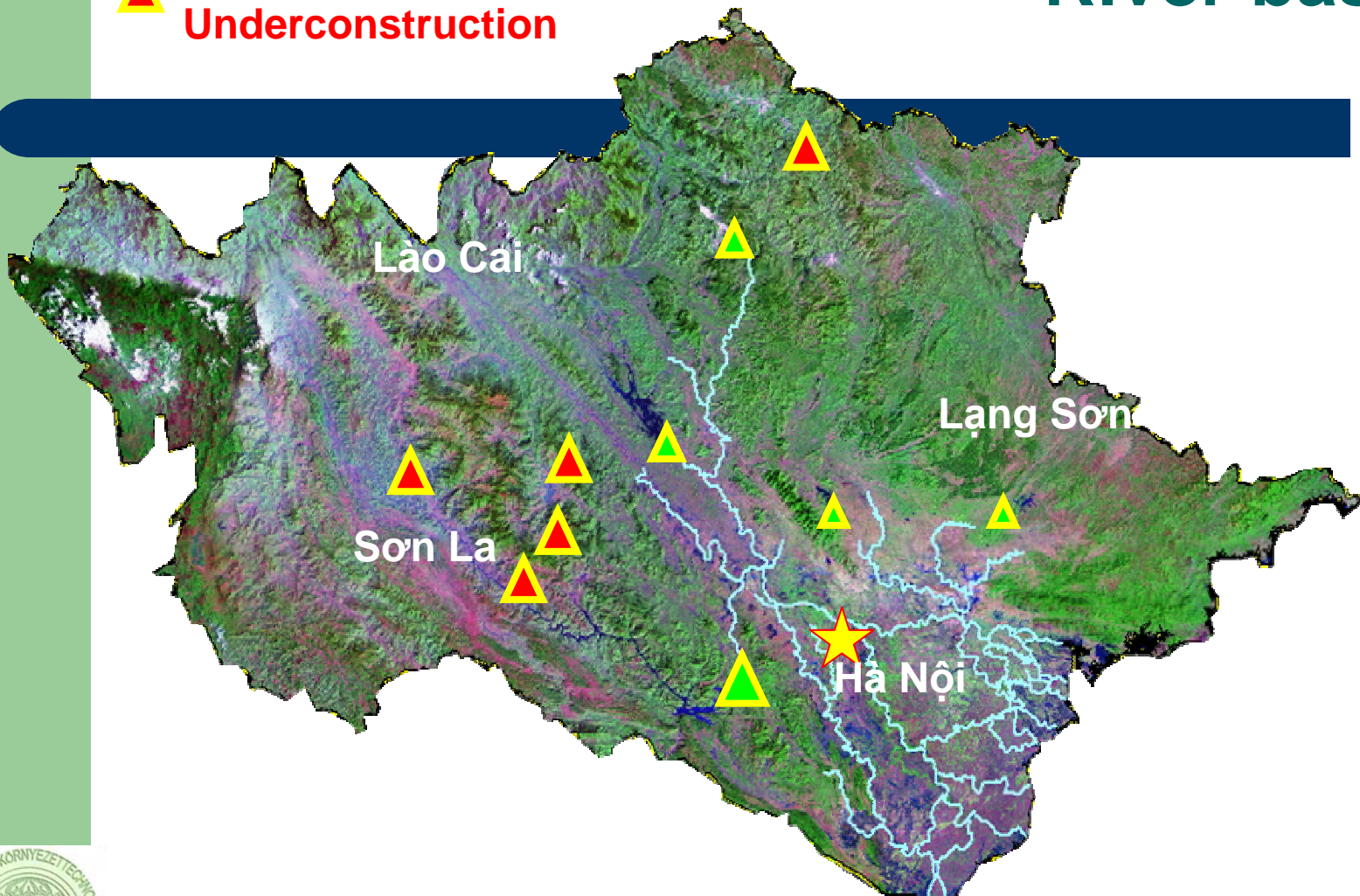


Water resources system operation study for Red River basin



 Existing

 Underconstruction



100 Km





Areas for potential cooperation

Optimization of water resources allocation

Water economics

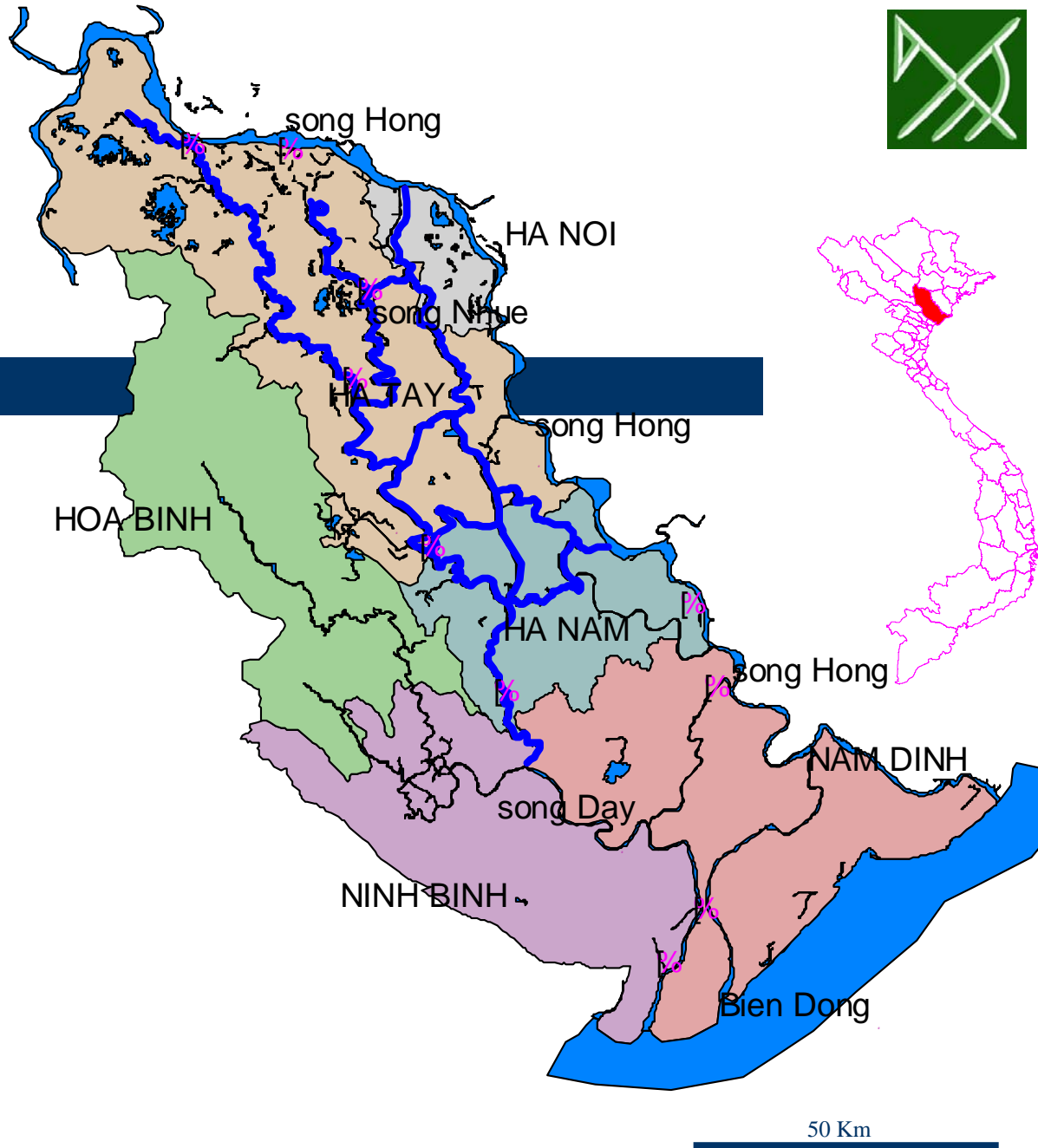
Surface water/groundwater resources degradation

Surface water/groundwater resources reduction



Nhue-Day water pollution control

800 000 m³ of
heavily polluted
wastewater daily
released from
domestic, industrial
uses from 6
provinces: Ha Noi,
Ha Tay, Ha Nam,
Hoa Binh, Ninh
Binh, Nam Dinh.



**THANK YOU VERY MUCH
FOR YOUR ATTENTION!**