

The Nile Basin Development Challenge: Methods, outputs and outcomes

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The Nile Basin Development Challenge: Methods, outputs and outcomes

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Introduction

The Nile Basin Development Challenge (NBDC) is one of six global focal basins of the Challenge Program on Water and Food (CPWF). The overall objective of the CPWF program is to increase water productivity and resilience of social and ecological systems, through broad partnerships and research that leads to local impact and wider change. Within this framework, the NBDC has set out to improve and build on rainwater management strategies as a way to improve livelihoods and reduce poverty. The focus of the work has been on the Blue Nile where rainfed agriculture dominates and over 80% of the population relies on subsistence, rainfed agriculture. In contrast, the downstream countries, principally Egypt and Sudan, are dominated by large-scale irrigated agriculture. However they will also potentially benefit from improvements in rainwater management upstream through reductions in land degradation and associated soil erosion which when transported downstream reduces the efficacy of irrigation schemes.

To meet the Nile Basin Development Challenge, it was found necessary to adopt an outcome logic model in which a range of approaches have been used to generate outputs and outcomes to support policy development and enhance best practices in relation to selected land management. These are briefly presented in summary here with subsequent papers in the proceedings developing the issues in greater a depth.

Methods

The approach to the NBDC has been to develop work in three dimensions, social, economic and technical, which when put together will give an overall set of integrated outputs and outcomes. To realize the broad CPWF aims, work was conducted at multiple scales: Households, communities and catchments and the Blue Nile Basin as a whole. Importantly, the project was undertaken in partnership with a range of organizations, universities, regional researchers and NGOs.

Some examples of the methods used in the different disciplines across scales are:

In our sentinel sites (see Figure 1), the project established biophysical monitoring which has involved 'state of the art' technical equipment to measure meteorology, soil–water, groundwater and stream heights. At the same time, the project used farmer and community participation to measure rainfall, river flows and water samples for water quality analysis. Together these data provide primary data to understand water fluxes and stores in detail at a high spatial and temporal resolution. To further understand and engage with communities, we have established, within the same

communities, 'innovation platforms'. These IPs and the processes they involve are designed to ensure full participation and ownership in terms of recognizing issues and potential solutions relating to natural resource management. The process is designed to maximize both indigenous knowledge and the necessary supplementary technical input to bring about change in knowledge, attitude and skills amongst the communities and their advisors. To assess this, the project also collected extensive information on economics, institutional set ups and livelihood strategies. Some of the process methods used in the IPs involved: training members of the community to use audiovisual equipment and then recording of events they see and face in the landscape and also recording of digital stories through use of still photography to test and develop some scenarios for the future; we have used role playing simulation type games called Happy Strategies Wat a Game.

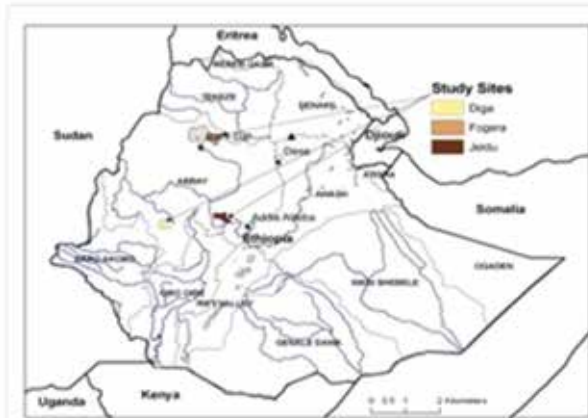


Figure 1. The Blue Nile and the three sentinel site setting.

At a wider regional and basin scale, greater emphasis was given to use of GIS and mathematical models. These tools allow some of the work undertaken at the smaller scale to be scaled out to wider areas to examine the consequences of changes in practice for rainwater management strategies. Finally, at the national scale, the NBDC established a high level think tank or national innovation platform composed of stakeholders from a range of backgrounds and skills. This national IP has been set up to disseminate and consider how best to develop the findings coming out of the work.

Outputs

From this growing body of work, we have developed a range of outputs including formal type publications submitted to the research literature, briefing notes on the various activities undertaken and technical reports and numerous Masters theses. Other outputs are the less formal ones such as field visits, technical meetings and workshops (some of which have minutes and proceedings). Other descriptions can be viewed and contributed through the project web pages and wiki (<http://nilebdc.wikispaces.com/>).

Outcomes

Central to the work of the CPWF and NBDC is to take all of these outputs and transfer them into evidence-based outcomes aimed at transforming the livelihoods of vulnerable communities practising rainfed farming in the Blue Nile Basin. At the same time, such improvements should lead to a more sustainable use of natural resources which in turn should have positive impact on downstream users. At the current stage, the messages we are developing are built around a core concept of an emerging New Integrated Watershed Rainwater Management Paradigm, the elements of which, are:

1. Local community empowerment and leadership based on demand, equity and inclusiveness;
2. Partnerships integrating and sharing local and scientific knowledge;
3. Emphasis on learning process by all parties in a linked manner;

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4. Creating incentives and risk management mechanisms for innovation and success;
 5. Transforming institutional and human capacities of all stakeholders; and
 6. Adapting and using new learning and planning tools.

These elements are highly integrated and success is more likely if all the elements in policies and implementation strategies are included. A landscape or watershed perspective is central to the new RWM paradigm. We believe that the critical innovations justifying our use of the term 'new' emerging from NBDC are:

7. Integration of the core elements of a new integrated RWM paradigm at watershed level and
8. Development of tools and methodologies for effective planning, learning and implementation emerging from NBDC.

Therefore, the proposed new paradigm shall not replace existing programs and strategies. Rather, it offers a clear pathway to achieving ambitious conservation as well as livelihood and production outcomes that Ethiopia may otherwise not achieve.

The target audience for these integrated core messages includes senior Ethiopian policymakers and leaders of implementation at federal and regional levels, senior officials at zone, *woreda* and *kebele* levels and Ethiopia's development partners (i.e. donors and international finance institutions). In addition, researchers, NGOs and other stakeholders will also find the messages useful. For effective implementation of the new RWM paradigm, we will develop additional specific technical messages for local level stakeholders, researchers, trainers and technical support staff.

Over the coming six months to the close of the program, we will work on further developing and refining these messages together with developing an indication of the strength of the evidence that underpins them.