Policy briefing

IMPACTS OF HYDROPOWER DEVELOPMENT ON LIVELIHOODS IN VIETNAM'S 3S RIVER BASIN

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Background

This policy briefing presents the key findings from the research project on the impacts on livelihoods of the three large-scale hydropower plants of the Sesan-Srepok-Sekong (3S) River Basin such as Srepok 3, Srepok 4, Srepok 4A dams. The briefing outlines policy recommendations to minimize the negative impacts while optimizing the benefits, particularly for displaced and affected communities in the 3S Basin.

Key findings

- Vietnam's rapidly developing hydropower sector, including in the Sesan-Srepok-Sekong (3S) River Basin, now contributes about 40% of total electricity generation in the country.

- Hydropower projects in the 3S Basin are resulting in a number of negative socio-ecological impacts such as loss of land and biodiversity, damage to agricultural production and reduction in income sources, loss of livelihoods, pollution, and increased competition over water .

- The full costs and benefits of hydropower projects in the 3S Basin need to be closely evaluated and appropriate long-term mechanisms for benefit-sharing and ecological restoration are needed to support the livelihoods of those affected by hydropower projects.

- Moreover, compensation and lack of local participation in decision making continue to be issues of contention in the dam building process. Engagement of the different stakeholders including vulnerable groups from the early planning stages is important to hear their voices and respond to their concerns.

Hydropower development in Vietnam and the 3S Basin

Vietnam has more than 70 years of hydropower development since the first hydropower dam, Ankroet, was constructed in the Central Highlands of Lam Dong province in 1943 with an installed capacity of 2.3 MW. Hydropower development has attained an important position in Vietnam's national electricity plan during the last few decades. According to Vietnam's Ministry of Industry and Trade (MOIT), in 2013, total hydroelectricity production of Vietnam was 56.94 TWh, representing nearly 70% of its theoretical hydropower potential. As of 2013, there were 260 plants in operation with an installed capacity of 6,712 MW. Another 266 projects are planned with an installed capacity of 3,410 MW. It is estimated that hydropower accounts for over 40% of total electricity production in Vietnam compared to the global average of 16% (Ty, 2014).



Map of the 3S Rivers Basin

The 3S Basin

The 3S Basin that comprises the Sesan, Srepok, and Sekong Rivers is a major tributary and watershed of the Mekong River and cuts across Vietnam, Cambodia and Laos. The basin is viewed

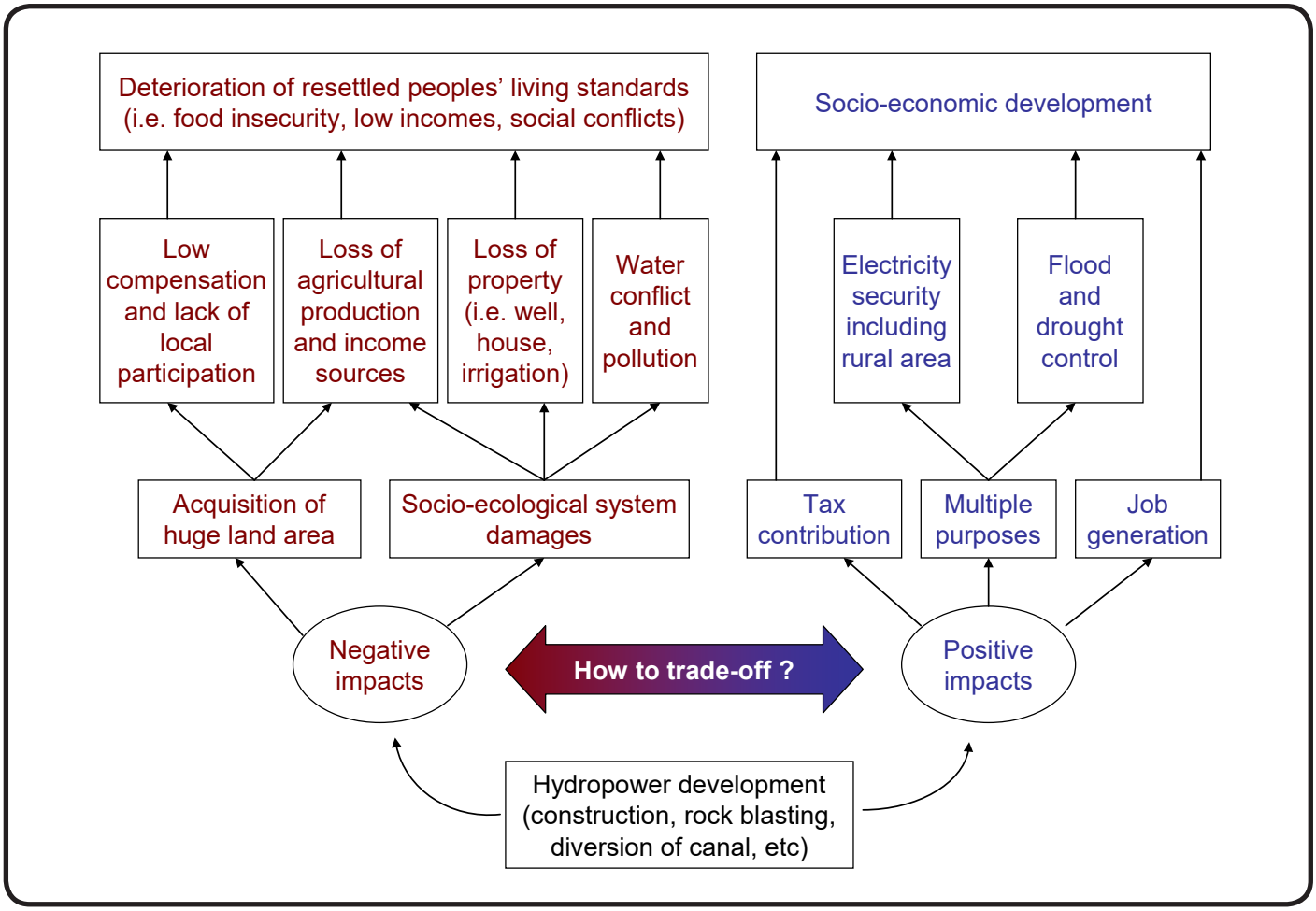


Figure 1: Assessing the trade-offs in hydropower development (summarized from the focus group discussions conducted in 2016).

by dam investors as having high hydropower potential. Currently the 3S Rivers have more than 20 hydropower dams already built or under construction with 26 more dams being planned. Alongside the development of hydropower in the 3S River Basin and socio-economic growth, there are increasingly negative impacts on ecosystems, communities and environment of the 3S Basin (see Figure 1).

Benefits of hydropower dams to the national economy

Hydropower dams bring a number of benefits for the country's socio-economic development (as highlighted in the figure above) include tax revenue, electricity, flood and drought control, and job generation.

- Tax revenue: Total electricity production in 2013 was estimated at about 115 billion kWh, equivalent to USD 8.7 billion or to 5% of the country's GDP; of this the share of hydropower was about 40% (Ty, 2014; Hung, 2016). Tax collections from hydropower are considered as a key source of this total revenue: for example, tax from Srepok 3 hydropower plant ranges from VND 350-400 billion or about USD 15 million (FGD, 2016).

- Electricity: Electricity growth has contributed to rapid industrialization and modernization of Vietnam. Importantly, Vietnam's rural electrification program is recognized as a success story among developing countries. In Daklak province, the rate of rural households using electricity increased from 50.4% in 2001 to 95.3% by 2014, while in the urban areas, electricity is available for 100% of the households since 2012 (Daklak Statistical Office, 2016).

- Flood and drought control: Besides electricity generation, large hydropower reservoirs serve multiple purposes including flood and drought control and irrigation.

- Job generation: Hydropower development

creates jobs during construction as well as the operation phases. Currently, Vietnam Electricity Group (EVN) employs more than 97,000 employees with good salaries. In addition, the skills of Vietnam's engineers and builders have greatly improved (Ty, 2014).

Negative impacts

Hydropower projects result in a number of negative impacts include destruction of socio-ecological systems that often result in the loss of fishing and farming livelihoods of local communities. Dam projects need to acquire large amounts of land leading to resettlement of the original inhabitants.

- **Low compensation for land acquisition:** The Srepok 3 hydropower plants acquired 2,978 ha from 639 households. However, the households were not compensated adequately for their loss of land due to low pricing and insufficient payment. More than 80% of households reported that they were not satisfied with the com-pensation given by the project developers. This has caused long lasting grievances and tensions.

- **Lack of local participation:** Local people have often been excluded from the decision making process. According to a survey conducted by the project in 2016, 94% of the households said that hydropower companies control the decision-making process whereas 81% of respondents reported they had no role. Similarly, 84%claimed that their voices were not taken into account in the consultation process. The resi-dents have a very limited engagement with the decision-making process and the most vulnerable groups do not receive much benefit from dam projects.

- **Loss of agricultural production and income sources:** Loss of agricultural production often results not only from loss of agricultural land to the dam reservoir but also reduction of crop yields due to low quality of land in the resettlement areas. The loss of land has also caused biodiversity degradation affecting the valuable income sources of local people through loss of fishing and forest products. Many affected communities become worse off than before the dam was built and face seasonal and chronic food insecurity and lack of alternative income. Only 17% of the households reported that their income was better after the dam was built and only 8% said food security had improved. For the majority, the situation had worsened.

- **Loss of property and material assets:** Besides loss of land, communities also lose assets due to dam construction. Damages to houses, wells, and irrigation systems are often reported due to construction and rock-blasting. Most often, compensation for such losses are not sufficient causing economic hardships among affected communities.

- **Water conflict and pollution:** Drought in the dry season and flood in the rainy season occur more often due to changes in river flows after dam construction. In Srepok 4A hydropower plant, the dam's diversion canal led to the drying up of more than 10 km of natural river that held rich biodiversity and was a place for culture and tourism to watch the elephant festival in Buon Don. The water quality also has deteriorated with pollution of the waterways.

Policy recommendations

In principle, the government's decisions on compensation, resettlement and rehabilitation for hydropower projects are based on the principle that: "resettled residents are able to restore or exceed their previous living conditions". However, the findings of the study have demonstrated that it is difficult to achieve this principle in reality. The living standards and livelihood opportunities of the resettled communities have worsened instead, and most people are living in worse conditions of poverty than before. Below are some policy recommendations to address these challenges:

- It is necessary to define the full cost of investment in hydropower projects including costs for compensation, resettlement and rehabilitation, and the socio-ecological damage caused by the dams.

- Benefits from hydropower development need to be shared through proper mechanisms of benefit sharing to ensure that affected people can restore and rehabilitate their livelihoods and living conditions after being displaced from their homes and farms.

- Long term commitment of benefit sharing

- programs is needed to ensure basic amenities such as water supply, education support, agricultural extension services, vocational training, etc. It is also necessary to monitor and evaluate the above programs on a periodic basis by independent experts to ensure the communities continue to benefit.

- Engagement of local people in decision making process needs to be vastly improved. The voice of vulnerable groups especially ethnic groups needs to be taken into account throughout the project planning cycle and beyond.

- Besides environmental assessments, it is necessary to also carry out social impact assessments before project approval to minimize the potential for adverse impacts and disputes. Poor implementation of environmental and social impact mitigation measures should be met with a fine or penalty to enforce effective implementation.

References

Daklak Statistical Office, 2016. Statistical Yearbook 2015. Daklak Statistical Office, Vietnam.

Grimsditch M., 2012. 3S rivers under threat. Published by 3S Rivers Protection Network and International Rivers, Vietnam.

Hung L. V., 2016. Process of decision making for hydropower projects. In: Tuan L. A., and Nga D. T. V., 2016 (Ed). Hydropower development in Vietnam: Challenges and solutions. Publishing House Sciences and Technology (in Vietnamese), 23-46p.

Ty P. H., 2014. Dilemmas of hydropower development in Vietnam: Between dam-induced displacement and sustainable development. ISBN 978-90-5972-959-9.

The project "Impacts of social safeguards for hydropower plants on livelihoods of vulnerable people in the Vietnamese 3S basin (Srepok, Sesan, and Sekong)" was carried out by the Mekong Delta Development Research Institute, Can Tho University, Vietnam (MDI-CTU) with funding provided by the Mekong Partnership for the Environment (MPE) Small Grants to improve the social and environmental safeguards around economic land concessions in the lower Mekong Sub-region.

The objectives of the study are:

- To understand current social safeguard policies in general and land acquisition in particular for hydropower development, especially on the role of civil society organizations in the decision-making;
- To identify the impacts of land acquisition on the livelihoods of vulnerable groups especially women and poor households; and,
- To recommend policies for strengthening the role of local communities in decision making and improving their livelihoods in post-land acquisition period.

To meet these objectives, the following were conducted: desk review, secondary data collection, key informant and depth interviews (covering 19 persons), focus group discussion (covering 4 FGDs at community level), household interview (covering 80 households), and workshop (covering 2 workshops and 40 participants).

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