

**APPENDIX**  
**PROJECT PROFILES**



## PROFILE (1)

1. Project Title:  
Lam Nam Chi-Lam Pli Mat Multipurpose Development  
(Comprehensive river basins development and management study)
2. Location:  
Provinces of Buri Ram, Surin (western part), and Nakhon Ratchasima  
(eastern-most part)
3. Objectives:
  - (1) To prepare a detailed landuse plan to identify areas for reforestation, economic forests, agricultural landuse conversion, irrigation, elephant park, and recreational area as well as urban/industrial areas; and
  - (2) To formulate a water resources development and management plan, identifying sites for small pumping reservoirs, small irrigation schemes, and needs for rehabilitation/integration of existing water facilities, formulating water supply plans for Buri Ram, Surin, and other secondary towns, and proposing farming practices to minimize soil erosion and better on-farm water management.
4. Scope of Work:
  - (1) Inventory of existing water facilities.
  - (2) Detailed land capability analysis,
  - (3) Land cadastre survey,
  - (4) Identification of sites for small pumping reservoirs,
  - (5) Detailed land use planning, and
  - (6) Water resources development and management planning.
5. Implementation Schedule:  
Study in Phase I (1994-96)  
Implementation in Phase II and Phase III
6. Cost:  
80 million bahts for Study

## PROFILE (2)

1. Project Title:  
Huai Bang Sai Multi-purpose Water Resources Development Project
2. Location:  
Provinces of Surin and Buri Ram
3. Implementing Agencies:  
RID, EGAT, Provincial governments of Mukdahan, other central and local agencies
4. Coordinating Agency:  
Mekong Secretariat
5. Objectives:
  - (1) To improve the standard of living of poor farmers by providing irrigation water,
  - (2) To supply electricity to support border trade and other activities, and
  - (3) To protect and enhance the watershed.
6. Estimated Project Costs:  
US\$60 - 70 million
7. Implementation Schedule:  
2.5 years for master planning and F/S  
5 years for construction (1995 - 2000)
8. Expected Macro Effects:
  - (1) Creation of active economy on the balance between agriculture and border trade related activities; and
  - (2) Realization of sound watershed on a sustainable basis with well protected and productive forests.
8. Project Description:  
As per attached

## Annex to Profile (2)

### Huai Bang Sai Multi-purpose Water Resources Development Project

#### 1. Background

##### LNE-UE regional development

The LNE-UE Regions constitute the least developed part of the kingdom, and are responsible for a major portion of in-migrants into the Bangkok Metropolitan Area (BMA). The Regions, however, have been receiving increasing attention due to emerging development opportunities related to increasing economic interactions with the Indochina countries and the Eastern Seaboard (ESB) development as well as relocation of the BMA based industries.

Water resources constitute the major constraint to the development of the LNE-UE Regions as manifested for another time by the recent drought. Of the total households in the seven provinces in the Lower Northeast, 40% are suffering from acute shortages of drinking water. An important strategy established by the NESDB/JICA Study is to implement multi-purpose water resources development projects formulated by a river basin approach to make an effective use of limited water resources.

##### Mukdahan province

The Huai Bang Sai river basin occupies the northern part of the Mukdahan province, occupying 1,350 km<sup>2</sup>. Mukdahan is unique among the LNE-UE provinces in several respects. The forest area covers 155,000 ha or 36% of the total provincial area of 434,000 ha, while the ratio of forest area is 15% of the total area in LNE-UE as a whole. The share of farm land is the lowest in Mukdahan at 30% with 128,000 ha, and the share of unclassified land the highest at 35%. Only 8% of the farmland or about 10,000 ha is irrigated.

The per capita gross provincial product of Mukdahan, 11,189 bahts in 1990, is lower than the LNE-UE average, although it is marginally higher than that of Buri Ram, Surin, Si Sa Ket and Yasothon. The population density is the lowest of the nine provinces at 61 per km<sup>2</sup> in 1990.

Mukdahan is a major base for border trade. It is located on the envisioned regional artery connecting LNE-UE to the Eastern Seaboard, and the second Mekong bridge to Savannakhet would extend this artery through Laos to the Vietnamese coast. Insufficient infrastructure constitutes the major constraint to the provincial development, including urban infrastructure in the Mukdahan municipality having a large area, and transportation infrastructure to serve rural areas and tourism sites.

## **2. The Project**

The Project will develop the Huai Bang Sai river basin for irrigation, domestic water supply, small hydropower generation and other purposes. The expected project components include three storage dams, two diversion dams, a hydroelectric power plant, irrigation facilities, and other related infrastructure facilities.

According to a preliminary plan of the Project, the beneficiary area for irrigation is 23,550 ha in gross, and the hydropower generating capacity is 5.6 MW. The Project will provide a dependable supply of domestic water as well.

## **3. Objectives**

The objectives of the Project are:

- (1) to improve the standard of living of poor farmers by providing irrigation water with associated facilities,
- (2) to supply electricity to rapidly increasing population to support border trade and other activities, and
- (3) to protect and enhance the watershed for recreation, forest conservation, and other purposes.

## **4. Project Viability**

According to the preliminary assessment of the Project components (1990), the initial invest costs would be around US\$60 million with a benefit/cost ratio of 1.71 ("Mekong Work Programme 1992"). The Project components will be reformulated through master planning, and the Project viability established by a feasibility study.

## **5. Implementation Schedule**

A comprehensive master plan will be prepared for the entire Huai Bang Sai river basin, reviewing related studies in the past and conducting limited field surveys. In addition to reformulation of the original Project components mentioned above in the light of the LNE-UE Master Plan, related infrastructure projects and other measures will be formulated. The latter may include those for fishery, recreation and forest conservation as well as roads and rural infrastructure.

A feasibility study will be conducted subsequently for the multi-purpose water resources development. The master planning and the feasibility study will be carried out in two and half years. Construction of dams, irrigation facilities, hydropower plant and other related facilities will take place over some five years. Other local projects and measures will be implemented in parallel by local governments and other agencies.

The implementation schedule is indicated below.

Work	Year								
	1993	'94	'95	'96	'97	'98	'99	2000	2001
(1) Comprehensive master plan	== =								
(2) F/S of multi-purpose water resources development project		===== =							
(3) Implementation of the multi-purpose development project			=====						
(4) Implementation of other projects/measures									

## 6. Input Requirements for Master Planning and F/S

### Experts

The Project is expected to be planned in detail with the participation of foreign experts to work in close collaboration with the staff of related Thai agencies.

Experts, both Thai and foreign, to be required for the master planning and the feasibility study are the following.

- (1) Project manager,
- (2) Water resources planner,
- (3) Environmentalist/land use planner,
- (4) Agronomist,
- (5) Irrigation engineer,
- (6) Hydrologist,
- (7) Geologist,
- (8) Dam engineer,
- (9) Electrical engineer
- (10) Transportation planner,
- (11) Fishery expert,
- (12) Forestry expert,
- (13) Municipal engineer,
- (14) Project economist, and
- (15) Other unidentified experts.

### Coordination

The Mekong Secretariat will be a coordinating agency throughout the master planning, feasibility study, and implementation.

### Government inputs

The Thai government will provide all the available data and information related to the Project, a counterpart team to the foreign team of expert, logistic support, clearance for administrative or legal matters and other support necessary for the execution of the Project.





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