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

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Hydrographic network
Paddy field in the plain, Phou Phao Khouay in the background
Shifting cultivation in the hillocks zone

Young rubber trees in the foot of the mountain zone

Phou Khao Khouay in the background
Paddy field in the Nam Nyam Valley
Transect of the Nam Nyam Valley

Zone 1. Phou Khao Khouay Slope and foot of the mountain

Zone 2. Alluvial terraces

Zone 3. Hillocks

Zone 4. Lower alluvial terraces

1 Km
Zone 1: Phou Khao Khouay Slope and foot of the mountain

Zone 2: Alluvial terraces

Zone 3: Hillocks

Zone 4: Lower alluvial terraces

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)
Paddy field ploughing

Enclosed pasture on hillock land
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
Resettled village from the Nam Mang 3 reservoir area to the Nam Nyam Valley

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

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)

Dam on Nam Nyong (donor river)
- 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

Flooded rice field, used for fishing

Flood plain in rainy season
Operation control system
A drop on the concrete canal irrigation to release water to Nam Nyam
Thank you for your attention