



7th EuroSEAS Conference 2013  
Lisbon, 02-05 July 2013

# Nam Mang 3 Dam impact: on Water management and Land use in the Nam Nyam Valley, Lao PDR

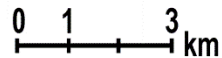
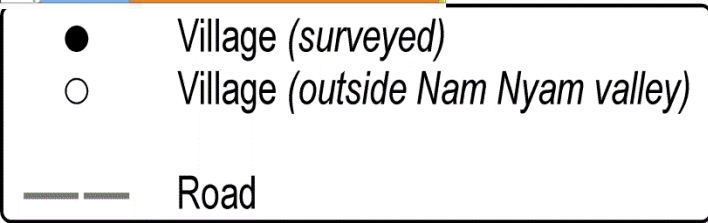
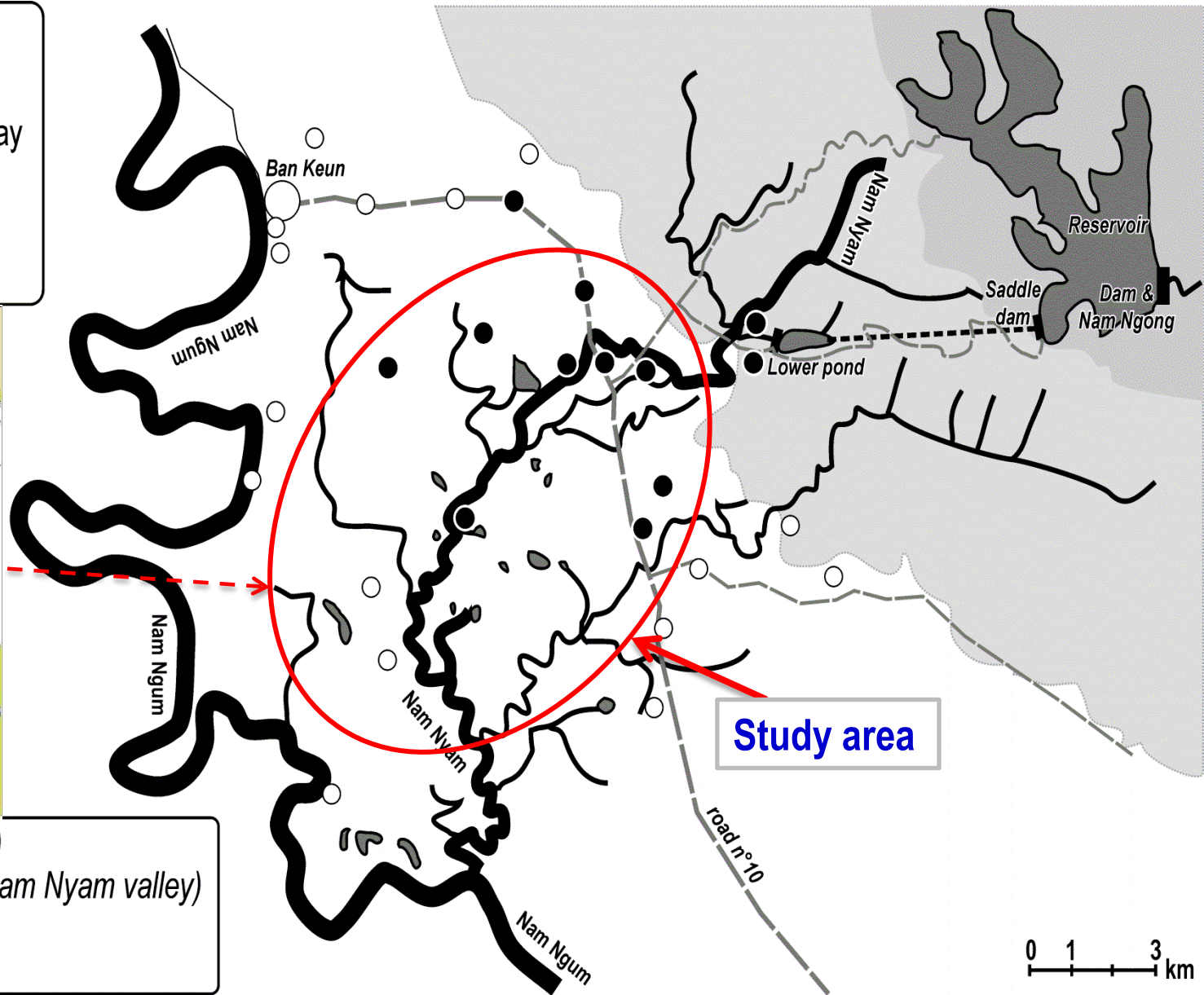
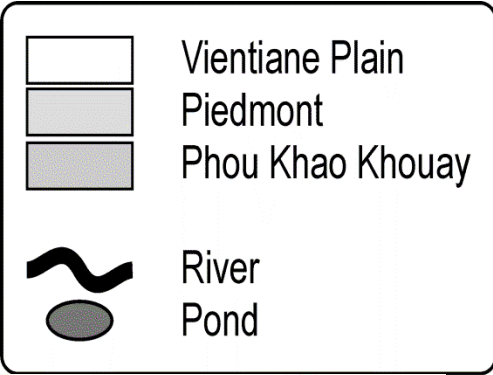


**Presented by: Phimthong Kouangpalath**  
*Faculty of Agriculture, National University of Laos,*

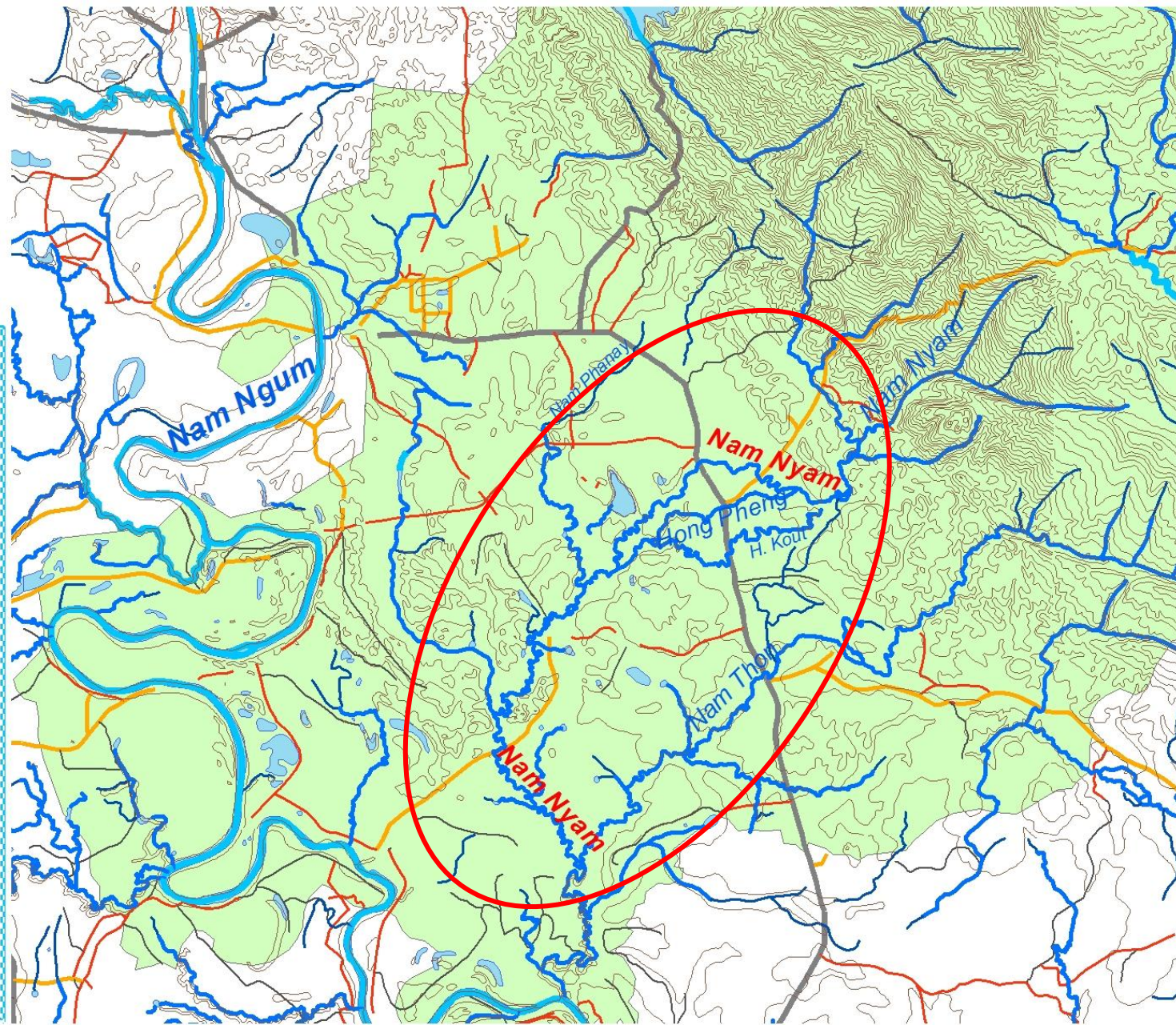
*PhD candidate at ULg-Gembloux ABT and  
AgroParisTech*



# Nam Mang 3 and Nam Nyam Valley in the Vientiane Plain







**Legend**

- Thourakhom district
- Curved
- Rivres**
  - Main stream
  - Secondary stream
  - Temporary stream
- Road**
  - Paved
  - Improved
  - Unpaved
  - Temporay
  - Lake

Data source: DNG, MoAF  
FoA/NUOL  
Created by: Phimthong Kouangpalath

# Hydrographic network





**Paddy field in the plain,  
Phou Phao Khouay in the background**





**Young rubber trees  
in the foot of the mountain zone**

**Phou Khao Khouay  
in the background**

**Shifting cultivation in the  
hillocks zone**



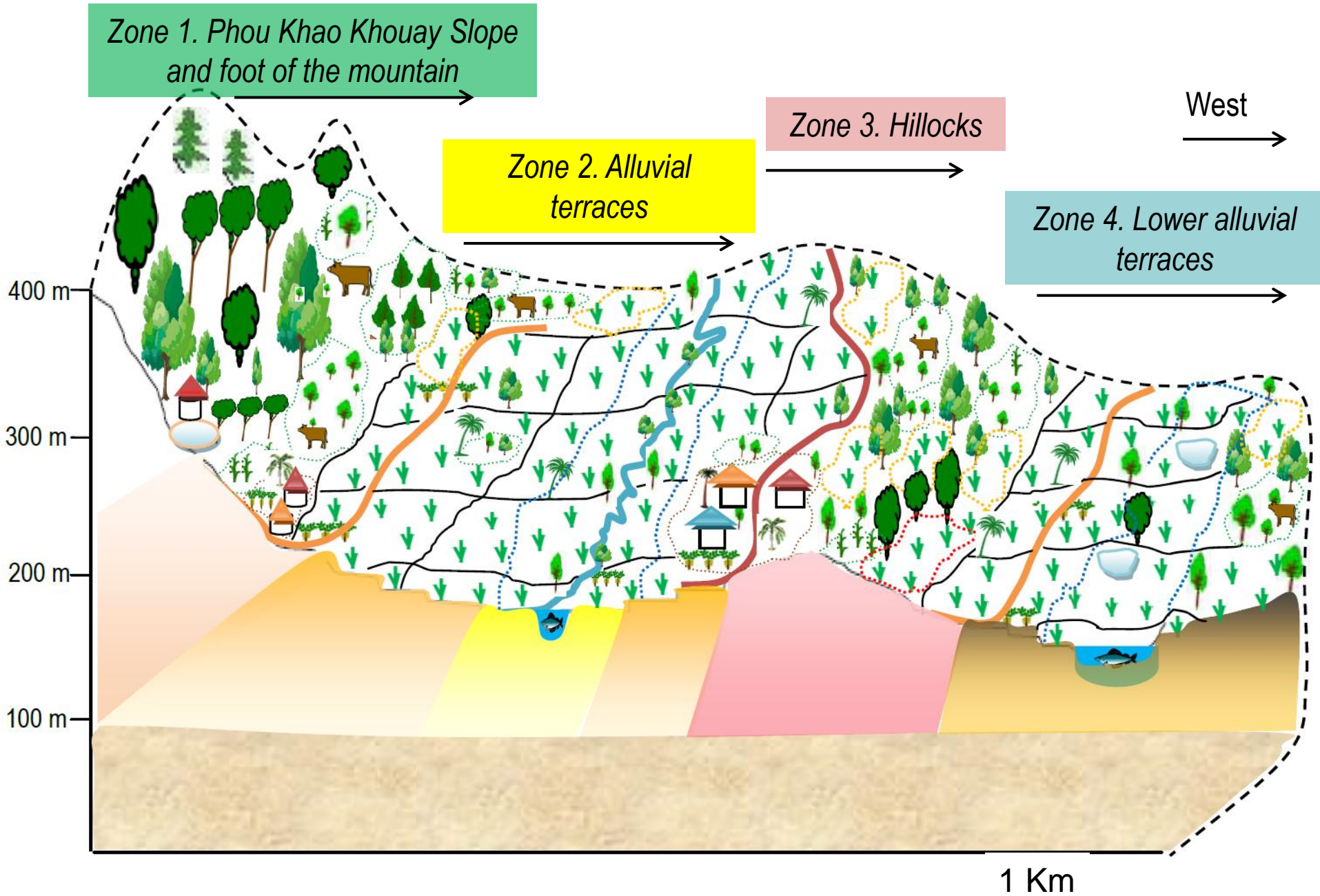




**Paddy field in the Nam Nyam Valley**

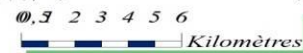
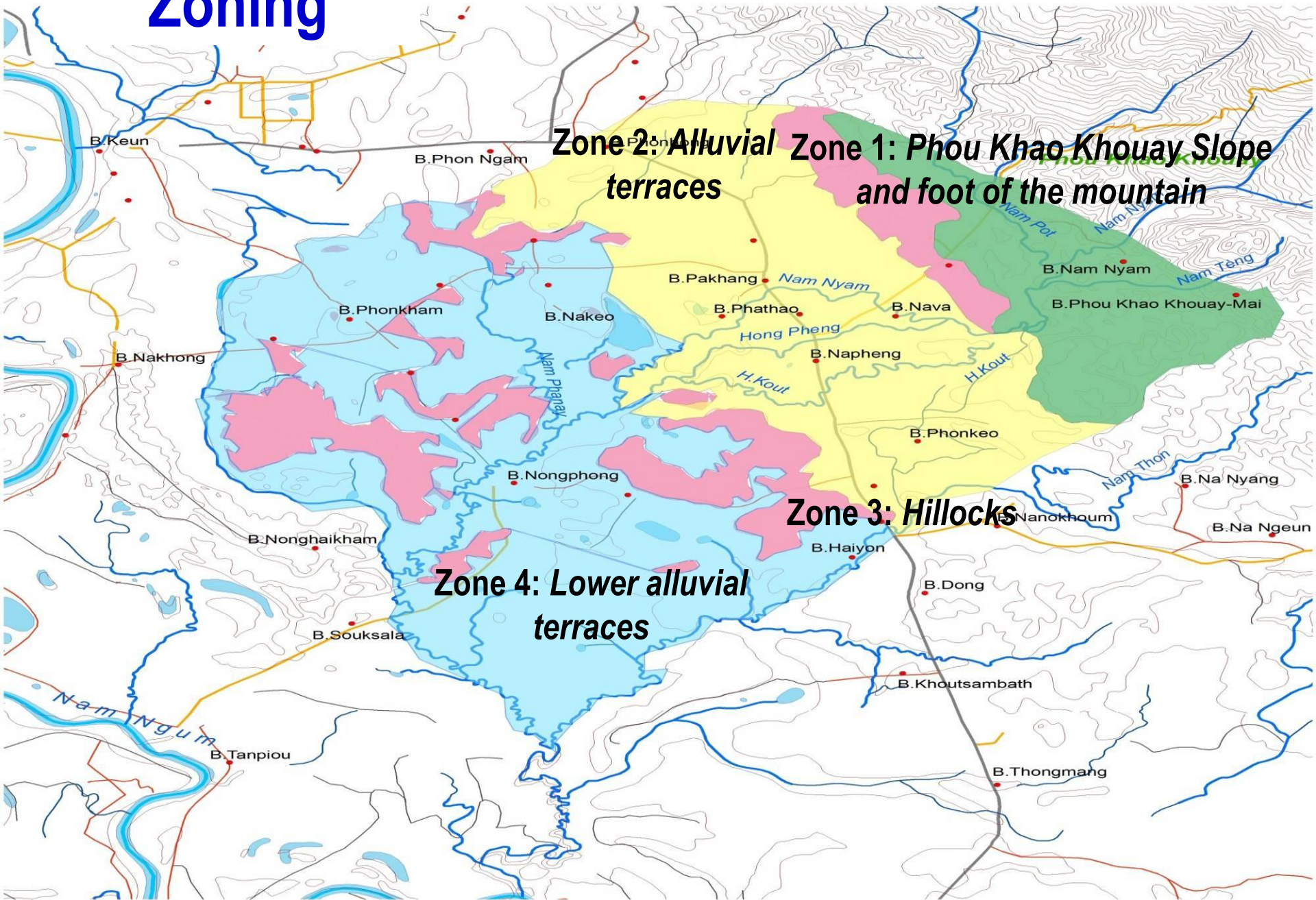


# Transect of the Nam Nyam Valley





# Zoning





# Rice seeding for dry season in the Nam Nyam Valley





# Diversionary weir for irrigation



Draining canal from natural pond to the Nam Nyam



# Nam Nyam village (Hmong village, created 1973)



Irrigation canal from the  
Nam Nyam diversionary  
concrete weir





**Shifting cultivation in the  
hillocks zone**



**Floodable areas in lower alluvial  
terraces near the Nam Ngum bank**



**Paddy field built  
after the Nam Ngum1  
dam in (1970s)**







**Enclosed pasture on  
hillock land**

**Paddy field ploughing**







**One year after of shifting cultivation on foot of the mountain of Phou Khao Khouay**



**Ex-village common land on the hillocks, enclosed and privatized after the land allocation programme**







**Concrete canal irrigation from the regulation pond of the Nam Mang 3 dam**



**Resettled village from the Nam Mang 3 reservoir area to the Nam Nyam Valley**



# Nam Mang 3 : Infrastructure

Dam on  
*Nam Nyong*  
(donor river)



**Operator : EDL**

**Detail Study : 1992-2000**

**Construction : 2002-2004**

**COD : January 2005**

**Investment : US\$ 63 M**  
*(80% CWE, 20% EDL)*

**Capacity : 40 MW**

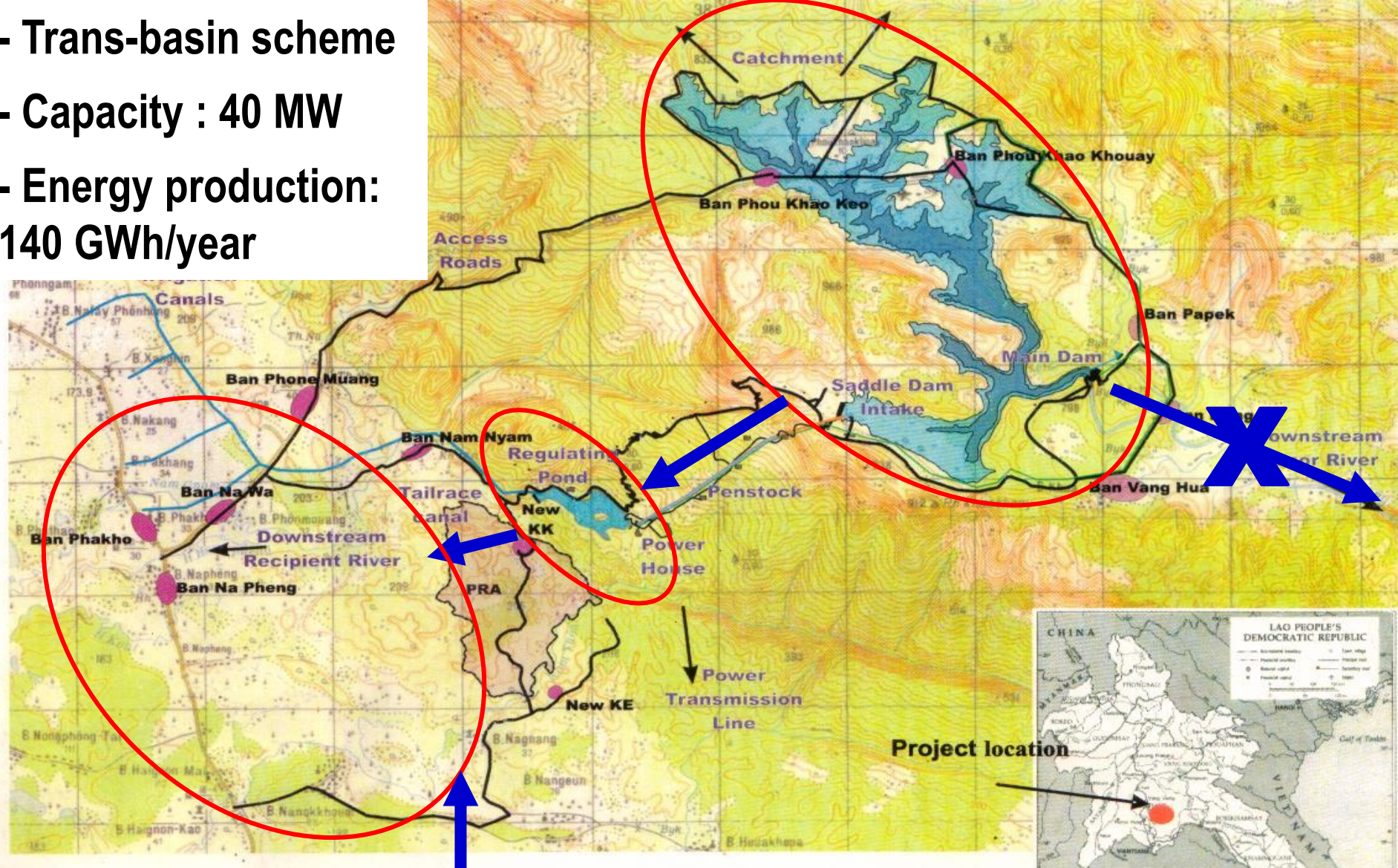
**Energy production: 140 GWh/year**

- *1/3 of electricity Export to Thailand*
- *2/3 Domestic market (Vientiane)*



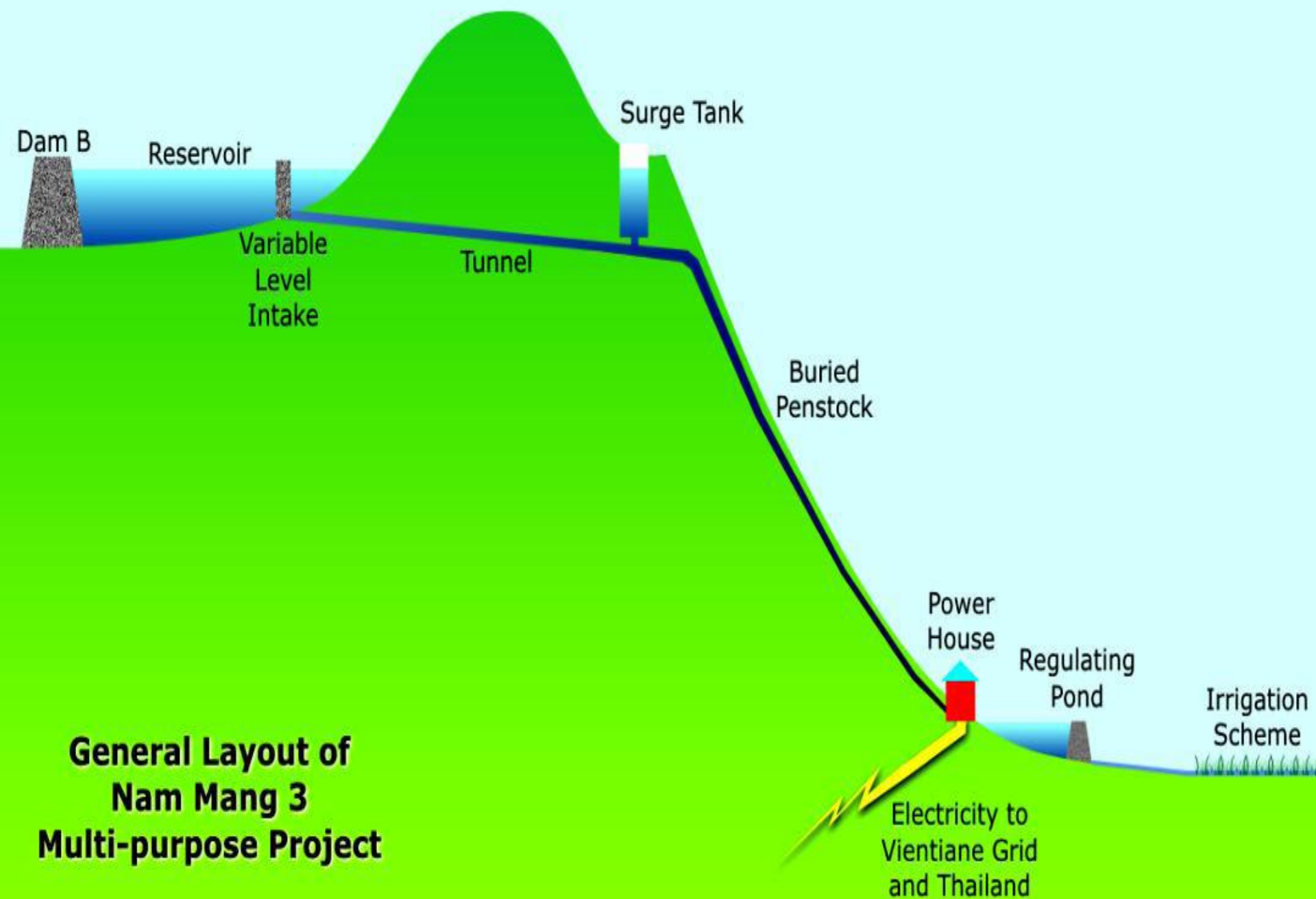


- Trans-basin scheme
- Capacity : 40 MW
- Energy production: 140 GWh/year



**Study area: Nam Nyam Valley downstream of the Nam Mang 3 dam**





**General Layout of  
Nam Mang 3  
Multi-purpose Project**



**Canal bank garden in  
dry season**



**Rice field in dry  
season**





# Flooding in the lower Nam Nyam Valley



# Flood plain in rainy season

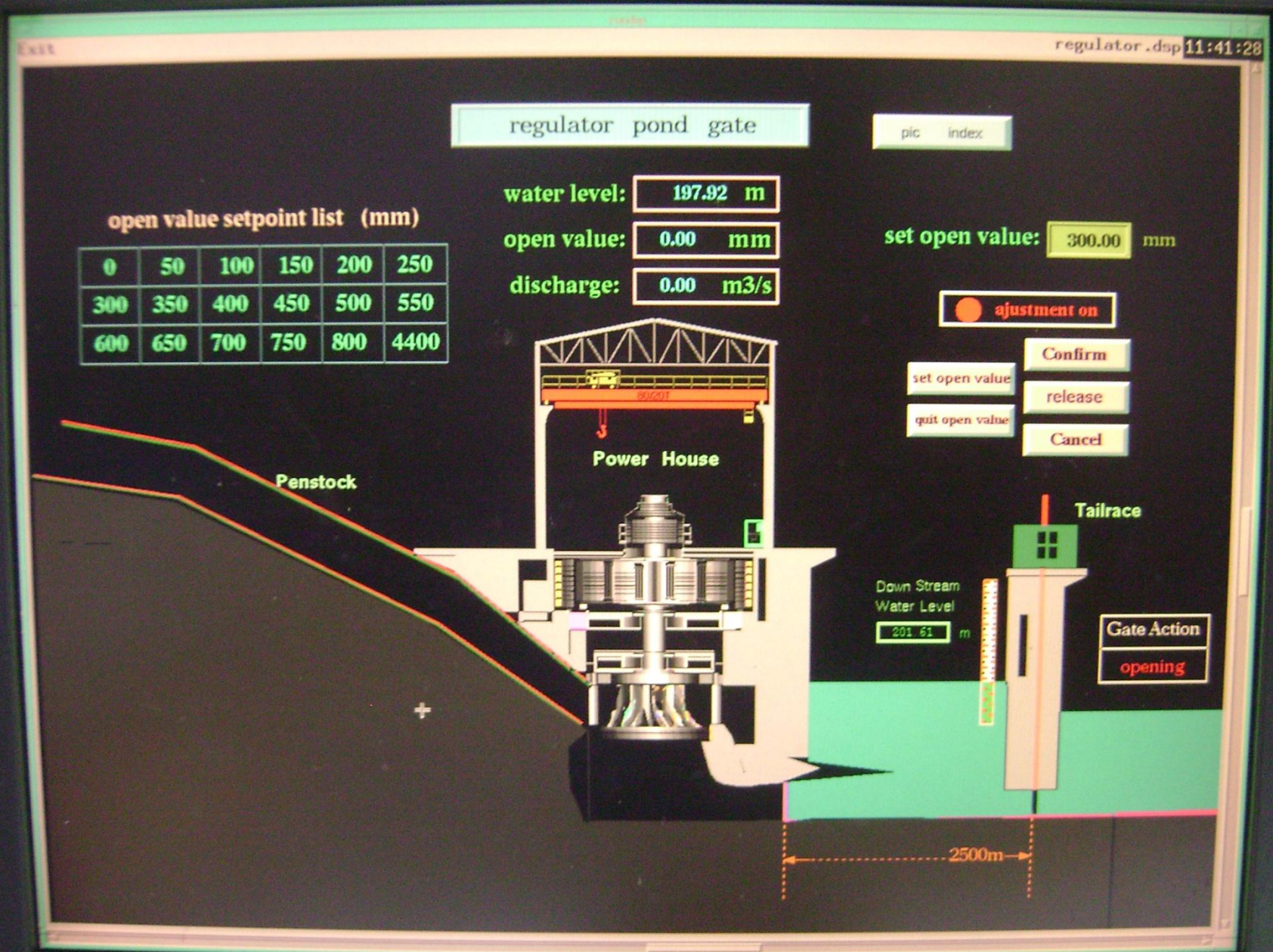


# Flooded rice field, used for fishing





# Operation control system





## Regulation pond



**A drop on the  
concrete canal  
irrigation to release  
water to Nam Nyam**





Thank you  
for your attention

