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## **Nam Theun 2 Hydroelectric Project, Lao PDR Project Description and Summary of Main Impacts**

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### **The Project**

The proposed US\$ 1.3 billion Nam Theun 2 Hydroelectric Project would be built on the Nakai Plateau, in Khammoune province, central Lao PDR, with a generation capacity of 1,075 megawatts. The project's reservoir would flood an area of 450 km<sup>2</sup> and degrade another 500 Km<sup>2</sup> of the plateau. Much of the Nakai Plateau was originally included in the then-proposed Nakai-Nam Theun National Biodiversity Conservation Area, but was withdrawn from this protected area in the mid-1990s, after the Government of Laos announced its decision that Nam Theun 2 should be built. The Government then signed a concession agreement with a group of foreign companies to build Nam Theun 2.

The Nam Theun 2 Power Company includes the following: Electricite de France (International) (35% ownership); Electricity Generating Public Co. (25%) and Italian- Thai Development Public Co. (15%), both of Thailand; and the Government of Laos (25%). Since the late 1980s, the World Bank has provided financial and technical assistance for studies and planning, and has consistently provided political support, for Nam Theun 2. Other sources of financial and technical support include the United Nations Development Programme and the Asian Development Bank.

The proposed Nam Theun2 Hydroelectric Project is a trans-basin diversion project, in which a 48 metre-high dam would be built on the Nam Theun River and reservoir water would be released from the project's power station into the Xe Bang Fai River Basin.

### **Main Impacts**

#### **Nakai Plateau**

Eighty per cent of the Nakai Plateau will be destroyed or degraded by the Nam Theun 2 Hydroelectric Project. These habitats include: dry dipterocarp forest (5,000 ha), broadleaf and coniferous forest (27,000 ha), lowland riverine forest, riparian gallery forest, grasslands (9,500 ha), and wetlands (4,700 ha).

The Nakai Plateau is habitat for the second largest Asian Elephant population in Laos. Other species of global conservation significance inhabiting the Nakai Plateau include: Tiger and Clouded Leopard, Gaur and Benteng, nine species of turtle and tortoise, three species of langur including the Douc Langur, two species of otter, gibbons, and four species of macaque. Bird species include the endangered White-winged duck, Green peafowl, hornbills, kingfishers, and eagles.

The Environmental Assessment and Management Plan (EAMP) for the Nam Theun 2 project declares that, "The Asian elephant is the key large mammal on the Nakai Plateau." But according to the EAMP, the number of elephants inhabiting the plateau, and the range of the two elephant

sub-populations on the plateau, is not known. The NTPC promises that a ‘management plan’ for the elephants will be produced, but the larger question of whether the elephants of the Nakai Plateau will be able to survive the destruction and degradation of 80 per cent of the plateau remain unanswered.

### **Xe Bang Fai River Basin**

The natural, seasonal flows and aquatic habitat of the Xe Bang Fai River would be completely changed by the addition of up to 330 cubic metres per second of water from the Nam Theun 2 reservoir. Riverine forests, rapids and deep pools that are habitat for fishes, crabs, snails and other aquatic animals would be destroyed. The seasonal fish migrations between the Mekong and the Xe Bang Fai and its tributaries, which are largely dependent on the seasonal rise and fall of the Xe Bang Fai River, would be brought to an end. River-bank vegetable gardens would be flooded or be destroyed by erosion.

The Xe Bang Fai River is the location of one of the most productive riverine fisheries in the Mekong River Basin. In 2001, government agencies began a survey “to provide information on conditions in villages along the Xe Bang Fai (XBF) and its tributaries possibly to be impacted by the construction and operation of the Nam Theun2 (NT2) Hydroelectric Project.”

According to the government’s *A Report on the Xe Bang Fai Socio-economic, Health and Fisheries Survey*, “Fish and other living aquatic animals, including shrimp, and fish fry represent important sources of dietary protein and are consumed in large amounts in all zones of the XBF region...[and] clearly demonstrates the importance of natural fisheries to the household economy in the surveyed areas, wild fish stocks clearly playing a key role in ensuring all households subsistence but in particular for the poor.”

The survey on which the report is based was of 112 villages with a total population 48,433 people. The Nam Theun 2 project proponents, NTPC, now use this number as an estimate of the number of people in the Xe Bang Fai River Basin that would be affected by the impact caused by Nam Theun 2. However, there are 311 villages in the Xe Bang Fai basin, thus the survey accounts for only 35 per cent of potentially affected villages.

Independent research contained in the report, *The People and Their River: A Survey of River-Based Means of Livelihoods in the Xe Bang Fai River Basin in Central Lao PDR*, indicates that “approximately 50,000 people living in at least 125 villages located directly adjacent or very close to the banks of the mainstream Xe Bang Fai and smaller permanently flowing and seasonally flowing tributary streams within the basin. The study team was able to estimate that 20,000 people live in villages along four of the major tributaries.

“People from communities located at distance up to 20 kilometres from the Xe Bang Fai travel to the river to fish on a seasonal basis.... According to the local people living in riverside villages, people from many villages located far from the Xe Bang Fai come to the river to fish, collect other wildlife and plants, or to the garden. Many communities living even further away from the river have important trading relationships with communities along the Xe Bang Fai.

“According to statistics from district offices, recent research, and the study team’s interviews with villagers, and estimate 100,000 to 120,000 people are currently deriving significant and important livelihood benefits from the Xe Bang Fai River.”

The NTPC has promised to produce a ‘mitigation plan’ for the tens of thousands of people living in the Xe Bang Fai River Basin. That these people’s main source of dietary protein – the fisheries of the Xe Bang Fai River – will be destroyed by the Nam Theun 2 project has been accepted by the project’s proponents.