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# Review of water resource and reservoir planning models for use in the Mekong Basin to improve livelihoods of local people impacted by reservoir development

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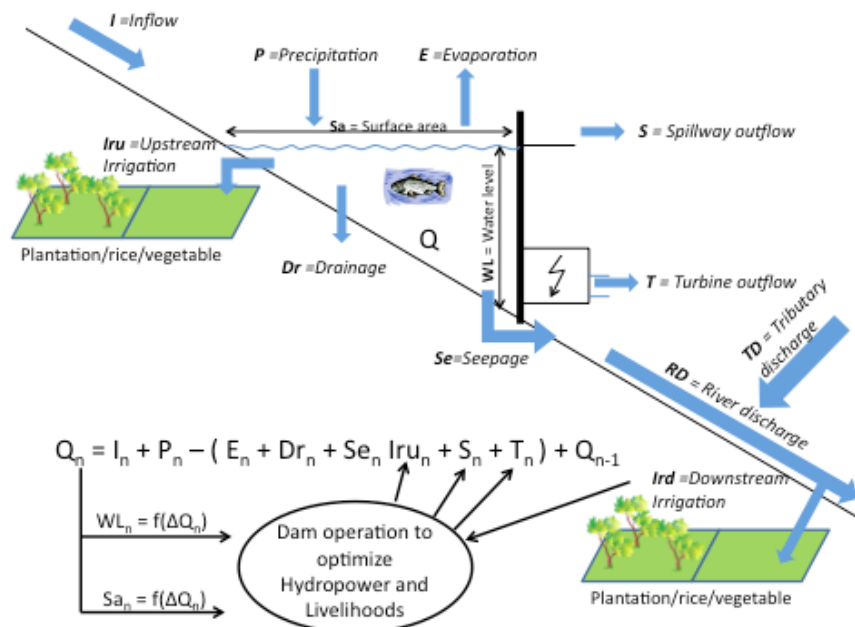
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## Session: Basin (Mekong)



STRUCTURE OF PROPOSED RESERVOIR WATER BALANCE MODEL ACCOUNTING FOR WATER REQUIREMENTS FROM NEIGHBOURING COMMUNITIES OF ONE-SIDED PARTICIPATION

## **Key Message**

Water resources and reservoir planning modeling should be improved to include livelihoods of local people impacted by reservoir development. Models can be used to determine the potential impacts of different operating regimes on local people's wellbeing and livelihoods.

## **Summary**

In recent years, great emphasis has been placed on the need to improve the management of the environmental and social impacts of large dams. This is particularly important in the Mekong River Basin where the construction of a large number of new dams are planned and yet a large proportion of the population depend on fisheries and other natural resources, which may be adversely affected by their construction. Dam planners and operators often have to consider a huge number of factors and often conflicting objectives, which makes decision making difficult. In such situations, computer models that are used to simulate and optimize dam operations can prove an useful tool. However, to date, most models have focused on the physical aspects of systems and rarely (if ever) explicitly incorporate environmental and social issues. Our research presents a review of different models and their application to water resource management, both in the Mekong basin and elsewhere and outlines a modeling strategy for linking reservoir operation with livelihoods of local people living around it.