

10. Agricultural Water Use from a River Basin Perspective in sub-Saharan Africa (World Bank)¹⁷

BACKGROUND AND JUSTIFICATION

Sub-Saharan Africa presently has an estimated 5 million ha of irrigation (of which half is located in only two countries – Sudan and Madagascar). However, this area represents less than 15% of the physical potential and less than 5% of total arable land area. Moreover, the rate of new development is probably less than 1% per year.

Despite its potential and obvious under-development, water use for agriculture in SSA is under threat. It already uses around 80% of annual withdrawals from rivers and aquifers (i.e., 80% of what is available from development to date) and is regarded as an inefficient user. With intensifying competition for what is becoming a scarce resource there is strong pressure to reduce allocations to agriculture and to divert water to other sectors (urban, industrial, mining and environmental/tourism) that are thought to be more profitable. Mechanisms for demand management such as the establishment of user forums, introduction of volumetric water charges, and water regulation and legislation are being established. Agriculture is now expected to produce ‘more crop per drop’.

Yet, water abstractions for agriculture in SSA represent a mere 3 percent of overall annual discharge (FAO AQUASTAT 2003).. Much of the readily available water is concentrated spatially and temporally, suggesting that there is significant scope for approaches that address supply side constraints such as river regulation and storage creation, in addition to mechanisms for demand management.

Current efforts to manage water resources in an integrated fashion (IWRM) are based on the Dublin Principles that were adopted in 1992 as part of the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, 1992. They include:

- Water and land resources should be managed at the lowest appropriate level.
- Fresh water is a finite and vulnerable resource, which is essential to sustain life, development and the environment.
- Effective management should link land and water uses on an integrated catchment basis.
- Water management and development should be based on a participatory approach, involving users, planners, and policy makers.

A number of African countries have pursued water sector reforms that are based on these principles. Although the Dublin principles advocate a balanced approach that includes both supply and demand management, many of the reforms have focused almost exclusively on demand management, with only scant attention is being paid to supply side constraints. One of the results of the emphasis on demand management is that those who are in a disadvantageous position to express their demands (smallholder farmers, pastoralists, environment) tend to become marginalized vis-à-vis larger institutional users (water utilities, hydropower generation), and risk losing out. Further, agricultural use of water is perceived as ‘low value’ and ‘wasteful,’ ignoring the importance of agriculture for the livelihoods of most

¹⁷ This component does not yet have an agreed TOR and is not financed. This chapter reflects some of the thinking to date but is by no means complete.

rural Africans and the need to make water available to enable sustainable intensified agriculture.

It is felt that the current emphasis on demand management ignores a parallel need to improve water availability through river regulation, improved conveyance and storage capacity, and a more effective use of available resources for agriculture and other productive uses. The purpose of this study is to contribute to strengthening the role of IWRM in poverty reduction, food security and economic growth.

OBJECTIVES AND SCOPE

The higher, or overall objective of the proposed study is to contribute to catalysing increased investment – whether by governments/donors or the private sector (including farmers) – in agricultural water development in SSA. The immediate objective is to identify ways in which IWRM approaches can be made more inclusive in order to enhance their performance and impact in terms of poverty reduction, food security and sustainable economic growth.

In so doing the study intends to contribute to efforts to translate investors' and governments' strategy towards rural development and agricultural growth into action, to upscale successful experiences, and to provide strategic guidance for the investors and their development partners (governments, other international financing institutions, bilateral donors and NGOs) in the design of new projects that have a better chance of contributing to the achievement of the Millennium Development Goals.

METHODOLOGY

The work would be carried out by means of a **desk study** and a series of **country visits** and **case studies** into on-going efforts to improve water use through the adoption of IWRM approaches. The desk study would aim to identify what is understood by best practice in reducing poverty, improving food security and promoting growth through IWRM. Various methodologies for demand and supply management would be identified, and their potential impact would be analysed. This will be linked to an analysis of economic water scarcity. A number of river basins, both within and outside SSA, would be studied that represent best practice in terms of (i) extent to and way in which IWRM approaches balance demand and supply management, (ii) extent to and way in which poverty reduction, food security and sustainable economic growth are being achieved, (iii) the way in which concerns are being addressed related to the involvement of the more vulnerable stakeholders. Country visits and case studies would provide more detailed information, and would focus on the effectiveness of the implemented measures in terms of involvement of various stakeholders, impact on water allocation among sectors and the way in which environmental concerns are being addressed.

The country visits/case studies would focus on known successes and innovations, as determined by the desk study (the selection to be made in consultation with the Working Group for the Collaborative Program) and would ask the following broad questions:

- What are the various types of demand and supply management interventions in IWRM that can be identified? In what way do they contribute to poverty reduction, food security and economic growth, or to achieving the Millennium Development Goals? Which of these interventions contribute most, and which contribute least, to achieving poverty reduction, food security and economic growth?
- In the selected basins, what kind of specific demand and supply management interventions were implemented? And what is the situation in terms of economic water scarcity?

- In what way and to what extent have all stakeholders been involved, and what can we say about how effective this involvement was? How did the outcome of improved management benefit the rural poor? What are the most effective institutional and policy mechanisms for improving benefits for poor people?
- What can we say about the correlation between economic water scarcity, demand management interventions and supply management measures?
- What are the major practical lessons for implementing IWRM in a way that effectively contributes to poverty reduction, food security and sustainable economic growth?

OUTPUTS

Upon completion of desk and case studies the results will be synthesised into a *Draft Report on the impact of IWRM on poverty reduction, food security and economic growth in SSA*. The Draft Report will provide a regional perspective and reasoned conclusions and recommendations on:

- What specific demand and supply management interventions are efficient and cost effective tools to reduce poverty, increase food security and promote sustainable economic growth.
- How basin and catchment management institutions can be made more effective in terms of involvement of the more vulnerable water users.
- How the situation in basins with respect to water scarcity can be linked to specific measures that aim to reduce poverty, increase food security and promote sustainable economic growth.