Every drop counts!

MUS through rainwater harvesting in Ethiopia

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Ethiopian context

GENERAL ASPECTS
- Agricultural economy: 47% GDP, 60% export, 80% employment
- Policies in place, implementation weak
- Vulnerable to drought
- 84% rural population

MACRO LEVEL
- General lack of capacity
- Top-down central government
- Gender inequality
- Very high under 5 Mortality

MESO LEVEL
- Need for integrated approach
- NGO Bill; restrictions human rights, advocacy
- Lack of access infrastructure/services

MICRO LEVEL
- Development of water sector by government: Universal Access Program. Includes MUS, concentrating on low cost/ community levels.
Weak links environment - agricultural

Technology knowledge gap

Platforms forums, still weak / scattered

Limited sharing of knowledge

Limited adoption good practices in government programmes

Multi-stakeholder approaches still weak
Context of RAIN case and Ethiopian context

RAIN objectives in Ethiopia in general
➢ Demonstrate the high potential of rainwater harvesting (RWH)
➢ Demonstrate the high potential of various RWH technologies in combination with MUS
➢ Build capacities, promote inter-institutional cooperation around RWH,
➢ Put RWH for MuS solidly on the agenda, into policies and budgets.
Ethiopian context

- GENERAL ASPECTS
- MACRO LEVEL
- MESO LEVEL
- MICRO LEVEL

Disconnect between the national and the community level

- Woredas lack funds & capacity
- Weak monitoring
- Few business development services
- Lack of secure markets and access to finance
Ethiopian context

GENERAL ASPECTS

MACRO LEVEL

MRSEO LEVEL

MICRO LEVEL

Dryland farming, herding cattle, pastoralist systems

Dependent on collection of runoff in surface water ponds

Insufficient human capital for technical support

Absence of reliable water supply: travel long distances

Insecure water supply hampering intensified farming & livestock
Needs and demands for MUS

**Needs & Demands on Macro level**
- More models on implementation of MUS in combination with RWH
- Access to practical guidelines
- Access to information and financial means to guide implementation

Governmental implementation program lacks behind:
- Inadequate capacity, promotion, lobby and participation
- Insufficient attention for low cost technologies.

**Needs & Demands on Meso level**
- Adequate allocation of funds (central → regional)
- Planning, implementation, M&E of MuS
- Stronger link between different sectors
- Knowledge & awareness: low cost technologies / “MuS capacities”
- MuS guidelines for decision-makers / managers

**Needs & Demands on Micro level**
- Capacities: O&M of MuS technologies, efficient use, re-use, AT
- Financial mechanisms: investments / repairs, upgrading to MuS
- Post construction support functions ensured
Objectives and scope

RAIN in Ethiopia in general
- Put RWH solidly on the agenda, into policies, planning, budgets, different sectors.

Current RAIN projects on RWH & MUS

1. **“MUStRAIN in Ethiopia” project**
   - To further test and adjust RWH technologies, to supply water for MUS purposes in rural areas of Ethiopia.
   - Details MUStRAIN in Ethiopia” project under “approach followed”

2. **Dutch WASH Alliance**
   - WASH for (semi) pastoralist communities in Afar and Oromiya
   - Economic and environmental WASH innovation; linking WASH to private sector and innovative financing options
   - Mainstreaming MuS concept in wider alliance (9 countries, 5 year)

3. **Dutch Waterboards**
   - From single-use to multiple use water schemes (upgrading to MuS in existing schemes)
   - Improve water management of RWH systems by efficient use, improved maintenance and operation of RWH systems, enhanced water quality and quantity
RAIN works through the “RHCC model”, based on pilot implementation
An enabling environment for upscaling RWH for MuS

Approach followed

- Knowledge, research & capacities: on different levels
- RWH for MuS embedded in policies and management plans
- Technology: low cost, simple, manageable, sustainable
- Funding & Financial mechanisms
- Institutional environment; organisations that can develop, policies, technologies, programmes

Implementation programmes / suppliers
An enabling environment for upscaling RWH (practical implementation)
“MUStRAIN in Ethiopia” project (2011-12)
Further test and adjust RWH technologies, to supply water for MUS purposes

Specific objectives
1. Strengthening collaboration between partners
2. Demonstrate the high potential of various RWH technologies in combination with MUS;
3. Lay basis for income generating projects, enable upscaling;
4. Building capacities (techniciens / local politicians)
5. Publicity and knowledge exchange amongst national stakeholders in RWH/MUS and develop guidelines for RWH/MUS-methods

Some of the Key activities
- Water demand analysis, MuS based
- Selection of the potential techniques
- Efficient water use
- Finetune RWH-models to MUS
- Applying a ‘Learning and Practice Alliance Approach’, platforms to exchange knowledge amongst all stakeholders
“MUSTRAIN in Ethiopia” project (2011-12)

**Main themes:**
- **Food and ecosystems**: e.g. water buffering, and use in an integrated ecosystem
- **Climate**: RWH-technologies can retain large volumes and increase aquifer levels
- **Drinkwater and sanitation** next to hygiene, wastewater, kitchen gardening and cattle
- **Capacity generation** of stakeholders at governmental levels.

**Partners:**
- IRC, RAIN and Ripple / HCS
- Ministry of Water Resources Development
- Oromia Region Water Resource Development Bureau

**Approach followed**
Guidelines for RWH for MUS:

- Explore demand and supply and evaluate potential to cover (part) of this demand
- Gender disaggregated data required
- Explore different RWH technologies, rooftop, sand dams, weirs, earthen dams, ponds, infiltration galleries etc. and evaluate (FIET) potential.
- Explore how water extraction can be compensated by RWH recharge
- Base all experiences on (learning) projects, capacity development and policy influencing (so not only implementation focused)
- Integrate the RWH concept into IWRM, in a practical way and policy wise.

General policies

Guidelines under development in the MUStRAIN project

RAIN SAND DAM MANUAL, (guidelines / practical)

3R consortium; Water Recharge, Retention and Reuse. (RAIN, Acacia Water, Meta Meta, BGR)
Lessons learnt

- Interinstitutional intersectorial approach required,
- Involve all stakeholders
- Knowledge sharing, learning agendas important elements, need for collaboration

- Alternative financial models needed – shortage
- Analysis of financial aspects of integrated systems is essential (C-B analysis)

- Analysis of demand / supply (including potential of RWH) essential
- Existing RWH systems can be upgraded to MuS
- Optimize the storage systems and volumes for integrating RWH for MUS

- Identify capacity needs on all levels and interventions focused at all levels (MMM)
- Ensure Post construction support functions

- Combi research and implementation is necessary, still lots to be learned
**Communication** around MUS group and guidelines is essential:
How to promote and achieve wider and effective outreach
Review: “What is the adequate balance between”:
- further development and testing of guidelines
- Promotion
- Implementation (upscaling)

**Collaborate!**
Now is the time
Use the MuS group also as a practical group,
Interinstitutional collaboration, implementation and learning

Example of MustRAIN, West Africa Wash Program (wa-wash / Winrock)

**Who’s next (amongst us)?**
Collectively develop project proposals, invitation to joint initiatives