



WHaTeR

AT A GLANCE

Title: Water Harvesting Technologies Revisited: Potentials for Innovations, Improvements and Upscaling in Sub-Saharan Africa

Instrument: FP7, Collaborative Project

Total Cost: € 2,462,500

EC Contribution: € 1,999,930

Duration: 48 months

Start Date: 1/1/2011

Consortium: 8 partners from 8 countries

Project Coordinator: VU University Amsterdam (The Netherlands)

Project Web Site: <http://whater.eu>

Key Words: water harvesting, climate change, environmental sustainability, livelihoods, regional impact, stakeholders, technology development, upscaling



THE CHALLENGE

One of EC's major strategies for Africa is to address poverty and hunger by promoting agricultural growth and increasing productivity. Recent water management assessments reveal that farmed areas solely dependant on rainfall offer great potential for improving agricultural productivity, particularly in Sub-Saharan Africa. At present, agricultural productivity is constrained by highly variable rainfall, frequent dry spells and detrimental water loss, making rainfed farming a risky undertaking. An estimated 70-85% of the rainfall on Sub-Saharan dryland farms is lost through non-productive evaporation, surface runoff and drainage. Innovative *Water Harvesting Technologies* (WHTs) represent a key intervention to strengthen productivity of rainfed agriculture.

PROJECT OBJECTIVES

Traditionally, water harvesting technologies have been used throughout Sub-Saharan Africa. Yet these need to evolve with the times, taking into account environmental, economic and demographic change. The main objective of the WHaTeR project is therefore to contribute to the development of water harvesting technologies that are sustainable and strengthen rainfed agriculture, rural livelihoods, food production, and food security in Sub-Saharan Africa. The specific objectives are to:

- revisit and critically assess progress in sites previously studied 10 – 20 years ago
- examine communication channels and recommend improvements to facilitate uptake
- study upstream-downstream relationships with a focus on optimising interactions
- define criteria for designing WHTs that are adoptable and lead to improved livelihoods
- help remove barriers to uptake in different climatic, environmental and economic situations
- establish guidelines for sharing of knowledge on WHT improvements leading to upscaling



METHODOLOGY

The project is being implemented in three phases: (1) revisit and situation analysis; (2) core R&D activities; and (3) synthesis phase. The project comprises a set of R&D work packages, starting with “revisits” to previously research sites in up to 15 countries in Africa, followed by five work packages on cross-cutting research and technology development themes (environmental sustainability; technology development; livelihood improvements; uptake and upscaling; and global and regional impact). Complementing the cross-cutting R&D are four country-based work packages which focus on Burkina Faso, Ethiopia, Tanzania and South Africa. The methodology has a strong basis in stakeholder consultation and participation at multiple levels throughout the course of the project. Combined with participatory and multidisciplinary approaches are the field testing of systems, and associated technical data collection and assessment. The core R&D activities include, amongst others, multiple scale assessments, integrated studies, scenario analysis, and agro-hydrological modelling.

EXPECTED RESULTS

The overall expected impacts can be summarised under three clusters as follows:

- The potential and sustainability of rainfed agriculture in Africa will be upgraded through a direct focus on developing traditional (and project introduced) water harvesting technologies across Sub-Saharan Africa
- Food production and security will be improved by ensuring that the improved WHTs are those that will address people’s needs and be acceptable to them in the various settings. Upscaling mechanisms will be developed so that knowledge shall be shared - and thus these benefits will not be isolated.
- Livelihoods of rural communities will be better secured through providing strengthened, more resilient, farming systems; thus allowing farm families to diversify livelihoods from a basis of more dependable agriculture in a changing environment.

PROJECT PARTNERS	
Centre for International Cooperation (CIS) and Institute for Environmental Studies (IVM), VU University Amsterdam	NL
School of Agriculture, Food and Rural Development, University of Newcastle upon Tyne	GB
Stockholm Resilience Centre (SRC), Stockholm University	SE
School of Bioresources Engineering and Environmental Hydrology (BEEH), University of Kwazulu Natal	(South Africa) ZA
Department of Agricultural Engineering, Sokoine University of Agriculture	(Tanzania) TZ
Southern and Eastern Africa Rainwater Network (SEARNET), ICRAF	(Kenya) KE
National Institute for Environment and Agricultural Research (INERA)	(Burkina Faso) BF
Arba Minch institute of Technology (AMIT), Arba Minch University	(Ethiopia) ET

