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A decision-support-system (DSS) framework for linking livelihoods with reservoir operation: Experiences from MK1 case studies in the Mekong Basin

**CHU THAI HOANH¹, SONALI SENARATNA SELLAMUTTU¹, OLIVIER JOFFRE²,
MATTHEW MCCARTNEY¹, GUILLAUME LACOMBE¹, SUAN PHENG KAM², ERIC
BARAN², JULIA REIS³, LETICIA METZGER⁴, SHWU JIAU TEOH¹, BUI TAN YEN⁵,
SOMPHASITH DOUANGSAVANH¹, ANOUSITH KEOPHOXAY¹, LINKHAM
DOUANGSAVANH⁶, SONEPHOM XAYACHACK⁶, TRAN DUC TOAN⁵ AND NGUYEN
DUY PHUONG⁵**

¹ International Water Management Institute, Regional Office for Southeast Asia (IWMI-SEA), Vientiane, Lao PDR

² WorldFish Center, Penang, Malaysia

³ University of Virginia, USA

⁴ Ecole supérieure d'agro-développement international (ISTOM), Cergy, France

⁵ Soils and Fertilizer Research Institute (SFRI), Ha Noi, Vietnam

⁶ National Agricultural and Forestry Research Institute (NAFRI), Vientiane, Lao PDR

c.t.hoanh@cgiar.org

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Key Message

Reservoir development that provides benefits to a large population in the country would be more accepted if the livelihoods of local people impacted by its operation were also improved. The decision-support-system (DSS) framework of the CPWF Mekong 1 Project will help in, on one side, optimizing land and reservoir water use of these people, and on the other side, revising the reservoir operation strategies to find out possible improvement for multipurpose objectives.

Summary

Many hydropower reservoirs are being planned or have been built in the Mekong Basin. Most of these water storage development projects are mainly focusing on hydropower generation and downstream irrigation, but the livelihoods of people in the vicinity of these reservoirs have received major attention only in recent years. The decision-support-system (DSS) framework of the CPWF Mekong 1 Project will analyze the linkage of reservoir operation with livelihoods of these people. The framework is developed from the analysis of 3 cases under different stages of reservoir development: the Yali in Vietnam operated since 2002, the Nam Gnouang in Lao PDR under construction, and the planned Lower Sesan 2 in Cambodia. The DSS component in this framework will help in optimizing land and reservoir water use of these people for their profitable livelihood strategies, including activities such as cropping, raising livestock, fishing, aquaculture, given their limited resources such as labour and capital. Moreover, it will help in revising the reservoir operation strategies by finding possible improvements such as prolonging water levels at specific times to allow cash crop cultivation on exposed riverbanks or maintaining pools during the dry season for fishing and aquaculture. While applying the framework, knowledge and information gaps are also identified for further studies. The Mekong 1 framework can be applied by planners, researchers and decision-makers at local to national levels for all reservoirs, either in Asia or Africa or Latin America.



THE NAM GNOUANG DAM UNDER CONSTRUCTION IN KHAMKEUT DISTRICT, BOLIKHAMXAY PROVINCE, LAO PDR (PHOTO BY SUAN PHENG KAM, JUNE 2011)