Water Harvesting to improve Livelihoods in southern Ethiopia: from Pilots to Mainstream

SWISS - RE

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Inception report

Prepared after the initial project site mission (March 2007)


Ethiopian Rainwater Harvesting Association (ERHA)


SASOL Foundation


RAIN
Rainwater Harvesting
Implementation Network


Acacia Institute
Solutions in Groundwat

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1 CONTEXT

1.1 Introduction

The Borana Zone of southern Ethiopia is a semi-arid region in which the rural population depend on small-scale agriculture and livestock farming. Both activities are highly constrained by water availability, there being no perennial rivers and with rainfall varying highly, both spatially and temporally. Children in this region have the lowest school enrolment rate in the country, spending substantial amounts of time in collecting water and in addition to other domestic tasks.

Adequate water supports food gardens, the keeping of livestock, processing of crops, fishing and small-scale economic enterprises. A reliable nearby source of water frees up time previously spent by children and women in water collection, resulting in improved school attendance and women's involvement in activities that increases the well-being of themselves and their families. Such water-enabled opportunities empower people to improve their livelihoods, providing them with more security and new choices. Water harvesting has proven to be an attractive alternative decentralised water source in areas where other means of water supply have little potential, with these being remote or because groundwater is inaccessible or not potable.

1.2 Principle project partners

The project will be carried out by four principle partners. The Ethiopian Rainwater Harvesting Association (ERHA) will lead the project, oversee project implementation and provide relevant support to the implementing partners. ERHA will organise the training of additional local organisations and document the sand dam component of the project to create a simple guide for future implementation. Additional expert support will be provided by SASOL and the Acacia Institute on sand dams and the RAIN Foundation on rainwater harvesting

Ethiopian Rainwater Harvesting Association (ERHA)

ERHA is an Ethiopian non-governmental organisation founded in 1999 by Ethiopian citizens that recognised the imminent challenges resulting from water shortage at global and local levels. ERHA works to promote rainwater harvesting (RWH) in Ethiopia through advocacy, networking, research and capacity building of its stakeholders. In 2005, ERHA was selected as Rainwater Harvesting Capacity Centre (RHCC) of the RAIN programme in Ethiopia (see RAIN, below), to coordinate and manage widespread implementation of RWH in Ethiopia.

The Rainwater Harvesting Implementation Network (RAIN)

The RAIN Foundation (Rainwater Harvesting Implementation Network) was founded in December 2003. The RAIN Foundation aims to increase access to water on a global scale through the collection of rainwater. Since its establishment, the RAIN Foundation has been responsible for the construction of more than 1,800 m^3 of rainwater harvesting capacity by local organisations in Burkina Faso, Ethiopia, Nepal and Senegal. Up-scaling of implementation is underway in all programme countries.

Sahelian Solution Foundation (SASOL)

The Kenyan Sahelian Solutions Foundation (SASOL) was founded in 1992 to provide local people with water, following the droughts and famines which had struck the arid

region. SASOL has since constructed almost 500 dams in the Kitui district in Kenya, providing approximately 120,000 people with water. SASOL plans to build a further 500 dams in and around the Kitui district over the coming decade and to disseminate its expertise to other areas and East African countries.

The Acacia Institute

The Acacia Institute, founded in 2002 and affiliated to the Vrije Universiteit, promotes the exchange of groundwater knowledge and the sustainable use and management of groundwater. The Acacia Institute, together with the SASOL Foundation, has initiated a program aiming to promote community based sand dams in regions of Kenya and surrounding countries.

1.3 Funding

The project is funded by SWISS-RE, with co-funding by Aqua for All (A4A) and Plan Netherlands.

	US$	Euro's*
Total budget	**137.000**	**104.298**
Budget coverage		
Swiss Re	50.000	38.065
Plan Netherlands	32.423	24.684
Aqua4All	42.576	32.413
Community contribution (approx.)	12.000	9.136
Additional 30.000 of Swiss Re if results are satisfactory for up-scaling the project.		

* Exchange rate: 1 USD = 0,7613 EU

2 OBJECTIVES AND RESULTS

2.1 Project objectives

The project will increase access to a reliable source of water for at least 10 villages in the critically dry Borana Zone of southern Ethiopia. An innovative combination of infrastructure, to harvest rain and surface run-off water, will ensure drinking and productive use water in the short- and long-term for villages living both adjacent to an ephemeral watershed and those further away. The project will contribute to regional water resource protection: making optimal use of available water resources, enhancing catchment water retention capacity, reducing soil erosion, flooding and averting ground water depletion. Of increasing relevance is the solution offered by water harvesting in protecting the livelihoods of vulnerable villages from the foreseeable effects of climate change.

Objectives:

1. Improved availability of water for household activities and productive use (e.g. for small scale agriculture, food processing, livestock keeping, sanitation, small-scale businesses).
2. Ensured long-term access to safe drinking water for vulnerable rural communities in the Borana Zone of southern Ethiopia.
3. Strengthened local capacity for water harvesting implementation and management.
4. Understanding and adoption of water harvesting, with water harvesting considered a realistic local and regional water supply option within a framework of integrated water resource management.

2.2 Project results

1. Five sand dams constructed by the end of 2008, to supply water to more than 1,000 people.
2. Six RWH tanks constructed by mid-2008, with a total storage capacity of approximately 360 m^3 to supply drinking water to more than 1,000 people.
3. Developed and strengthened local capacity on water harvesting of at least 5 local organisations (including ERHA) and 10 water management committees.
4. Mainstreaming water harvesting to relevant governmental and non-governmental parties to catalyse further implementation within the region and ultimately to influence government water supply and management policy.
5. Following a positive evaluation of the project in May/June 2008 a further two sand dams and three water harvesting systems will be constructed.

Note:

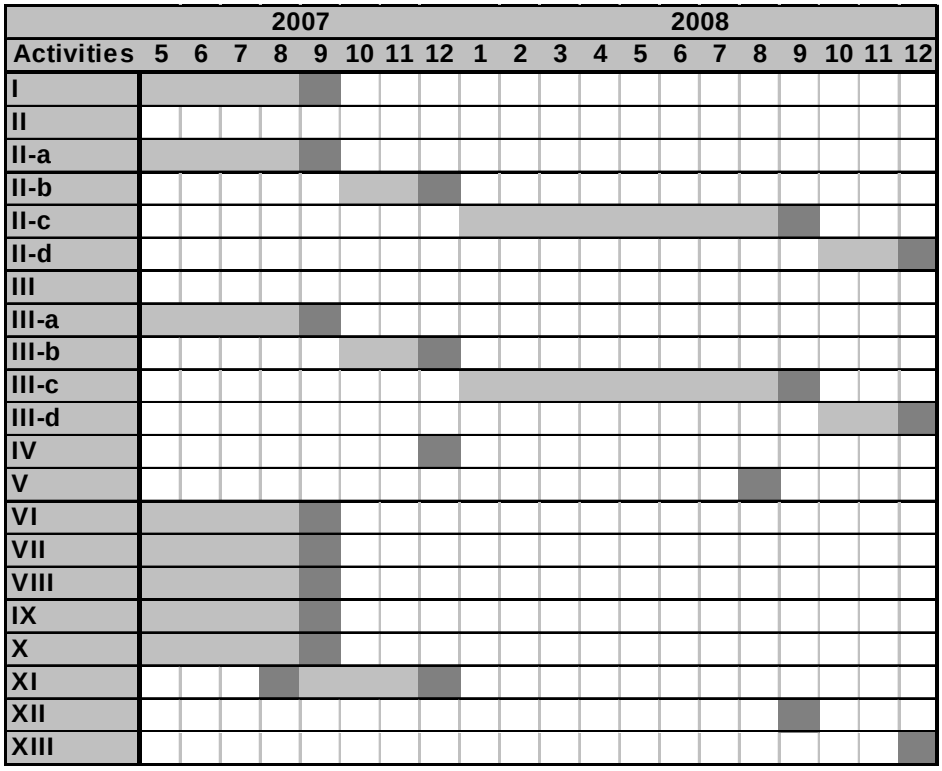
The final number of dams might differ from that which is proposed as the budget is based on an average sized sand dam. Local circumstance might dictate that a larger sized dam is required with comparably higher costs involved. After final siting of the dams, the number of dams to be constructed will be discussed with Swiss Re.

3 WORK PLAN AND TIME PLAN

The project activities have been subdivided according to the respective objectives and components. The overall work plan is presented below.

	Main activities	Mile-stone	Time period
Objective 1 & 2: Improved availability of water for productive use and improved access to safe drinking water			
I	Watershed selection, demand inventory, impact assessment and site selection	1	09 – 2007
II	Design and construction of sand dams by local organisations and water committees		
II-a	• 1st sand dam	1	09 – 2007
II–b	• 2nd sand dam	2	12 – 2007
II–c	• 3rd, 4th & 5th sand dams	3	09 – 2008
II-d	• Following successful evaluation: 6th + 7th sand dams	4	11 – 2008
III	Site selection, design and construction of RWH systems by local organisations and water committees		
III-a	• 1st RWH system	1	09 -2007
III-b	• 2nd & 3rd RWH systems	2	12 – 2007
III-c	• 3 - 4th, 5th & 6th RWH systems	3	9 – 2008
III-d	• Following successful evaluation: 7th + 8th RWH systems	4	11 - 2008
IV	Monitor and support local organisations implementing sand dams and RWH systems, including water quality testing	2	12 - 2007
V	Evaluation of sand dam and RWH programme	3	09 -2008
Objective 3: Reinforced capacity on water harvesting			
VI	Training of local organizations on implementation of sand dams. Training includes; infrastructure, operation and maintenance, management.	1	09 – 2007
VII	Technical education on quality control; operation and maintenance, repair, financial management of local organisations, water management committees.	1	09 – 2007
VIII	Establishing a methodology for ongoing water quality evaluation, monitoring and improvement.	1	09 – 2007
IX	Identification of additional appropriate technologies.	1	09 – 2007
Objective 4: Local and regional understanding and adoption of water harvesting			
X	Performing awareness and education programmes for communities on hygiene, water/environment conservation, sustainable agriculture.	1	09 – 2007
XI	Policy influencing on national and regional level.	2 or 4?	12 – 2007
XII	Documentation of project results and sharing of lessons learnt on global level.	3 o 4?	09 -2008
XIII	Workshop.	3 or 4	

The following table gives the time plan according to the different activities, with the different milestones.



4 PROJECT TEAM

The project is being carried out under the responsibility and project leadership EHRA. The following table presents of the members of the project team, their organizations and their respective project responsibilities.

Person	Organisation	Main responsibilities and expertise
Ephraim Alamerew Bogale	ERHA	• Project leader • Expert on rainwater harvesting implementation • Internal and external communication
Wondu Fisseha	EHRA	• Assistant project leader • Project management • Coordination/logistics/facilitation • Reporting
Sam Mutiso	SASOL	• Expert on sand dam implementation • Resource person
TBN	SASOL	• Expert on sand dam design and construction
Don Offermans	RAIN	• Expert on Institutional aspects • Resource person
Kirsten Neke	RAIN	• Expert on rain water harvesting implementation • Project monitoring • External communication • Reporting
Arjen de Vries	Acacia institute	• Expert on sand dam implementation • Resources person • Reporting
Remko van Diepen	Acacia Institute	• Support to sand dam implementation

ANNEX1: REQUIRED DATA