

# The Nam Theun 2 Resettlement Plan and Viability of Proposed Livelihood Options for Displaced Villagers

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## Introduction

The Nam Theun 2 Hydropower Project will displace more than 6,200 indigenous people on the Nakai Plateau. Improving villagers' livelihoods through resettlement has long been touted as a benefit of the project.<sup>2</sup> According to the developers' plans, resettlers' income will triple within seven years. To achieve this, they've promised new irrigated farmland and fruit trees, new livestock and community forestry operations, and a reservoir fishery capable of supporting over 1,000 fishermen.

International Rivers Network commissioned two experts to review the viability of these various livelihood options proposed for the Nakai Plateau communities, as outlined in the project's Social Development Plan (SDP).<sup>3</sup> The reviewers found that many of the plans are unrealistic and that the Nam Theun 2 Power Company (NTPC) is overly optimistic about the potential productivity of the proposed livelihood options. Despite NTPC's acknowledgement of many of these risks, the reviewers point to a high likelihood of failure that has not been addressed by the project's developers.

### What's at stake?

The 6,200 people to be displaced by Nam Theun 2 will lose their houses and most of the land they have used for hundreds of years for upland rotational farming, rice paddy farming, buffalo-grazing and collection of Non Timber Forest Products (NTFPs). Resettled communities, at their request, will be moved to the edge of the reservoir where they can continue to maintain some connection with their ancestral territories on the Nakai Plateau.

NTPC proposes four main livelihood options for resettled households:

- 0.66 hectares of irrigated agricultural land;
- grazing lands for livestock and the provision of at least two large animals per family;
- reservoir fisheries; and
- commercial forestry from an area located along the southern length of the reservoir.

In addition, NTPC states that the villagers "especially those with spare labour or specific skills, will be encouraged and supported to seek an income and livelihood from a range of other service or business enterprises"<sup>4</sup>, including tailoring and weaving, small machine repair and spare parts shops, marketing, and tourism services. As the plans for supporting these services are not developed in detail in the SDP, the reviewers assessed the viability of the four main livelihood options.

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<sup>2</sup> For example, the Social Development Plan, Chapter 9, states that "improving the welfare of families living on the Nakai plateau has been a joint objective of NTEC, NTPC and GOL [Government of Lao PDR] ever since the mandate for the Project's development was agreed to in 1993."

<sup>3</sup> An expert familiar with rural development issues in Laos reviewed the Agriculture and Livestock Development Program and the Forestry Development Plan and Eric Theiss, a fisheries expert, reviewed the Nakai Reservoir Fisheries Management Plan. All of these form part of the Social Development Plan released in November 2004.

<sup>4</sup> ...

## 1. Agriculture Development Plan

Each household will be given 0.5 hectares of irrigated land and “up to” 0.16 hectares of rice land per household. The November 2004 draft of the SDP does allow for the allocation of two further cropping zones in the reservoir drawdown area and in upland areas of degraded forests. However, the SDP admits that cropping in these areas would be experimental, that it would take time to make the necessary fertility improvements to the soil, and that they may ultimately fail. Therefore, neither of these additional areas is guaranteed to be productive and fertile farmland.

The objective of the plan is to integrate all resettled villagers into the market economy by transforming them from subsistence to cash crop farmers. Villagers will need to sell vegetables in exchange for rice, and their agricultural lands will require high levels of inputs on an ongoing basis. If villagers suffer income reductions because of cold winters, drought, market price reductions, or the lack of markets for their produce, then a vicious downward spiral could lead to the collapse of their farming plots and their food security.

NTPC notes that the quality of the soil in the resettlement areas is poorly suited to crop production due to its “erosion susceptibility, high acidity, poor nutrient content and high absorption of Phosphorous”.<sup>5</sup> “In general” the SDP states, the soils are “heavily leached and infertile”.<sup>6</sup> High inputs of organic and inorganic fertilizer and lime will be required to grow anything, but NTPC plans to help pay for fertilizer for only three years. Villagers have never had to make such enormous inputs into agricultural fields and as such the SDP notes the “very real likelihood” that villagers will not be willing - or able - to make the necessary inputs.

The villagers will need to rely on markets for their livelihoods, yet the Nakai Plateau is an extremely remote area. In the early years of resettlement the construction camps will likely provide a market for the produce. However, if permanent markets do not develop, villagers will lose their market base after construction is complete, which will coincide with the cessation of agricultural support.

## 2. Livestock Development Plan

The SDP states that buffalo comprise the “single most valuable traded product from villages on the Nakai in terms of value and in 2002 this trade earned Nakai villagers an estimated total of US\$250,000.”<sup>7</sup> Buffalo ownership is a reflection of wealth and social standing, and buffalo are often used as a security bank in times when money is urgently needed. The SDP estimates that 46% of villagers’ income post resettlement will come from buffalo.

However, the vast majority of buffalo-grazing land will be inundated by the Nam Theun 2 reservoir. Until recently, the project admitted that there would be insufficient grazing land in the resettlement area for current herds of buffalo. In fact, the SDP states that “it is generally assumed that buffalo-raising in

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<sup>5</sup> Section 21.5.6, p. 20.

<sup>6</sup> Section 21.3.1, p. 5.

<sup>7</sup> Section 21.12.1, p. 54.

the future will be restricted to a smaller area and thus it will be difficult to raise the same or more buffaloes than currently raised.”<sup>8</sup>

The SDP suggests a number of different measures for forage production in order to allow villagers to maintain buffalo herds. All of these measures require additional work and investments for the villagers, who will have to grow, cut and carry forage to the buffalo, which previously roamed freely on the Nakai Plateau. These measures include developing intensive forage plots, utilizing the reservoir drawdown zone, the upland forest areas, and cultivation of shrub and tree legumes. There are problems with each of these proposals, as the soils are generally poor in all of these areas and do not provide sufficient amounts of nutrients without high inputs of lime and fertilizer. It is likely that villagers will not be able to maintain current numbers of buffalo, affecting their economic security.

### **3. Reservoir Fisheries**

The SDP promises significant incomes for villagers from fishing in the reservoir, estimating that after a few years, the total fish catch will have a value of approximately US\$945,000. However, a review of the reservoir fisheries management plan has found that it is unlikely that the Nam Theun 2 reservoir will be able to sustain a significant fishery. According to the reviewer, “the fishery is intended to be developed from fish trapped by the dam, however many of these fish will die, and it will be difficult to build a substantial population.”

Rather than introducing fish species into the reservoir, the reservoir fisheries plan recommends closing the dam gates after the migratory season and allowing native species to adapt to the changed conditions. However, the reservoir is likely to be anoxic (lacking in oxygen) during the first few years after impoundment as a result of decomposing biomass left in the inundation area. As fish cannot survive without oxygen, most of the fish trapped during the initial filling of the reservoir are likely to die during the initial years after dam construction.

Furthermore, the fisheries development plan overestimates the number of species able to adapt to reservoir conditions. The plan states that “at least” 31 presently occurring fish species will be able to adapt to reservoir conditions and establish populations.<sup>9</sup> However, Annex 24-2, which lists fish species and their adaptability, states that only 14 species are adaptable to reservoir conditions, and that a further 17 species “may adapt to reservoir conditions.”

In addition, dam operations will shrink the reservoir to less than a fifth of its size during the dry season, which eliminates most of the underwater habitat. As the reservoir level decreases there will be less and less water capable of sustaining fish life. The deeper and relatively stagnant parts extending back from the dam are likely to be uninhabitable. Floating aquatic plants will be concentrated here, and as these plants die and decompose on the bottom, the oxygen demand will increase. Deoxygenation aggravated by plant biomass decomposition, concentration of fertilizers, pesticides and domesticated animal dung from agricultural production, and periodically high sediment load will leave little habitat in the reservoir where fish can live, ensuring that fish productivity is likely to be low.

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<sup>8</sup> Ibid.

<sup>9</sup> P.21

#### 4. Forestry

While NTPC has proposed developing community forestry operations for resettled villagers, the SDP admits that the profitability of the venture is unlikely. Past illegal logging activities have dramatically reduced the availability of quality timber in the resettlement area. The poor market for low quality timber, combined with high government taxes, makes it essential that tax concessions are secured and post-harvest chemical treatment occurs if the operation is to be profitable. However, both the tax concessions and the chemical harvesting component are still uncertain. If either one fails to materialize the viability of the entire plan will be jeopardized.

Meanwhile, villagers will lose a major part of their income from the collection and sale of NTFPs, many of which will disappear once the reservoir is flooded. While villagers were hoping that the community forest area could be used to collect NTFPs, a 1997 Lao Department of Forestry survey reveals that due to the poor soils, this area will produce “very few NTFPs”.<sup>10</sup> There is little plan for a substitute NTFP base, which will decrease the villagers’ ability to depend on their surrounding environment in the case of bad harvests or other unexpected eventualities.

The SDP recommends the establishment of the Nakai Plateau Village Forestry Association (NPVFA) to manage the forest area and institute a commercial forestry scheme to harvest, process and sell the timber on a sustainable basis, and to distribute the profits of these sales equally between all the resettled households. From a managerial perspective, the operation of this association seems particularly optimistic given the present capacity of villagers and government staff. In addition, NTPC plans to fund the program mainly in the first year to support salvage logging on Project Lands in the Resettlement Area. After this time the forestry association will be on its own. Given the complexity and uncertain economic viability of the operation, NTPC should offer financial support for the first 5 years at least, until the forestry association establishes its viability.

#### Conclusions and Recommendations

The four main components of the resettlement plan – agriculture and livestock, forestry and fisheries – are fraught with difficulties and uncertainties despite more than a decade of project preparation. The complexities of the plan and the potentials for pitfalls along the way make the entire resettlement program a high-risk operation for the Nakai Plateau villagers. Yet the resettlement plan makes no provision for alternative compensation arrangements should the livelihood programs fail to triple resettlers’ income as promised.

A fair compensation plan would require that NTPC negotiates legally binding mitigation and compensation agreements with the affected communities that give villagers rights to redress should the livelihood programs fail. Affected communities should be provided with independent legal representation to assist them in the negotiation process. In addition, the company should pay anyone displaced by the project full market value compensation for lost resources, livelihoods, income, and opportunity until such time as resettlers’ incomes are tripled. Based on reviews of the SDP, without such measures, Nam Theun 2 is likely to be added to the long list of failed resettlement programs globally.

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<sup>10</sup> *The use of non timber forest products on the Nakai Plateau; Report on a short mission from 26/2 to 30/3 1997*, Department of Forestry, Vientiane, 1997, Chapter 7.4