An integrated evaluation framework for water storage strategies in Sub-Sahara Africa

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The current study proposes a multi-criteria decision aid framework to funding agencies for the integrated evaluation of water storage systems in Ethiopia and more broadly in Sub-Saharan Africa. Various water storage schemes within the country are assessed while the farmers are placed at the centre of the analysis as the principal stakeholders. The approach is based on a multi-criteria outranking method for the avoidance of complete trade-offs between criteria.

Throughout Sub-Saharan Africa (SSA), past storage development has largely occurred in a piecemeal fashion, through local initiatives and with minimal planning. In some cases lack of information and planning has resulted in less than optimal investments. Population growth, in conjunction with climate change, will increase the importance of water storage but without greater understanding of which types of storage are best utilized under specific agro-ecological and social conditions it is likely that many water storage investments will fail to deliver the intended benefits.

To ensure sustainability, national policies are needed that promote much more rigorous and integrated planning of all water storage options. To this end, the current study suggests outranking assessment as a tool that facilitates the systematic inclusion of a wider range of criteria in planning processes. In combination with existing approaches it could contribute significantly to better planning of water storage throughout SSA.

The study presents an integrated assessment approach for funding agencies and organizations as a promising option to better evaluate the performance of water storage in Sub-Saharan Africa.

More information: Stefanos Xenarios et al. Developing a User-Based Decision-Aid Framework for Water Storage Systems in Sub-Saharan Africa: The Case of Blue Nile Basin in Ethiopia, *Water Economics and Policy* (2015). DOI: 10.1142/S2382624X15500125

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