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Hydropower in Lao PDR: The Taxable Transformation of Natural Resources

1. Introduction

In Lao PDR, the 6th Party Congress set as a national development goal for the country the exiting of Least Developed Countries group by the year 2020. A means for reaching this goal is to enhance GDP growth by increasing the investment level considerably, including foreign direct investment. Large-scale hydropower projects are considered one of the few available alternatives for attracting foreign direct investments, gaining export earnings, and thus reducing poverty. According to the National Poverty Eradication Programme, investment in large-scale projects will contribute to the creation of wealth through a market-oriented, taxable transformation of natural resources. (Lao PDR 2003).

However, large-scale hydropower projects constitute considerable risks for the environment and communities dependent on natural resources. Often people enjoying the project benefits have not been the same ones who bear the social and environmental costs. (See, for instance, WCD 2000). This paper aims at looking at foreign direct investment, and especially Build-Operate-Transfer (BOT) hydropower schemes, in Lao PDR trying to evaluate their role in reaching the national development goals. The study uses the Theun-Hinboun hydropower project as a case study to assess the impacts of a project and to determine possible lessons learned for the future development of hydropower in Lao PDR. The study is based on interviews of various actors involved in hydropower sector in Lao PDR and the analysis of relevant literature.

2. Infrastructure development and BOT schemes

Infrastructure development is generally seen as playing an important role in reducing poverty and facilitating economic growth. The development of infrastructure combined with strengthening of governance and institutional frameworks can bring both direct and indirect benefits also for the poorest part of population. (Ali & Pernia 2003, 2). However, infrastructure construction requires large investments that especially developing countries often cannot afford themselves. For instance, the rate of investment to provide developing Asia with adequate supply of electricity is estimated to be 2000 MW each month, or \$35 billion each year (Crow 2001, 7). Accordingly, private sector participation has been presented as a solution for providing infrastructure services both in developed and developing countries. There are various options for how to organise the partnership between private sector and the government, of which BOOT or Build-Own-Operate-Transfer is one example. In a BOOT scheme, the government makes a concession agreement with a company that constructs a utility and owns and operates it for the duration of concession period. At the end of this period, ownership and operating rights are transferred free of charge to the government. (Smith, 1999, 73).

The advantages of a BOOT project, or its variant BOT (Build-Operate-Transfer), to the host government can include the possibility to obtain a needed infrastructure project at little or no cost to taxpayers and increased effectiveness in the project implementation in comparison to public-sector projects. As the consortium will operate and maintain, and possibly own, the facility for a considerable period of time, the initial quality of construction is likely to be high. The consortium in a sense creates a market to its products and services with anticipated profits to, among others, the construction and engineering firms. (Levy 1996, 24). The constructor of a “turn-key” project has to accept risks related to meeting the schedule agreed and completing the project within the fixed budget. One implication of this is that the contractors use proven technology to minimise risks involved. This may then affect innovation, but on the other hand, brings technology utilised at the home country to the use in the host country. (Crow 2001, 16). Particular problems related to BOT arrangements include possible political instability with concessions lasting from 20 to 40 years, cost overruns, exchange rate fluctuations, and other risks related to changing external circumstances (Ibid. 24-25).

At the Mekong Region, BOT and BOOT schemes have been promoted by the Asian Development Bank (ADB) and the World Bank as a solution for poorer countries of financing large infrastructure schemes. But according to critics, the general assumptions of schemes' benefits need to be re-assessed. Firstly, it is stated that the actual costs of projects are finally directed either to the state or taxpayers. Secondly, with consideration to risks of BOT schemes, investors are not likely to get involved in large projects without various subsidies and guarantees from the government or international financing institutions. Furthermore, these instances are expected to assume a significant portion of project risks in order to involve investors. Private investors also seek to minimise external costs related to, for instance, projects' environmental and social impacts. The majority of these costs are then left to the government or local communities. Finally, it is suspected that the consortium has little incentive to ensure that the facility remains technically and financially viable also after transfer to the government. This may lead to minimum investment on maintenance and capital replacement especially at the end of the concession period. (IRN 1999, 8).

In a BOT-project, the government has several different roles that overlap each other and sometimes are also contradictory. First of all, the government often acts as a promoter and facilitator of a project (Smith 1999, 96). Therefore, the host government may utilise different incentives to attract foreign direct investment. At the same time, however, the government acts as a defender of national interest and as a representative of people, roles that can entail regulation of investment (Ibid. 78). In its role as a strategic planner, the government has to try to accommodate, among other things, sometimes contradictory pressures of facilitating economic growth and protecting the environment and the interests of minority groups of people (Ibid. 90). Likewise, the government may act within a project as an investor, auditor, and customer receiving the utility as the concession period ends (Ibid. 77). Obviously, managing all these tasks requires considerable governance resources that may be lacking in many developing countries.

3. Poverty and foreign direct investment in Lao PDR

The measurement of wellbeing or poverty is a complicated task and, in fact, it has been noted that poverty in Lao PDR is a new, foreign concept instead of an endemic condition. What this implies is that outside measures of eradicating poverty can be threatening to existing social structures, unless the change is motivated from inside communities. (Chamberlain 2003, 62-

3). However, efforts to improve livelihoods of people are usually based on some estimations of the incidence of poverty. According to the Millennium Development Goal indicators¹, the percentage of people living below \$ 1 per day in Lao PDR was 26.3 per cent in 2001 (UNDP 2003). In Lao PDR's own estimates, the percentage of poor was 38.6 in 1997-98, with wide disparities between different provinces (Lao PDR 2003, 23). The current number of poor is estimated to be around 30 per cent, but while poverty has been reduced, the income inequality has continuously increased (Ibid. 4). In addition, disparities in the access to infrastructure are considerable. For instance, only 10.1 per cent of rural poor have access to electricity compared to 31.6 per cent of whole population. (Ibid. 25).

According to the National Poverty Eradication Programme, the goal of leaving the group of Least Developed Countries by the year 2020 is to be achieved through sustained, equitable economic growth and social development. The basis for this lies in moving consistently towards a market-oriented economy, building the needed infrastructure and improving the wellbeing of people. (Lao PDR 2003, 1). To eradicate mass poverty, Lao PDR strives for a GDP growth rate of no less than 7 per cent per annum, focusing on industrialisation and modernisation (Ibid. 41). The government of Lao PDR acknowledges the role of private sector development in providing resources for national development. Foreign direct investment (FDI) enables the financing of growth investments, such as hydropower, and indirectly “contribute by expanding the national taxable resource base through the creation of wealth as a result of market-oriented, taxable transformation of the national resources” (Lao PRD 2003, 13). The targeted economic growth rate will require an investment level of 26-28 per cent of GDP, of which 16-17 per cent will be by the private sector, including FDI. Large-scale hydropower and mining projects will be a means of reaching the high level of investment. (Ibid. 45).

Foreign direct investment is considered important for development process as it provides capital, foreign exchange, technology, competition, export market access, and possibly also stimulates domestic investment and innovation (Brooks & Sumulong 2003, 1). However, FDI alone does not necessarily contribute to development without stable and effective economic policies. Furthermore, the use of incentives to attract FDI can also lead into a situation fostering a “race to the bottom” in selecting locations for investment projects. (Ibid. 3-5). The

¹ For more information on UNDP's development indicators, visit www.undp.org.

role of foreign direct investment in the economic reform programme² of Lao PDR since the late 1980's has been considered significant. This is partly due to the fact that the opening up of Lao economy happened at the time when investors were increasingly focusing their interest in new Asian markets. Foreign direct investment has been seen as a 'critical motor of economic growth' during the first decade of economic liberalisation. (Freeman 2001, 6). However, the Asian economic crises collapsed also FDI flows in the region. The decrease of investment flows was especially noticeable in Lao PDR, as the majority of investment came from Thailand and was directed to ambitious, large-scale hydropower projects. With dropping power demand projections in Thailand, projects were accordingly cancelled or delayed. (Ibid. 9). Currently, new revenue expectations are focused especially on the \$1.1 billion Nam Theun II hydropower plant. The plant should increase government revenues considerably through electricity sales to Thailand and also improve Lao PDR's debt service capacity. (ADB 2003a, 43-44).

3.1 The role of Hydropower in Lao PDR

According to the Power Sector Policy of Lao PDR, the Government of Laos (GOL) "gives priority to power sector development as a means of achieving macroeconomic, microeconomic and social aspirations". Furthermore, the two overall aims of power sector policy are to: "maintain and expand an affordable, reliable and sustainable electricity supply within the country to promote economic and social development; and to promote power generation for export to provide revenues to meet GOL development objectives" (Lao PDR 2001, 5). In Lao PDR, the exploitable hydropower potential is estimated to be around 18 000 MW in total installed capacity of power plants. In 2002, the exports of electricity constituted 33.3 per cent of all exports (World Bank 2003b, 15).

Lao hydropower projects are classified in two categories: Domestic Generation Projects and Export Generation Projects. The former projects consist of plants with capacity below or around 100 MW and are built and operated by the state electricity utility, Electricité du Laos (EdL). In contrast, the export projects are primarily implemented by Independent Power Producer (IPP) groups, and are larger, generally in excess of 100 MW. (EdL 2003, III-1). The

² The Lao PDR began liberalising trade and opening up the economy through the New Economic Mechanism programme in 1986.

whole BOT scheme thus differs from those in many other countries in that the projects are developed for energy exports rather than for national use. With the increasing demand within the country, the future projects are, however, likely to be obliged to make a certain amount of electricity available for the domestic market as well. (Interview T1). At the moment, energy is imported from Thailand to fulfil the domestic need in Lao PDR (Interview M5).

The IPP program in Lao PDR has its basis in the success of Nam Ngum I power station commissioned in 1971. Unlike other plants built until the 1990's, the Nam Ngum I was built in order to sell excess energy abroad with an installed capacity exceeding the domestic demand. The Nam Ngum I focused attention to the potential of hydropower in providing export earnings and supporting economic and social development. However, the capital investments needed for large hydropower projects were beyond the capacity of Lao Government. With the economic reforms, the private sector was encouraged to involve in export power production, while the power demand was rapidly increasing in the region. During 1993-6, Memorandums of Understanding (MOU) or more advanced agreements were signed for as many as 23 hydropower projects. Still, only two of these projects, the Theun-Hinboun and Hoay Ho, have been completed by year 2004. (HDSS 2000, 66-67).

The failure of project delivery can at least partly be attributed to the Asian crisis, which reduced investors' interest in Lao PDR. Furthermore, the competitiveness of Lao hydropower has declined with low gas prices and advances in combined gas cycle energy production. In the main buyer of Lao electricity, Thailand, IPP power producer competition has increased, while the country has excess capacity reserves for the coming years. (ADB 2003b, 91). However, the failure can also be seen as one of problems related to the practice of awarding mandates for IPP projects as an unsolicited, negotiated transaction based on a BOT modality. Problems related to this approach include the lack of competition and transparency, the failure to filter out projects inconsistent with IPP program objectives, a high degree of uncertainty on project outcomes, insufficient government control of project development, and unnecessary time commitments for all parties. (HDSS 2000, 122-3). Governance reforms and new legislation have facilitated foreign investment, but for instance corruption remains a serious problem (Interview B2).

Despite difficulties met, the Lao Power Sector Strategy objectives include developing of power trade within the Greater Mekong Subregion³ countries, a part of which is fulfilling the MOU undertakings with Thailand and Vietnam (Lao PDR 2001, 8). Lao PDR has signed a MOU with Thailand to provide 3 000 MW by 2006 and a MOU with Vietnam for 1 500 to 2 000 MW by the year 2010 (HDSS 2000, 23-4). The sales of electricity to Vietnam, and possibly to other neighbouring countries, are expected to improve Lao PDR's position as Thailand would no longer be the sole buyer of electricity. Other priorities in the energy sector include developing and enhancing the legal and regulatory framework and reforming of institutions and institutional frameworks (Ibid. 5). The lack of Lao capacity has made the government dependent on funding agencies in project development. This entails, for instance, that the choice of projects to be developed has sometimes been dependent on the funding agencies, rather than the objectives of Lao fiscal planning. (Interview M1). The government has also got engaged with companies that have not been real entities in the industry, and accordingly not competent to implement the projects (Interview T1). Some hydropower projects have even been blamed to be a pretext for logging of reservoir areas (IRN 1999,64). Limited government capacity has also affected negotiations on power sales, as Lao negotiators have had to try respond to the arguments of Thai side based on strong economical and mathematical models on the long-run marginal cost of supply (Interview B1).

4. The Theun-Hinboun Hydropower Project

The 210 MW Theun-Hinboun hydropower plant is located on the Theun River, about 100 kilometres upstream from the confluence of Mekong River. The Theun-Hinboun is the first hydropower project in Lao PDR to achieve financial closure on a commercial borrowing (HDSS 2000, 104). In addition, the Theun-Hinboun is one of the first BOT-type projects in Lao PDR (Husband 1999,103). The shareholders of the Theun-Hinboun Power Company (THPC) are Electricité du Laos (EdL) (60%), Nordic Hydropower AB (20%) and MDX Lao Company Limited (20%)⁴. THPC's main customer is the Electricity Generating Authority of Thailand (EGAT). In accordance with the 25-year Power Purchase Agreement, EGAT has committed to purchasing a minimum of 95% of electricity from the hydropower plant. THPC

³ The GMS consists of Vietnam, Cambodia, Lao PDR, Thailand, Myanmar and the Yunnan Province in China.

⁴ Nordic Hydropower is currently owned by the Norwegian Statkraft, while the MDX is 90% owned by the GMS Power Public Company Limited of Thailand.

also provides some electricity for the Bolikhamxay and Khammouane provinces, on the border of which the dam is located. (THPC, no date).

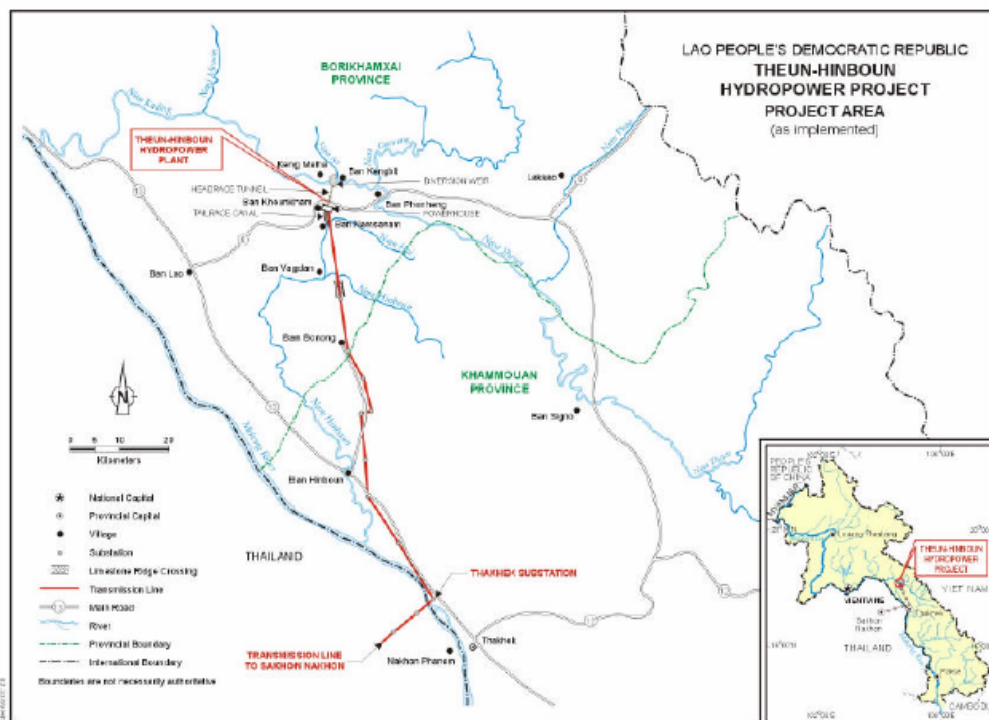


Figure 1. The Theun-Hinboun project area (ADB 2000, VIII).

For the part of Lao Government and EdL, the financing for the THPC was organised through loans from the Asian Development Bank (\$ 57,7 million) and Nordic Development Fund (\$ 7,3 million). In addition, the THPC acquired loans from commercial banks (totalling \$ 64,8 million) and from Export Credit Agencies (\$ 58,6 Million). (ADB 2000, 33). The actual cost of the project was about \$ 240 million, in comparison to the estimated cost of \$ 270 million (Ibid., 5). The building of the dam was commenced in 1994 and it began operations in 1998. According to the ADB, the main objective of Theun-Hinboun hydropower project was to support economic growth in the Lao PDR by enhancing foreign export. The project utilises transbasin diversion of water from the Nam Theun to Nam Hai, thus benefiting from about 240 meters difference in elevation for the production of electricity. The Theun-Hinboun is a run-of-the-river plant, meaning that the existing river basin forms the reservoir for the dam. (ADB 2000, 1). The efficiency of the plant is partly based on the special characteristics of the dam site and design, and to the fact that the dam is able to produce electricity throughout the year, that is, also during the low flow of dry season. However, the production of energy

during the dry season can only be maintained by diverting almost the whole river flow to the plant. (White 2001, 14).

The construction of Theun-Hinboun met with criticism from several international NGOs regarding the environmental and social effects of the dam. Also the EdL was initially concerned on the involvement of private sector in the BOT scheme, fearing that the joint-venture partners would reap the benefits and leave environmental and other costs to the government. The government would have preferred to develop the project itself, but was unable to raise sufficient funding. (The Nation 14.09.1994 and interview I4). Main points of criticism towards the Theun-Hinboun included the lack of consultation with affected people and the non-existence of formal compensation policy at the time of project implementation. Also the environmental impact assessment made for the dam was found insufficient and the additional studies came too late to affect the construction process. (FIVAS 1996, 2). The original environmental impact assessment of Norconsult, a Norwegian consultant firm partly owned by one of project investors Statkraft, was criticised by both international NGOs and Norwegian government agencies. Likewise, a supplementary study compiled by another consultant, Nordplan, was highly critical of the previous assessment. (Usher & Ryder 1997, 90-93).

The livelihoods of people in the project area have consisted of a combination of various subsistence activities, but also of selling products to markets, and with improving road access wage labour. The aim of villagers has been self-sufficiency in food, primarily in rice and fish. (Norplan 1996, 11-12). The building of the dam has affected livelihoods both directly and indirectly. According to THPC, negative environmental impacts of project include damage to aquatic, riverbank and island habitats and wild populations, increased erosion, and damage to fish migration routes. Negative social impacts are accordingly related, among other things, to impaired fisheries, river gardening opportunities, and the loss of land and property. On the positive side, roads have been improved, water and electricity supplies installed and some new employment and trading opportunities have materialised. (THPC 2002a, tables A-E). The final impact on fisheries has been unclear, as no studies on fisheries were made prior to the building of the dam. A study made after the dam commenced operations identified several negative impacts and also some mitigation options, but the scope of study was constrained and left many issues open. (Warren 1999 & 2000).

The THPC and Lao government have made an agreement on releasing a minimum flow of 5 cubic meters to the Nam Kading past the dam. Nevertheless, it has been estimated that the minimum flow release is insufficient for maintaining the health of the aquatic environment below the dam. A study on the impact of Theun-Hinboun therefore recommends that minimum flow level should be increased to 10 cubic meters to improve environmental conditions. (Warren 1999, 21-23). Contrary to this study, the THPC itself has estimated that riparian releases of water would not be of use in the case of Theun-Hinboun plant. According to THPC "...for a river diversion such as the Theun-Hinboun Project any attempt to retain the ecology of the two downstream rivers (the donor and the recipient rivers) through a riparian release is bound to be fruitless. The scheme's whole justification depends on switching almost all the dry season flows to another (low elevation) river. The degree of change in the ecology will be extreme in both systems." (THPC 2000a, 4).

THPC's estimate on the effects of the dam is in stark contrast, for instance, with the original Environmental Impact Assessment Report, according to which "environmental impacts that have been identified for the project are site specific only and are self repairing" (Norconsult 1994, no page numbering). Studies made during project preparation also underestimated the number of affected people and were highly optimistic on the project impacts on local communities. For instance, an anthropological survey from year 1993 found no evidence that the hydropower project could in the long run affect negatively any population groups of the area. On the contrary, the project was estimated to have only positive direct and indirect effects on the society and culture. The project would inevitably affect the culture of local people, but this was not considered necessarily a bad thing, or something that should be avoided. (Ovesen 1993, 74).

Similar to environmental assessments, also socio-economic studies compiled after the construction of Theun-Hinboun have criticised the project. After visits to villages at the project area in 1998 and again in 1999, Shoemaker concluded that the project was continuing to cause severe negative environmental and social impacts in a large number of rural communities. According to this study, no positive impacts of dam were identified by any of villagers met. (1999, 15). In response to concerns raised, the Theun-Hinboun Power Company committed to providing \$2.59 million for the costs of compensation, resettlement and environmental mitigation instead of earlier agreed sum of \$ 1 million. In 1998, THPC and ADB, furthermore, agreed to re-define the impact area of the project. The new area

includes also the Nam Kading and Nam Hai up to the confluence to the Mekong. The new definition raised the number of villagers affected to 53 with an estimated 4283 households and 25000 people. (ADB 1999, 18-19).

In the year 2000, THPC commissioned a study to analyse the state of mitigation efforts and to develop a single coherent plan for the ongoing programme. At the time, it was acknowledged that the impacts of the project were more severe and extensive than anticipated. Even though THPC had basically fulfilled the contract agreements made with the Lao government regarding environmental and social issues, it was evident that the action taken was insufficient. (THPC 2000b, 1). As a part of the new Mitigation and Compensation Plan, an Environmental Management Division (EMD) was created in THPC to replace an earlier committee working on environmental and compensation issues. Also in line with the Mitigation Plan, the THPC set out to compensate affected people for the loss of river gardens. After initial difficulties on evaluating the losses, ten villages that had requested immediate compensation received 160 tons of rice in 2001. (THPC 2002b).

The THPC aims at approaching the mitigation and compensation efforts in affected villages as an integrated program with the aim of improving all the livelihoods of people. Village Development Committees and Savings and Credit Funds are being established in each village to enhance the capacity of villagers with the aim of increasing the ownership of communities in the development process. (Interviews T1 and T2). The Logical Framework for implementing the Mitigation and Compensation plan consists of overall goals for the programme and immediate objectives, outputs and activities needed to achieve the goals. The framework also includes work plans for individual activities. (THPC 2002a, 2). Activities in villages include provision of water supplies, construction of school buildings, agricultural and livestock management improvements, and programmes on alternative income generation. As a general guide, and an indicator of successfulness of programmes, THPC aims at a situation in which families have adequate resources for sending their children to school in a satisfactory health. (Interview T2).

4.1 Evaluation of Theun-Hinboun Hydropower Project

The mitigation and compensation efforts of THPC were acknowledged by various government officials interviewed, and also by NGOs. The Theun-Hinboun Hydropower Project was even seen to have evolved into a model project both in terms of economic performance and in terms of current action to mitigate projects' social and environmental impacts (For instance, interviews M1, M3, I1, B2). The management of the THPC prefers to discuss the project in terms of pre-EMD and post-EMD. That is, the problems in project preparation and implementation are acknowledged, but it is stressed that things have considerably changed since the establishment of the Environmental Management Division and the creation of Logical Framework to implement the Mitigation and Compensation Programme. (Interviews T1 and T2). The failure to address environmental and social issues earlier can be attributed, among other things, to the lack of relevant legislation and regulation in Lao PDR at the time of project planning and implementation, the lack of government capacity to evaluate project impacts, and also to the unwillingness of previous THPC management to directly address controversial issues (Interviews T1, M1, I1, B2).

Even one the most focal dam critics, the International Rivers Network (IRN), has recognised the considerable work done by THPC on the Mitigation and Compensation Plan, and notifies that some progress has been made with regard to these issues. However, the IRN still questions, whether it will be possible to restore the subsistence based livelihoods of 25 000 affected people (IRN 2004, 3). The THPC also signed a co-operation agreement with IRN on developing a review on company's mitigation efforts. Yet, THPC interrupted the process after three weeks of supposed one-month evaluation stating that the agreement did not follow standard corporate practices. (IRN 2004). The unclarity of this evaluation notwithstanding, the remaining criticism towards the Theun-Hinboun project today is mainly related to the lack of transparency on how the Lao government is using the revenues it receives from the project (Interviews B1, I3).

In economic terms, the Theun-Hinboun has been successful from the very beginning. The terms of Power Purchase Agreement with the buyer EGAT were favourable to the company in comparison with, for instance, the terms of coming Nam Theun II plant (Interview T3). Total net revenue from the Theun-Hinboun to the government and EdL was US\$ 23 million

in year 2000, which is estimated to increase to about US\$ 29 million by 2010 (ADB 2003b, 224). The THPC employees living at the project area currently pay their income taxes to the Hinboun District, thus directly benefiting the local economy (Interview T1). Overall, the Theun-Hinboun and BOT projects in Lao PDR are considered beneficial to the country in terms of both revenues, dividends and tax income from a project, and with consideration to indirect benefits. Indirect benefits can include social development in the project area, new trading opportunities, and also capacity building with regard to training of project employees and government officials. (Interviews M1, M4, T1). In the case of Theun-Hinboun, the key personnel has been trained in Sweden and others have received training in Vientiane. The Lao employees are trained both to take over the management of plant from the expatriate staff and also to start working for other projects as the number of employees at the site is gradually decreased. (Interview T3).

The effect of Theun-Hinboun on poverty reduction, which was the main goal of the project, depends, of course, on what the project impacts on local communities are like and how the revenues from the project are used on the national level. As noted, the initial effects of project on livelihoods of affected people seem to have been for most negative, but the situation may be changing with THPC's work with affected communities. Concerning the use of project revenues, governmental expenditures in the social sector have overall increased from 59.2 billion kip in 1996/7 to around 756 billion kip in 2002/3 (ADB 2003b, 231). However, according to some critics, these funds may have gone to the questionable government resettlement programme⁵ moving ethnic minorities in lowlands (Interview I6). At the same time, the financial plight of the EdL entails that the dividends from THPC after tax and debt service have little impact on EdL's situation as a whole (HDSS 2000, 51-3). At the moment, the government maintains the national electricity tariff below production costs with subsidies as a part of poverty reduction efforts (Interview M5). Yet, the subsidies can also be seen as benefiting the richest part of population, instead of the 60% still with no electricity (Interview B1).

In the Theun-Hinboun project area, the evaluation of actual project impacts is complicated by the lack of baseline information on environment and communities prior to the construction of

the dam. Accordingly, the impact of project on, for instance, fisheries in the area seems still to be unclear despite the importance of fishing for local livelihoods. A fisheries study being finalised for the THPC may, however, finally clear the situation. Secondly, for example, the construction of Road No. 8 crossing the project area and connecting Lao PDR and Vietnam, has affected communities' livelihood practices and migration patterns in the area besides the effects of the dam. (Interviews T1, T2). And finally, while the Theun-Hinboun project itself did not directly require the resettlement of communities, the government has implemented its resettlement programme also in the project area. In line with the programme, new villages have been formed in Theun-Hinboun project area combining smaller villagers into larger units, sometimes with little regard on the needs and wishes of different ethnic groups. (Interviews I1, I4, T2).

5. Lessons learned from the Theun-Hinboun case

So far, two BOT hydropower projects, the Theun-Hinboun and Hoay Ho have been completed in Lao PDR, both selling electricity to EGAT in Thailand. If the Theun-Hinboun is called a model project, Hoay Ho hardly fits the same description. The latter project operates at a loss and no dividends or tax payments are expected for a near future according to an ADB evaluation (ADB 2003b, 224). Furthermore, Hoay Ho project required the resettlement of two villages, but the resettlement has been executed with serious negative impacts on communities' livelihoods and also health. (Ibid. 59-61, see also IRN 2004, 2). After the shock of the Asian economic crisis, various new hydropower projects are again being planned, of which the massive Nam-Theun II project is most advanced with plans to begin construction by the end of year 2004 (Interview M5). However, the World Bank is still considering, whether it will support the project that will have widespread impacts on the environment and communities in the Nakau Plateau.

With the implementation of Theun-Hinboun project, and of course also involvement in other projects, the Lao government has been able to build experience on, among other things, international financing, new technology, and environmental and social issues (Interview T1, T3, B3). However, the capacity of government is still most limited and capacity building is

⁵ The Lao government is implementing a resettlement plan relocating people, for instance, living in the border areas or those practising shifting cultivation, and combines small villages into bigger units in order to provide services. The plan has, however, been strongly criticised for being implemented with inadequate resources and

dependent on various projects and the goodwill of project financiers (Interview M3). Furthermore, the standards and rules followed with regard to environmental and social issues in a project depend on where the financing comes from. The Lao legislation on these issues has developed, but the actual implementation of regulations still remains a question. (Interviews M1, M3, T1, I5). The involvement of multilateral development banks in projects may provide the consideration of environmental and social safeguards as required by the banks own regulations, in comparison to projects implemented with purely private sector investments (For instance, Interviews M2, M4, B1). Or, at least, the involvement of banks ensures that several international NGO's will be following the projects closely.

The ADB and World Bank are working together in Lao PDR to harmonise their regulations and to evaluate the impacts of hydropower on a regional scale. Potential hydropower projects have been evaluated and ranked in two separate studies, but the interests of developers may still determine, which projects are implemented. Thus, there is still a need for comprehensive power development plan that is not adjusted according to the interests of potential developers. (Interviews B2, M1). For instance, the THPC has signed a MOU with Lao government on studying the possibility of building Nam Theun 3 plant in Bolikhamsay Province (Vientiane Times 8.3.2004). The Nam Theun 3 would benefit the Theun-Hinboun after Nam Theun II is finalised and reduces the river flow to the plant. However, Nam Theun 3 got low rankings in both main hydropower evaluations, with estimated high social and environmental impacts. (ADB 2003b, 159 & 237 and HDSS 2000, 10).

Some of the most important lessons learned from the Theun-Hinboun might be the need to assess potential impacts of a project at an early stage and to address also controversial issues openly from the beginning. In planning the Nam Theun II, there have been attempts to solve some problems related to the Theun-Hinboun, for example, by directing revenues from the project directly to conservation and poverty reduction (Interviews M2, B2). In addition, the participation of affected people has been stressed in relation to the Nam Theun II, unlike with the Theun-Hinboun. However, the participation process is still criticised on the grounds that the decision on implementing the project was in practice already done before consultations with affected people and the process is executed more to fill the requirements than to get real input from the people (Interview I3). Within the one-party governance system of Lao PDR, it

planning, thus affecting ethnic groups adversely. (Interviews I1, I4, I6).

can also be argued that meaningful participation is only possible on village level, when there is no government involvement and pressure (Interview I2). Because of this and practical problems related to language difficulties, education, etc., new forms of participation are needed to make participation meaningful for all parties (Interviews I2, B3).

On the whole, the success of Theun-Hinboun seems to be at least partly random and is necessarily not easy to duplicate in future projects. First of all, the site of the project was especially favourable for hydropower development in terms of electricity production efficiency and also in terms of still relatively limited environmental and social impacts. Secondly, the fact that the THPC currently invests on social and environmental responsibility seems to be largely due to individuals in the project management. As the example of Hoay Ho shows, a somewhat similar project can also prove to be unprofitable in all aspects. With regard to the coming Nam Theun II, a lot has evidently been learnt from previous experiences and issues like resettlement and environmental impacts have been considered and revised in project preparation. However, the sheer scale of the project implies that also the impacts will inevitably be on a different scale than those of the Theun-Hinboun. The overall capacity of the Lao government to deal with compensation or resettlement issues yet remains most limited, so that much depends on the responsibility of the project company.

6. Conclusions

To sum up, the Theun-Hinboun hydropower project seems to be evolving into a kind of model project in Lao PDR in terms of economic performance and responsibility for project impacts. The BOT modality has worked for the Theun-Hinboun regarding the efficiency in project implementation and operation and the project has also contributed to government and project staff capacity building. However, there is still unclarity in the final use of revenues from the project and their impact on the debt-ridden economy. Likewise, the livelihoods of local communities at the project area are only now being restored, so that it may still be too early to evaluate the final poverty reduction impacts of the project.

Foreign direct investment has contributed to economic growth in Lao PDR, but as indicated by experiences on hydropower development, the livelihoods of communities are easily disrupted by outside interventions affecting the resource base. Participation of affected people in project planning and implementation is a most complicated issue in the Lao context and

even though the governance system stresses the participation of grassroots, the possibilities to truly influence policies are most limited. The capacity problems at all levels, furthermore, contribute to communication problems within the government, between officials and foreign experts, and between communities and the executing agencies.

The Theun-Hinboun project has received publicity partly because of involvement of ADB in the project. Overall, ADB and the World Bank have been strongly criticised for their contribution to controversial infrastructure projects. Still, the involvement of Banks in large projects presumes consideration of environmental and social issues according to Banks guidelines, in comparison to a situation where the project is executed by purely private funding. The legislation in Lao PDR is becoming more extensive regarding these issues, but the implementation of legislation is still an open question. In addition, corruption remains a serious problem.

To conclude, foreign direct investment and hydropower provide an opportunity for the Lao PDR to earn export revenues and increase GDP growth. Still, more detailed and comprehensive evaluation of individual projects and the whole hydropower scheme is needed to ensure that the benefits go to improving livelihoods of Lao communities and inviable projects are not implemented. BOT schemes can be an effective option for executing the projects, but the partners must be responsible and committed to also ensuring that environmental and social issues are taken into consideration. At the moment, various projects are planned, whose negative environmental and social impacts may outweigh the economic benefits. Projects aiming at poverty reduction should not include more or less involuntary resettlement of communities and the disruption of subsistence livelihood activities.

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Interviews

T1-T3: Theun-Hinboun Power Company and Nordic Hydropower management representatives interviewed in Vientiane and at project site in February 2004.

M1-M5: Lao government officials at the Ministry of Industry and Handicrafts, Committee for Planning and Cooperation, and STEA interviewed in Vientiane in February 2004.

I1-I6: Representatives of International Agencies and International NGOs interviewed in Vientiane and Bangkok in February and March 2004.

B1-B3: Representatives of Multilateral Development Banks and a consultant company interviewed in Vientiane in February 2004.