

Final project report: Water harvesting for Multiple Use in Ethiopia (MUSRAIN)



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Graphics used to illustrate this report are taken from the Self-supply acceleration guidelines (all drawn by Tasja van der Veen, Bingo! graphic design).

This report provides a concise summary of the Water harvesting for Multiple Use in Ethiopia (MUStRAIN) project, including the activities undertaken and its achievements and outcomes. Links to all project outputs and a summary of the project finances are included.

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The MUStRAIN project at a glance

Project partners:

Netherlands: IRC International Water and Sanitation Centre, Rain, Water Health, Quest-consult
Ethiopia: Ministry of Water, Irrigation and Energy (MoWIE), the Millennium Water Alliance Ethiopia Programme MWA-EP), Catholic Relief Services (CRS), Research-inspired Policy and Practice Learning in Ethiopia (RiPPLE), Hararghe Catholic Secretariat (HCS) and others.

Total cost: €440,271

Partners for Water contribution: €352,217

Project Duration: 1 May 2011 to 31 December 2014 (with no cost extension from 30 April 2013)

Phase 1: 1 May 2011 to 31 December 2013 (with extension of some completion activities into 2014)

Phase 2: 1 January 2014 to 31 December 2014

Background

The MUSRAIN project involved the Dutch-based partners IRC International Water and Sanitation Centre (a foundation), the RAIN Foundation, and specialised private sector water consultancy businesses, Water Health and Quest-consult, working in Ethiopia with the Ministry of Water, Irrigation and Energy (MoWIE), the Millennium Water Alliance Ethiopia Programme (an alliance of NGOs), the NGO Catholic Relief Services (CRS), RiPPLE (a local NGO focused on water sector and knowledge management), the Hararghe Catholic Secretariat (HCS) and other local organisations.

The project, concluded at the end of 2013, focused on developing opportunities for multiple use water services in Ethiopia linked to innovative water harvesting technologies and household-led investment in water supplies (Self Supply). The aim was to develop new approaches that better support water and food security: two critical and interrelated issues. The project was generously supported by the Partners for Water Programme.

What are Multiple Use water Services?¹ People living in rural and peri-urban settings need water for drinking, cooking, washing, sanitation, watering animals, growing food and generating income. Multiple-use water services (MUS) cater to these various needs. MUS is not new and often privately-owned household-level water supplies and traditional water supply schemes already function like this. But many modern approaches and practices of sector professionals do not, with fragmented interventions across water, agriculture and health sectors common. What is new is the focus on systematic approaches that can be scaled up. The MUSRAIN project contributed to that effort.

What is water harvesting?² Water harvesting is the collection and storage of water - including rainwater, runoff, groundwater, and waste water – making it locally available for use. Practices tend to emphasise low-cost technologies.

What is Self-supply?³ Self-supply is improvement to water supplies developed largely or wholly through user investment by households or small groups of households. This service delivery model is complementary to communal water supply, and provides convenient water supplies that are often used for multiple uses including drinking, other domestic uses, livestock and household irrigation. Self-supply is promoted through demand creation, development of private sector capacity and supply chains and promoting access to loans and savings. Typical technologies associated with Self-supply include hand dug wells, manually drilled wells, rope pumps, mechanised pumps, household water treatment and storage and rainwater harvesting.

¹ Read more about Multiple Use water Services (MUS) at the MUS group website: www.musgroup.net

² For more information see ‘Smart water harvesting solutions’ at www.arcworld.org/downloads/smart%20water%20harvesting.pdf

³ As defined in the National Policy Guidelines for Self-supply. See www.irc.nl/page/81564

Project outline

Objectives

The goal of the partnership activity was to address the critical water problems in water scarce rural areas of Ethiopia by collaboration, implementation of innovative and alternative solutions and exchange of knowledge and mutual learning.

Specific objectives of the project (as updated in December 2012) were to:

1. Develop and sustain partnership through effective project management and engagement of stakeholders
2. Promote/construct and test a range of demonstrations - MUS specific, low cost and context appropriate – including 2 rainwater harvesting structures for community level MUS and Self-supply in 2 *woredas* (districts) for household level MUS - to showcase the potential of different water access technologies in combination with the MUS approach during the project period.
3. Lay the base for wider uptake, by studying the increase in income generation activities and analysing the cost-benefit relations and opportunities/constraints for replicable water access/MUS models to promote scaling up of the approach in different contexts within Ethiopia.
4. Provide 200 sector professionals with training in MUS to develop the capacity to undertake future MUS activities including rainwater harvesting and Self-supply approaches.
5. Create awareness and stimulate mutual learning and exchange among national stakeholders concerning MUS (including rainwater harvesting and Self-supply) through engagement in events and platforms, information dissemination and development of guidelines for MUS in different contexts of Ethiopia.

Focus and phasing

In the **first phase** (2011-2012 with follow-up activities in 2013), the partnership carried out research and demonstration activities focused on the development of **water harvesting** for communal multiple-use schemes (i.e. irrigation, livestock and domestic uses) in very arid environments around Dire Dawa. This was based on the exploitation of river bed aquifers through sand-dams and sub-surface dams.

In the **second phase** of the project (2013) the partnership focused on piloting **Self-supply acceleration** to encourage household-led investment in family wells. Here, the technology focus was on the development and safe use of shallow groundwater through hand-dug wells, manual drilling, related lifting technologies and Household Water Treatment and safe Storage. Working with the Ministry of Water, Irrigation and Energy and regional governments in Oromia and SNNPR, the project supported policy development, piloting of approaches and planning.

The project also undertook supporting networking, research and capacity building activities and generated a range of knowledge products. This included developing a series of case studies based on research of multiple use water services in Ethiopia, guidelines and training materials, and awareness raising materials including short films.

Roles of partners

The IRC International Water and Sanitation Centre is a ‘think-and do tank’ focused on the WASH and IWRM sectors but with a strong interest in cross-sectoral approaches to development and a background as a founder member of the MUS group. IRC were responsible for research and knowledge management activities, with specific thematic interests in multiple uses of water and Self-supply, as well as overall project management.

The RAIN foundation led the implementation of demonstration activities on water harvesting with a technology focus on sand dams and sub-surface dams.

Water Health joined the project in 2013 to provide additional research expertise, and specifically focused on the development of a series of MUS case studies.

Quest-consult joined the project in 2013 to provide additional operational expertise in Ethiopia with a focus on implementation of demonstration and training activities relating to Self-supply.

The project partnered with key Ethiopian organisations to support the implementation (and ultimately aiming to support scaling-up) of demonstration and other activities. The knowledge-focused NGO, RiPPLE, were the lead Ethiopian partner working with the implementation-focused NGO HCS on the water harvesting demonstrations.

The Millennium Water Alliance Ethiopia Programme (MWA-EP) became involved in the Self-supply acceleration pilots, and particularly its member NGO, CRS, which supported piloting in one woreda (district). The project worked with government at federal and local levels, including the Dire Dawa government in relation to water harvesting demonstrations. The Self-supply acceleration demonstration activities were undertaken with the federal Ministry of Water, Irrigation and Energy, regional governments in Southern Nations, Nationalities, and Peoples' Region (SNNPR) and Oromia, and local government in the 3 pilot woredas.

Project design, planned activities and modifications

The initial project design included a combination of 5 main activities: 1) partnership development and project management, 2) demonstrations, 3) supporting research, 4) training and 5) engagement and dissemination activities. A key element in the design was the allocation of significant budget to the lead Ethiopian partners RiPPLE, with project management, advisory and supervisory roles being key functions of IRC and RAIN.

During the inception phase some of the key decisions taken were to focus on a relatively narrow set of water harvesting technologies i.e. sand dams and sub-surface dams, and to plan the linked research and demonstrations around a 3+3+3 model. This meant: 1) doing research to learn lessons at 3 existing sand/sub-surface dam sites with a focus on sustainability issues and benefits 2) demonstrations at 3 further sites with a ‘hands-on’ approach i.e. high levels of support from RiPPLE and RAIN to the sub-contracted implementation partner HCS (and related research in parallel with an emphasis on costs), and 3) demonstrations at 3 further sites with a more ‘hands-off’ approach and involving either the same or other implementing partners. The intention was to encourage movement towards uptake of the ‘sand/sub-surface dam for multiple uses package’ by other NGOs and government.

The project faced several operational difficulties and delays during its first year. At a mid-term review meeting in May 2012, implementation problems with the project affecting some project partners were discussed and options flagged including the possibility of a no-cost extension and bringing in additional

partners to ensure a successful project. Especially at RiPPLE, which had gone through an institutional change from programme within the NGO HCS to an independent organisation in early 2012, some re-planning of activities was required. Implementation problems continued nevertheless with long delays at the demonstration sites, escalating demonstration costs and failure to complete some of the supporting activities in research, training and dissemination.

Modifications to the project design were made towards the end of 2012 and a project extension granted until the end of 2013. While remaining in line with the overall project goal, the modifications included: limited changes to the project objectives; an additional technology focus/approach for the demonstrations i.e. Self-supply acceleration to promote low-cost groundwater development; and, additional partners. Provision was also made to ensure completion of the works started on the water harvesting demonstrations. This included retaining the original €96,000 budget, and directing this budget to two rather than six sites (recognising that one of the sites at Kenchera was a very large sub-surface dam and much larger than the originally intended structures). The two sites are known as Kenchera (sub-surface dam) and Gende Roba (sand dam).

Construction works at the demonstration sites remained slower than planned during 2013 with several deadlines missed, further damage during floods, changes in project staffing and a tragic fatal accident at the Kenchera site. In response, towards the end of 2014, additional budget was allocated to RAIN for supervision to provide further support to the implementing partners. The financing and reporting arrangements for completion of the demonstration works at these two sites were also simplified, with HCS reporting directly to RAIN rather than being sub-contracted by RiPPLE.

At the same time as the focus was broadened to include Self-supply acceleration, the outstanding research, training and engagement activities were also modified. This included broadening the research to a focus on MUS based on different technologies and approaches across the country (8 case studies) rather than solely research focused on mainly sand or sub-subsurface dams and multiple uses.

1) Water harvesting from ephemeral rivers



The collection of water from scoop holes in sandy river beds is a common practice. Other water supplies are not available, convenient, or broken down. The potential for augmentation and improved utilisation (for multiple uses) of the water held in river bed aquifers provided the basis for piloting improved sand-dam and sub-surface dam construction methods.



Bishan-bahe (where the water comes out) was reconstructed in 2010 by HCS after flood damage (it was built in 1993). There is a very wide sand dam with an infiltration gallery and canal to the irrigated fields. Hand dug wells and boreholes for domestic supply are recharged by the structure. The community need help from government/NGOs for even minor maintenance and the scheme potential is under-utilized.



Sand and sub-surface dam design requires careful measurements such as the depth and porosity of sand. Research at this existing site included estimating the cost and storage capacity of the sand dam. At Kenchera, cost over-runs resulted from errors in measurement of depth to bed rock.



The Kenchera sub-surface dam will be 178 m long with an estimated capacity of 51,000 m³. Related infrastructure includes an infiltration gallery, two intake wells with diesel pumps, two reservoirs, irrigation canals (irrigating 5 ha) and domestic and livestock water points.



Almost complete sand dam at Gende Roba with work being completed on the front wall. Sand dams are constructed above-ground and fill with new sediment creating a deeper sand aquifer. The dam can be raised, capturing more sand and increasing the storage capacity.



Reconstruction of a section of the sub-surface dam at Kenchera and a completed domestic water supply tapstand linked to the system (January 2014).

2) Self-supply acceleration to safely develop shallow groundwater



Shallow groundwater is widespread in large parts, although not all, of Ethiopia. While nearby, this resource is often underutilised. Where wells have been developed by families they typically support multiple uses (drinking, other domestic, livestock, household irrigation), but are generally poorly protected and water quality is not as good as it could be.



Improved lifting devices can be simple like this rope and pulley. It makes drawing water easier and safer. Saouda, says she fetches water for her family every day when she is not going to school. She uses it to water the trees in the garden, including the orange tree. According to the family, the water from the well is clean for drinking and preparing food.



Uptake of household irrigation (< 5 ha) with 'one family, one well' being promoted for agriculture could drive much development. Irrigation wells are often used for drinking water supply when needed and more convenient, but they are rarely protected or maintained properly, meaning water quality may be poor and unsafe for drinking.



Makethewe is pumping water using her family's rope pump. Her father, Tadesse, bought the pump with the help a small loan that he paid back within 6 months. Rope pumps make it easier to pump water for household irrigation, and properly installed can improve water quality too. Lots of people come and visit Tadesse's farm to see his rope pump and crops.



Medannet collects water for her family from different sources. Her neighbour has a rope pump which she can use freely just like other people. Her family uses the water for their household needs and not for the farm. If there is no water there, she collects water from a spring. That water source is polluted and not good for drinking. For the cows, Medannet fetches water from an open well.



Under Self-supply, families pay for and develop their own water supplies. But government and the private sector have critical roles. Local government officials need to promote Self-supply creating demand amongst households, encourage more lending by micro-finance institutions and provide technical advice and support to families and the private sector (such as well diggers or rope pump manufacturers).

Progress with activities and outputs

A summary of the activities and completed outputs is included in the ‘summary table: activities and outputs’ at page 11. At the conclusion of the project, most of the activities have been satisfactorily completed and some have resulted in highly successful outcomes as discussed in the next section. Progress with the key activities and major activities is discussed further in this section. However, a few activities were not completed or only partially completed as highlighted in the summary table.

At the heart of the project were the two demonstration initiatives on 1) water harvesting from ephemeral rivers and 2) Self-supply acceleration.

Demonstrations: water harvesting

Two schemes, one large sub-surface dam (at Kenchera) and one sand dam (at Gende Roba) remained near but not complete during January 2014, more than two years after their initiation. The challenges faced in the implementation of works at these two sites is discussed in detail and lessons learned are summarised in the Case study 1 (Water supply from sand rivers for multiple uses). Plans have put in place for eventual completion of activities beyond the timeframe of the project with additional funds committed by RAIN and HCS. There remains considerable optimism that these will prove to be effective schemes for multiple uses with Kenchera believed to be the largest dam of its kind in sub-Saharan Africa. However, an overall conclusion is that the wider development of sand- and sub-surface dams for multiple uses faces some critical challenges.

Building dams in sand rivers and the associated schemes is time and capital intensive, requiring high levels of human resource capacity for planning, design, implementation and subsequent support. The complexity of delivering such schemes in remote locations, combined with a need for high level of skills and expertise are significant challenges in taking these interventions to scale in Ethiopia.

Furthermore, there is a general lack of knowledge and policy support for multiple use schemes in general and specifically for sand-dam and sub-surface dams. Multiple use water schemes tend to fall between mandates in water supply and small-scale/household irrigation which are under different line ministries at federal level. The Dutch-funded Ethiopian WASH Alliance has supported replication of the sand river dams, involving the same partners (RAIN, RiPPLE, HCS) and other NGOs are experimenting with the approaches. However, there is no evidence yet of significant uptake of this particular mix of technologies and approaches by either the government or NGOs.

Similarly, there are challenges in ensuring financial and institutional sustainability. Sub-surface dams, sand dams and associated diversion structures and other works can be damaged during floods. Other aspects of such schemes require regular maintenance which is always a challenge in communal settings. There is a need for institutional structures to ensure financing of all life-cycle costs, and generally these are absent or weak with NGOs required to cover major maintenance or rehabilitation costs.

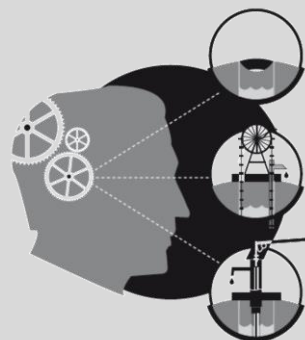
The benefits of productive uses at these sites depend on land and livestock ownership. The number of beneficiaries of irrigation projected at the two demonstration sites is very small as not all land holdings were suitable for irrigation from the dam. Hence the revenues generated from productive uses of water may not be widely shared. Benefits from livestock may be more equitably distributed and were specifically planned for in the project design.

Demonstrations: Self-supply acceleration planning

A comprehensive Self-supply acceleration approach was developed and planning piloted in two regions (SNNPR and Oromia) and three woredas (Meskan in Gurage Zone, SNNPR; Dudga in East Showa Zone, Oromia; and Ejere in West Showa Zone, Oromia). Self-supply acceleration activities – all software rather than hardware activities - aim to create the local conditions for investment by households in their own infrastructure.

Key elements of the Self-supply acceleration approach, as set out in the guidelines developed, are

- Part 1: Assessing potential
- Part 2: Creating demand
- Part 3: Supporting technology choices
- Part 4: Promoting private sector involvement
- Part 5: Supporting access to finance
- Part 6: Strengthening coordination, innovation and learning
- Part 7: Compiling a Self-supply acceleration plan
- Part 8: Monitoring implementation



In some ways, the Self-supply acceleration piloting was less ambitious than the water harvesting demonstrations. It did not directly involve construction activities. This is the nature of the intervention and government policy, since hardware (wells, lifting devices, household water treatment and storage) are developed by households themselves. It is responsibility of government and its partners to improve supply and demand, create a better enabling environment and improve access to finance through Self-supply acceleration. The demonstration activities, being limited to less than 6 months, were also restricted to planning, capacity building and awareness raising activities.

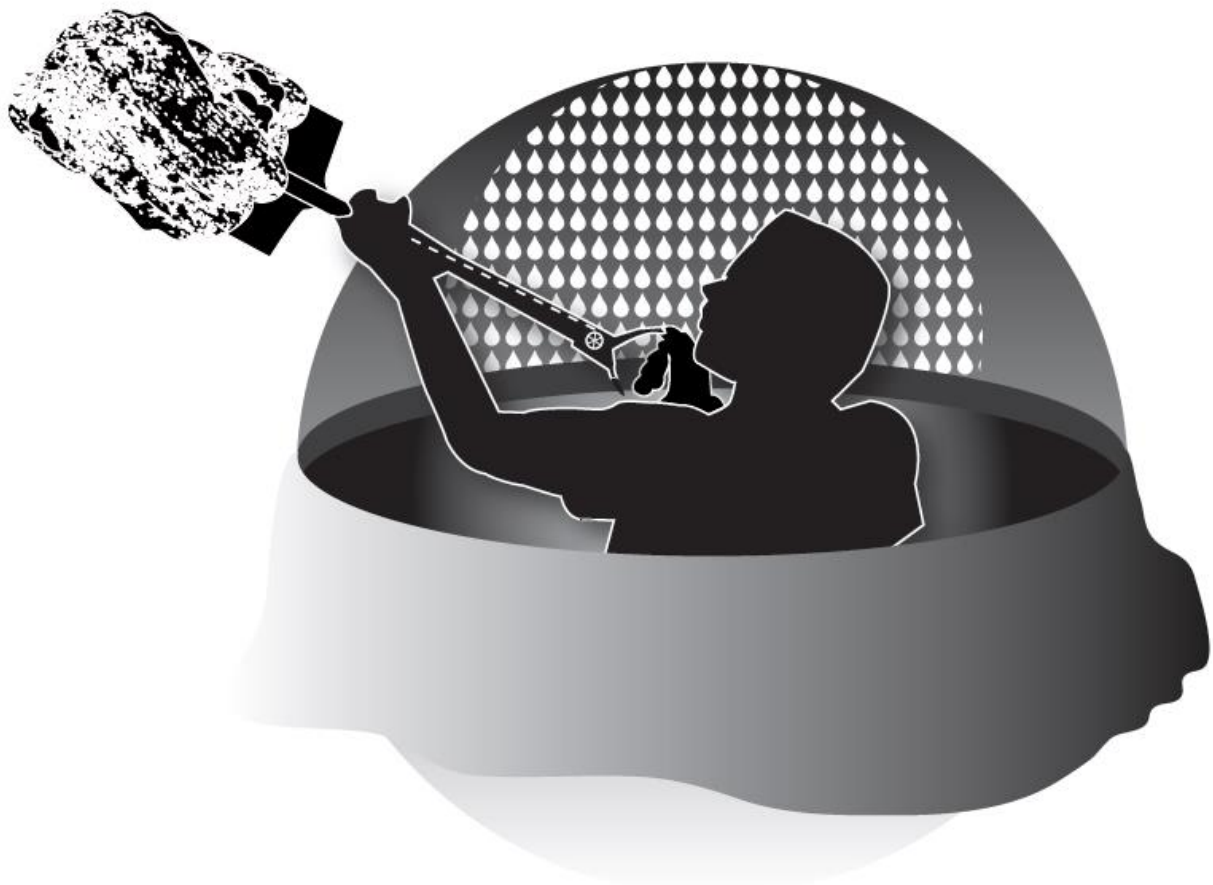
The planning focused demonstrations could also proceed with strong government support, from the MoWIE at federal level and the Bureau of Water Resources (SNNPR) and Bureau of Water, Mines and Energy (Oromia) in the regions, building on the 2012 policy guidelines for Self-supply (which also recognised the importance of multiple uses of such supplies). Dutch embassy support in 2013 was also supportive in further assisting MoWIE to develop its Self-supply acceleration programme. However, worked out implementation models were lacking for the approach, and it was this gap that the MUSRAIN project was able to address.

With regional and federal government participation (including a joint development workshop and testing in two training courses) a Self-supply acceleration approach was developed and a planning-focused guideline prepared. A supporting technical guideline was also developed. The draft guidelines provided the basis for piloting, initially focusing at woreda level. In the second half of 2013, cross-sectoral teams from each woreda were trained and developed a draft Self-supply acceleration plan for their area. Follow-up visits by project staff supported further development and completion of these plans, and facilitated the initiation of initial activities under the plans. This included, for example, an exchange visit by local government staff from Meskan district in SNNPR to Ziway in Oromia to see aspects of the Self-supply approach (including manual drilling and rope pumps) in that area.

Although each woreda developed a Self-supply acceleration action plan and linkages were developed in order to support implementation, this process proved slower than anticipated and few activities under the woreda plans had been implemented at the end of 2013. Critical lessons were learned about the levels of

facilitation and support required at woreda level, and the need to integrate plans into woreda WASH plans and budgets (before the start of the new financial year in September each year).

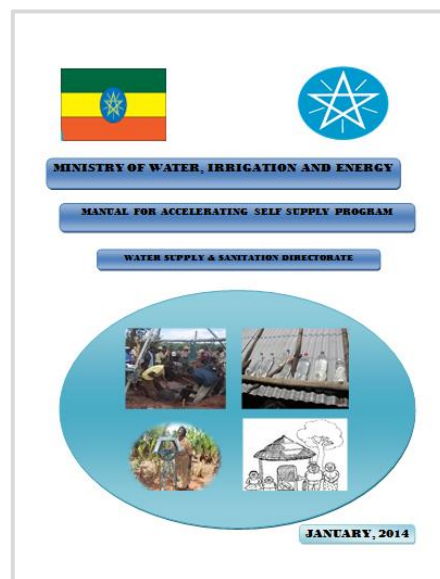
At regional level, developments were more rapid. The project supported the uptake of Self-supply acceleration in Oromia region specifically through participation in the 1st national Self-supply acceleration training course held in September 2013. Staff from SNNPR participated in most demonstration activities and towards the end of 2013, also had put in place an ambitious regional plan for Self-supply acceleration. The second training course was located in Hawassa in SNNPR to support this effort, and included participation of staff from all zones across the region. A related activity was to develop and test awareness raising materials to support the planned regional information campaign.



Project achievements and outcomes

The Self-supply acceleration approach developed is taken up by the Government of Ethiopia

- Two approaches to water harvesting for multiple use water supply have been further developed. Development of implementation approaches and piloting of Self-supply acceleration (the focus in the final year of the project) linked to household-led investment in groundwater was able to progress the fastest. Here the project could achieve concrete impacts on government policy and guidelines, with budgets committed to implementation at scale using the approaches developed by government at national and regional levels and major NGOs. While the piloting of sand-dams and sub-surface dams for communal multiple use schemes in very dry zones proved the most challenging and problematic in terms of implementation and uptake, important lessons have been drawn that could support further research and development⁴.
- The Self-supply acceleration approach developed is set out in two guidelines (planning and technical) that have been tested in training courses and then used to develop a Ministry of Water, Irrigation and Energy Self-supply manual.
- Based on the approach, two regions (SNNPR and Oromia) have already launched implementation programmes. The expectation is that Self-supply can fill gaps in water supply left by other service delivery models, particularly as it unlocks another sources of finance, household investments. In Oromia, the activities aim to reach 6.3 million people including 11000 upgraded and 35000 new hand-dug wells respectively. In SNNPR, the regional activity is intended to trigger actions that will led to development of new water supplies (mainly hand dug wells) by 40,000 households and 16,000 small-groups in the region serving a total of 1 million people through the Self-supply approach.



The Multiple Use water Services (MUS) approach taken up by large alliance of NGOs

- The Millennium Water Alliance Ethiopia Programme (MWA) and its members, which include large INGOs such as Care, CRS and World Vision, started to take up ideas as a group relating to MUS early in 2013 and training courses for the alliance have used MUSTRAIN outputs and case studies.
- IRC with Quest-consult were awarded a contract by MWA (value USD 45,000) with funding from The Coca-Cola Africa Foundation RAIN project to advise MWA members Wateraid Ethiopia, World Vision and CRS in the deepening of their project area interventions through a MUS approach.
- MUS approaches are included as an important element of the second phase (from July 2014-June 2017) of the Millennium Water Alliance Ethiopia Programme with expected funding from the Conrad. N.

⁴ See case study 1 for full discussion of the lessons learned.

Hilton Foundation. One of six strategic objectives is on ‘domestic and productive water supply’ with IRC expected to work with members on MUS approaches as part of this programme.

Dutch-partners will support further implementation of Self-supply acceleration at scale

- The Self-supply acceleration approach developed is also the basis for proposed implementation in 3 regions (SNNPR, Oromia and Amhara) by the Millennium Water Alliance Ethiopia programme (as another strategic objective) which in its second phase has committed to investing USD 1.37 million in the approach. This includes a coordination and policy work-package that will be implemented by IRC with value USD 0.45 million, and investment of USD 0.5 million by the Dutch NGO Aqua for All in private sector development, technology introduction and micro-finance activities. This will also include implementation by some large NGOs including Care, CRS and World Vision.

New collaborations developed and deepened between IRC, RAIN and consultancies like Meta Meta, Water Health and Quest

- Strong collaboration has emerged through project activities between the JICA-funded WAS-RoPSS project, which is embedded in MoWIE and includes substantial implementation of activities by the (Dutch-owned) consultancy company Meta Meta. IRC are now collaborating regularly with JICA and Meta Meta project staff, for example in the development of a Self-supply website and the Self-supply newsletter. This in itself was an achievement i.e. to move away from individual project focused communications to some joint communications on Self-supply including inputs from various projects. Meta Meta staff also supported joint delivery of training in Self-supply acceleration, and is also able to replicate such training using the guidelines developed.
- As a spinoff of networks developed during the project, IRC and Water Health have started to implement a field study on safe household water treatment and storage with American funding in Ghana (value 70,200 Euros).
- Quest (a Dutch consultancy with a branch in Ethiopia) implemented the second-phase MUSRAIN project activities in Ethiopia. This was considered highly successful, and the IRC has decided from 2014 to host its country programme within Quest-Ethiopia. This means that Quest-Ethiopia provide the local staff, consultants, logistic and administration services required with an expected volume of activity of 0.5 million Euros in 2014. Furthermore, based on this experience, the Millennium Water Alliance has also decided to move its Ethiopia secretariat to be hosted at Quest (estimated contract value 580,000 USD over 3 years).
- Building on the project a regionally-focused (Ethiopia, Uganda, South Sudan and Kenya) partnership and proposal for Self-supply acceleration was developed involving IRC, Aqua for All, Connect International, the SWISS SKAT foundation and RWSN (hosted by SKAT). While it has not yet proved possible to secure financing for this activity, feedback has been positive (e.g. from Royal Netherlands Embassies and governments in each country). It is the intention that this will lay the basis for a proposal to the Sustainable Water Fund by IRC, Aqua for All, Connect International and other partners.
- During the project, Water Health and the RAIN foundation discovered common interests and are now preparing a project proposal for collaborative work in Uganda on wetlands for groundwater recharge.

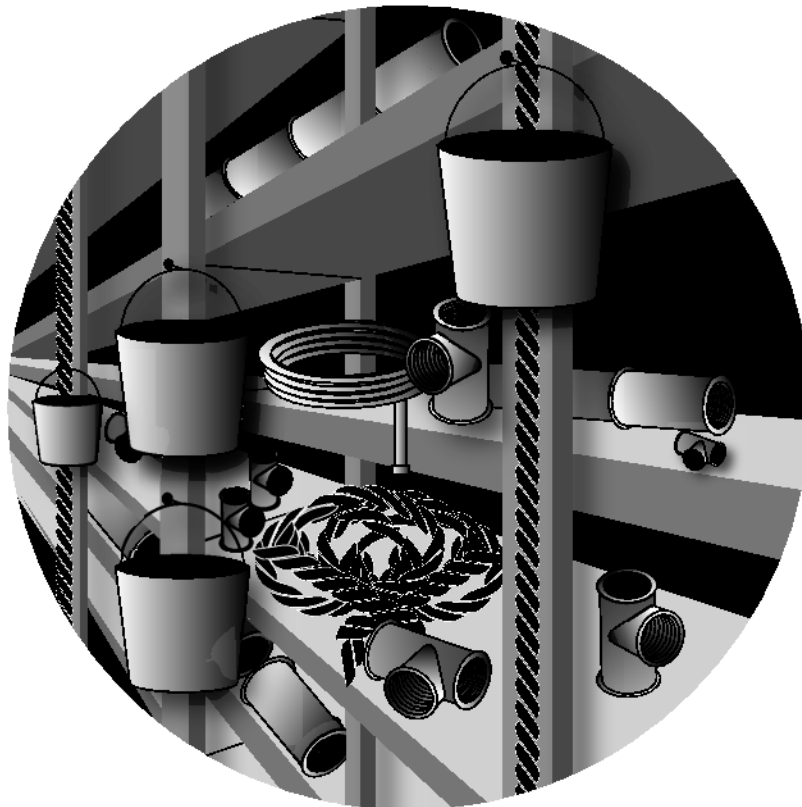
Links to further information

www.ircwash.org/projects/mustrain: project website with final outputs including MUS case studies and films. Please note that the IRC website will be re-launched in March 2014 with project outputs featured under Ethiopia and water security pages.

www.musgroup.net: website managed by the multi-stakeholder MUS group which is featuring several outputs from the MUSRAIN project.

www.rainfoundation.org: website of the RAIN foundation with links to MUSRAIN project webpages.

<http://waterhealth.nl>: website of the consultancy Water Health with links to MUSRAIN project activity and case studies.



Summary table: activities and outputs

Activity	Key outputs	Comments	Links
Project management			
Day-to-day coordination			
Project meetings	Internal reports		
Narrative and financial reporting	Final project report	Complete, although there were challenges with all partners reporting on time using developed reporting formats.	www.ircwash.org/projects/mustrain
Demonstrations			
Water harvesting from ephemeral rivers	Two (partially completed) schemes. One large sub-surface dam (Kenchera) and one sand dam (Gende Roba).	Progress and lessons learned summarised in case study 1 (Working paper not published but used as basis for case study). Plans put in place for eventual completion outside frame of project with additional funds committed by RAIN and HCS.	www.ircwash.org/news/water-sand
Self-supply acceleration	Comprehensive planning process completed in two regions and three woredas (including three woreda action plan, and regional action plan for SNNPR).	Uptake of approach developed within two regions, and embedded within national Self-supply guidelines.	
Research			
Research at existing sand and sub-surface dam sites on costs/benefits.	Working paper drafted (but not published).	Some insights used to inform case study 1.	www.ircwash.org/news/water-sand
MUS case studies	8 MUS case studies published covering a range of contexts and approaches	<ol style="list-style-type: none"> 1. MUS from sand rivers 2. MUS and Self Supply 3. Mechanized pumping and MUS 4. Ecological sanitation for MUS 5. Greywater reuse for MUS 6. MUS and livestock 7. MUS and the Community Managed Project (CMP) approach 8. MUS and manual drilling 	www.ircwash.org/projects/mustrain
Short advocacy films	3 short advocacy films completed and published. All the films focus on Self-supply and links to MUS.	<ol style="list-style-type: none"> 1. The Business for WASH: how Micro-Finance Institutions can do more to support access to water and its productive use. 2. Self-supply: a new approach to help supply everyone with safe water. 3. A hidden resource: supporting 	www.ircwash.org/news/video-making-business-case-water and www.ircwash.org/projects/mustrain (see videos)

		people to develop their own water supplies (with focus on SNNPR region).	
Training			
Support to GLOWS training programme	Fully updated and revised training module produced within the GLOWS series.	The module is expected to be used by different stakeholders using the GLOWS approach (including Dutch WASH alliance, SNV, UNICEF etc.).	www.ircwash.org/resources/gloWS-training-module-learning-about-multiple-uses-water www.ircwash.org/resources/gloWS-training-module-learning-about-self-supply
Short training/training-of-trainers courses	1 st national Self-supply Acceleration training (25 participants) held Butajira in September 2013 (3 days) 2 nd Self-supply Acceleration (and Training-of-trainers coaching) held December 2013 (4 days; 33 participants)	Two additional training events for the Millennium Water Alliance used MUSRAIN project approaches (1 day training in February 2013 and 2 days training workshop in January 2014) involved 40 participants. It was not possible to complete a planned RWH & MUS training within the project period. This is planned by Rain in 2014.	www.ircwash.org/news/second-self-supply-acceleration-training-ethiopia
Engagement			
Seminar on MUS in East Africa	MUS seminar in the context of Dutch policy and practice co-organised 26 June 2013 in the Hague	Included presentation of MUSRAIN case studies and sand/sub-surface dam demonstration projects.	
Seminar on MUS in Ethiopia	Co-organised FLOWS (Forum for Learning on Water and Sanitation) seminar on 28 November 2013 with project inputs focusing on Self-supply and MUS (two presentations).	FLOWS is a national series of seminars coordinated by RiPPLE and provided a forum to further mainstream MUS approaches and especially Self-supply acceleration.	http://www.ircwash.org/blog/examining-highly-decentralised-water-supply-provision-ethiopia
Participation and inputs to events within Ethiopia and internationally	The project organised a half-day session on Self-supply, and made input to a session on participation, as part of the MUS group meeting held in the Hague on 20 December 2013. The project has made regular inputs on Self-supply and MUS to the 6-monthly WASH seminars organised by the Dutch embassy in Addis Ababa where water and food security links are a recurrent theme. Monthly meetings of the Self-supply working group organised and co-chaired.	At the end of 2013, the project supported MoWIE and the JICA WAS-RoPSS project to develop a Self-supply newsletter and plan for Self-supply website.	www.musgroup.net/home/meetings_and_events/thematic_group_meetings/meetings_2013/december_2013_the_hague

Summary table: expenditure

Overall	
Total budget	€448,831
Total expenditure	€440,271 (98%)
Contributions	PvW: €352,217 (80%) Project partners: €88,054 (20%)
Expenditure by partner	
IRC	€119,117 (27%)
Rain	€65,500 (15%)
Quest-consult	€104,602 (24%)
Water health	€22,200 (5%)
Other (RiPPLE and HCS)	€128,822 (29%)
Note:	Additional contributions to project activities were made by MoWIE and CRS but are not reflected in these expenditure figures.

