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Adjusting hydropower dam operation to complement livelihood strategies in the Lower Mekong Basin

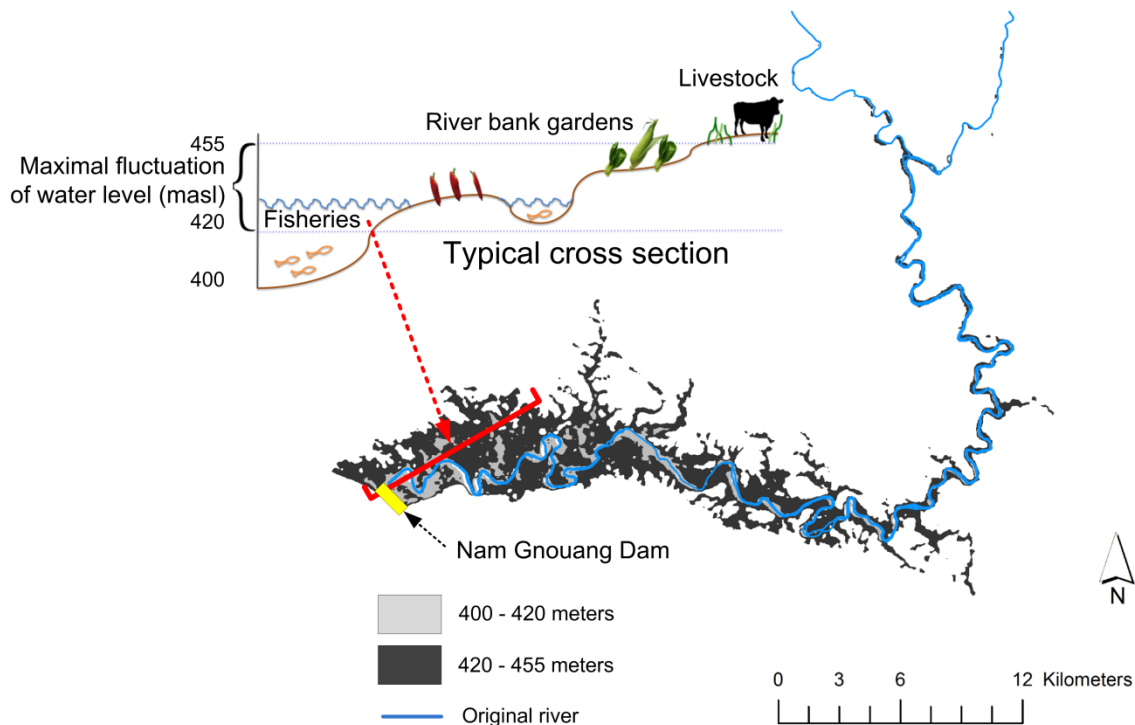
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SCHEMATIC VIEW OF INTERSECTION BETWEEN FOOD PRODUCTION AND WATER LEVEL OF THE NAM GNOUANG DAM

Key Message

While many have assessed the negative consequences hydropower dams have on livelihoods, few researchers have identified and studied interventions to mitigate these impacts. Policy makers will need detailed methods to address the challenges posed by dams, which are currently a prominent approach to development.

Summary

The Nam Gnouang dam in Lao PDR was constructed to double the capacity of the downstream Theun-Hinboun power station. About one thousand people who rely on the Nam Gnouang were resettled close to the shoreline at full supply level. Following semi-structured surveys and consultations to learn which activities are feasible and desirable, we can use linear programming to identify profitable livelihood strategies, including traditional activities (rice, extensive livestock, fishing) and new ones (aquaculture, forage cropping), given the limited labour resources. Using reservoir modeling, we will evaluate the water resources and hydropower implications of altering the dam operation to compliment these strategies. For example, we could investigate the impacts of prolonging specific water levels to allow cultivation of profitable vegetables on exposed riverbanks. Although fisheries will be constrained by impoundments and high-magnitude water level fluctuations, the dam operation may allow fishing and aquaculture, if, for example, pools are maintained during the dry season.