In Uganda the number of people with access to safe water and sanitation has improved considerably over the past 10 years, although there are still many communities that rely on contaminated water sources, such as streams and open wells. More than half of all residents in Uganda do not have access to improved sanitation, sharing overcrowded pit latrines or practicing open defecation. The lack of safe drinking water, hygiene and sanitation facilities are strongly influencing the wellbeing and health of the Uganda people.

To address this challenge, we need to drastically change the way we approach WASH. Traditional solutions focused on building infrastructure, are not sustainable and cannot meet the needs of a growing population.

**WASH Alliance Uganda**

It is our mission as WASH Alliance Uganda to change mindsets and create systems for sustainable and affordable WASH services that can accelerate. This is the only way to adapt to fast population growth. A guiding principle in our work is therefore facilitating the development of a system in which all stakeholders, such as businesses, governments, citizens and NGOs work effectively together.

**Our work in Uganda**

As a result of our work in Uganda between 2011 and 2015, 140,000 people use improved sanitation facilities and 190,000 use improved water resources. We were able to deliver these results through strategically combining sanitation and hygiene promotion, Integrated Water Resources Management, strengthening the water sector through training and capacity building, private sector development and policy influencing. In a period of 5 years we have reduced the costs per person to get access to WASH from €60 to €18.

"AS A RESULT OF OUR WORK IN UGANDA BETWEEN 2011 AND 2015, 140,000 PEOPLE USE IMPROVED SANITATION FACILITIES AND 190,000 USE IMPROVED WATER RESOURCES"

**Sharing knowledge**

We believe that sharing knowledge, expertise and lessons learned lies at the foundation of realising sustainable access to WASH services for everyone in Uganda. It is for this purpose that we have developed this WASH Alliance Uganda Best Practices publication. We hope it will inspire others to change their WASH approach and start building systems for sustainable and affordable WASH services that can accelerate.

**Acknowledgements**

Finally I want to thank all partners for supporting me with developing this publication...

Looking forward to accelerate WASH with you,

*Rashidah Kulanyi,*
*Country Coordinator WASH Alliance Uganda*

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The WASH Alliance Uganda is part of the WASH Alliance International. For more information, visit our website [www.washalliance.nl](http://www.washalliance.nl) or contact us via [info@washalliance.nl](mailto:info@washalliance.nl)
1. Water for production
2. Environmental landscaping through a 3R approach
3. Emesco’s Intervention was a Turning Point for the Lubaya Community in Bwansa Sub County
4. Water and Sanitation Improvement Transforms Lives of Rural Communities – A Case of Miss Petitalina Ganyana
5. Demonstration of rainwater harvesting for sustainable livelihoods
6. JESE improving WASH in school through health clubs
7. Closing the distance to safe water in Aria Village – Pader District
8. Empowering women for climate change adaptation and WASH
9. Using the Diamond Approach to improve sanitation in four urban councils in the Rwenzori region
10. Dialogue as a tool in advocating for utilization of every raindrop
While the earth population is rapidly growing, our effort to feed this large group of people is being confronted with many aspects such as loss of arable land due to climate change, increasing water shortages, pest and diseases and use of farm land for other purposes at the expense of farming.

In Uganda, although there is still plenty of arable land and fresh open and underground water sources, the majority of farmers is entirely reliant on rainfall as a means of agricultural production. In addition, with the current climatic change challenges characterized by hot temperatures and erratic rainfall, smallholder farmers face poor agricultural output due to prolonged dry spells or flooding leading to food shortages, negatively influencing food production in our project areas.

It is out of this noble cause that WASH Alliance partner AFSRT, as a pilot phase project in 2013, designed plan to increase farmers’ understanding on water for agricultural production and to promote simple water harvesting technologies that are cheap and gender sensitive to support smallholder farmers in irrigating their gardens. Water is harvested from different sources including direct rainfall, surface run offs, open wells, unprotected springs, roof catchment, underground water and ponds. This Water for Production project provides strategic measures as it helps to sustain the livelihood of smallholder farmers who are less shock absorbent due to the effects of climate change.

These technologies have been tested on kitchen- and back yard gardening for growing vegetables and are working well. The water harvesting technologies include Ferro-cement tanks, plastic tanks, community reservoir dams, percolation pits and runoff ponds among others. While in the process, AFSRT places special emphasis on environmental and social sustainability.

The harvested and stored water is then used to irrigate vegetable crops in backyard and kitchen gardens through technologies such as rope and washer pumps, treadle pumps, and watering cans, which has enabled them to produce vegetables throughout the year. As a result, Water for Production approaches have gained popularity among smallholder farmers in the Alebtong district as it provided an opportunity to sustain their production even during rainfall scarcity periods, leading to improved food security, nutrition and hence better livelihoods.

One of the challenges in the approach is that some of the technologies used are found expensive. To address this, in 2014 AFSRT, supported the community to locally fabricate some of these water harvesting and irrigation technologies in order to make them more affordable and suitable for local use thereby reaching many farmers. A limiting factor remains that there are not enough fabrication tools such as lathe machines to produce water harvesting kits at a faster pace.

The experiences of Mr. Okullo Pe Okwano, one of the farmers in Omoro sub county, Alebtong district, in the Water for Production project:

"I used to grow tomatoes and cabbages two seasons a year between March and August however, short dry spells would wither my plants resulting in low harvest and sale. But after acquiring a treadle pump from AFSRT and digging a small dam in his garden with the help of training I attended, I am able to grow vegetables with more ease because of available irrigation water without mining of dry spell stress and his production season has increased to 3 times a year and subsequent increase in yields and my sales significantly. Now I am able to produce vegetables in dry season when prices are good: in wet periods tomatoes flood the market and a box of tomatoes goes for between 7000 to 9000 UGX. In dry seasons around January, February and March, however, a box goes for as high as 28,000 UGX to 30,000 UGX."

District: Alebtong district
Partner: AFRST, ICCO
Tags: access to water, multiple use, food security
ENIRONMENTAL LANDSCAPING THROUGH A 3R APPROACH

The Rwambu catchment is located in a transboundary water catchment bordering the districts of Kamwenge and Ibanda in Western Uganda. It is made up of a wetland situated in the valley and surrounding hilly areas. Like many other catchments in Uganda the Rwambu catchment is facing a multiplicity of ecological challenges. Uphill of the wetland, there are problems of limited opportunities for expansion of production grounds, visible soil loss through erosion and surface run off and lack of viable sources of water given that the water table dropped drastically. The existing water sources mainly shallow-wells and boreholes were drying rapidly thus people were fetching water from unprotected ponds and open wells. In the downstream there was high rate of water contamination as a result of surface run off from poorly constructed and maintained pit latrines and open defecation in the rocky uphill around the wetland. The wetland itself was under constant threat of encroachment by the nearby community for purposes of agriculture and settlement.

Upon this background, JESE piloted out an environmental landscaping and sustainability program that emphasises integrating 3R (recharge, retention and reuse) and wetland management in a catchment; placing WASH interventions in the wider context of the natural environment; and implementing an approach on integrated and sustainable management of water and waste (-water) flows and resources.

Description of the intervention: 3R (Recharge, Retention and Re-use)

1. Recharge adds water to the buffer and as such it adds water to the circulation. Recharge can be natural – the infiltration of rain and run-off water in the landscape or it can be managed (artificial recharge) through special structures or by the considerate planning of roads and paved surfaces.

2. Retention includes trapping the water and keeping it in storage for another season. In situ retention slows down the lateral flow of groundwater. This helps pond up groundwater and creates large ‘wet’ buffers. In such conditions it is easier to retrieve and circulate water. Retention hence makes it possible to extend the chain of water use. With retention the groundwater table is also heightened. Slowing down or even controlling lateral outflow of the water table affects soil moisture and soil chemistry: this can have a large impact on agricultural productivity.

3. Re-use is the third element in buffer management. The challenge of 3R is to make water revolve as much as possible. Scarcity is not only resolved by managing demand through reduction in use but also by keeping water in active circulation. In managing reuse, two processes are important: the first is to manage non-beneficial evaporation to the atmosphere. Water that evaporates ‘leaves’ the system and can no longer circulate in it. Rather, where possible, one should try the opposite and capture air moisture, such as dew. Another process is the management of water quality, making sure that water can move from one use to another, even as water quality changes in the chain of uses.

What has been done?

To re-instate the ecological functions of the Rwambu catchment, a number of interventions have been undertaken in the uphill, middle hill and downhill of the landscape.

- WASH Alliance partner JESE facilitated the building of cascade check dams, valley dams and sandstone bands to control water run-off. These bands help reduce on evaporation and retain soil moisture. Bands were placed in vicinity of the boreholes to check evaporation as to allow the water to sink into the ground for recharging. As a result boreholes that had dried have been put back to functioning through reparation. In combination with an increased water table in the area, they are now serving water to the community around the catchment. The borehole management has been let out to an entrepreneur as a Water as a Business initiative.
- Partner JESE also promoted multiple use of water through construction of cattle troughs and tapping run-off water from constructed water points. Because of the rocky nature of the landscape, JESE piloted the construction and use of ecological sanitation as an option to control surface and underground water contamination. They also constructed Fanya ju’s and Fanya chini’s to prevent run off and retain soil moisture with in banana and coffee plantations. They also constructed Fanya ju’s and Fanya chini’s to prevent run off and retain soil moisture with in banana and coffee plantations.

Important to note is that the wetland has regained its original ecological functions: its natural boundaries are regained, there is sufficient water to recharge water sources and there is sustained supply of water both in the dry and wet seasons. Animals (bees, birds and monkeys) are back in the wetland, restoring the integrity of the wetland.

Major drivers of the process and success

- Ready support of the local community who were able to realise the importance of the Rwambu trans-boundary wetland and to take on initiatives in this e-pilot.
- Strong coordination with and support of the local authorities specifically the Kamwenge and Ibanda district local governments.
- Development partners including UWASNET who helped in documentation and sharing of the Rwambu e-Pilot program, URWA who assisted in documentation and promotion of Rain and storm Water harvesting technologies.
Key successes
• Regeneration of the catchment boundaries that had been encroached upon
• Restoration of the ecological functions of the Rwambu Wetland, animal such as monkeys and rare birds have regained their habitats
• The water table is stabilising and the water recharge rate for boreholes and shallow wells currently have a constant flow throughout the year
• Promotion of environmental friendly enterprises have boosted household income and improved livelihoods
• Incidences of crop failure due to prolonged droughts have reduced as a result of improved soil moisture

Lessons learnt
• Once Community members have been sensitized about specific interventions and their advantages, they are more willing to adopt them. Some examples: the willingness to take up the ‘Pay as you Fetch’ model on their water points as way of sustaining them using the collected fees; the use of available stones to construct stone bunds for soil conservation; the excavation of a fish pond to boost their household incomes; and the construction of a community access bridge to ease communication and enhance development. Local leaders are also willing to participate and enforce community by-laws.
• People understand that their natural resources are depleting and are willing to collaborate, also because they noticed the adverse effect of groundwater extraction and slash and burn cultivation
• Some measures are labour intensive and not everyone is willing to take them up
• Biological indicators are very difficult to measure, they need time, and they need experts
• Climate change is affecting the expected result, seasonality is changing and the rain seems to decrease

Case Study 1

Fred, Borehole the Caretaker of Water as a Business (WAAB)

The water table in the Rwambu wetland had dropped considerably. Especially during the dry season, springs and shallow wells would dry up, even though the area receives sufficient rainfall. This region improved their water situation considerably by constructing 3R measures, but also by implementing a ‘Pay as You Fetch’ system for collecting water. This system, coordinated by local caretaker Fred Akahurira Junior, is embraced by the community. In spite of earlier failed payment schemes, Fred has been able to motivate the discouraged community to help keep the rainwater harvesting system sustainable.

Farmers had stripped the slopes of Rwambu, giving the ample 700-1000 mm of annual rainwater less time to infiltrate into the ground and leaving most to run downhill along the bare steep slopes. Constructed in the early 1990s by the local government, the borehole at Rwesigire is one of the many whose yield had reduced considerably over the years. “You had to pump several times before the water would come out; because of this the pump usually broke down,” local restaurant operator Ms. Stella Maris Nakimuli recalls. The borehole was abandoned for several years. Before 2013, the community was left with only two options: to collect dirty water from unprotected springs in the wetland down in the valley, or to buy water at 500 Uganda Shilling (0.15 Euro) for every 20 litres from vendors. Most depended on buying water, because the hilly terrain makes collecting water an extremely strenuous task.

In collaboration with RAIN and Wetlands International, the NGO Joint Efforts to Save the Environment (JESE) constructed simple 3R measures (see box) to increase ground water recharge in the area of Rwambu, including afforestation, stone bunds, soil bunds, percolation pits, and check dams. To monitor the changes in the water table, they periodically measured the ground water level in the broken borehole. When the ground water level appeared to be rising progressively one year later, JESE, the local government and the NGO Water for People started the ‘Pay as You Fetch’ system. A private entrepreneur repaired the borehole, fitted it with a water meter, and identified a local caretaker – Fred.

Fred was trained in meter reading and bookkeeping. He collects 100 Uganda Shilling (about 0.03 Euro) for every 20 litres community members collect from the borehole, registering every sale. From the money collected, 20% is saved to make major repairs in case the borehole breaks down. The remaining 80% is managed by the entrepreneur to pay Fred’s salary and to undertake minor repairs and maintenance on the borehole. The community learnt about the system through meetings, and agreed on the price for water together with the other parties involved – five times less than what the vendors charge. With this money, there is no need to wait for government or NGO support when the borehole needs repair, or to collect money from the community as a problem occurs. Now the collected money is available straight away and there will be no need to go without clean water for weeks.

Stella Maris describes how she benefits from the borehole. “I had to buy 60 litres of water every day
at 900-1500 Shilling from water vendors. Now I spend only 300 for the 60 litres. The majority of residents around are happy with this borehole. With 100 Shilling being the lowest denomination of currency in circulation, you could barely buy anything with it, besides small items like a sweet. Now with 100 Shilling you are able to buy 20 litres of water!"

Fred is not just the person who collects fees and manages the books. He is an active and caring member of the community, who functions as the link between the community and the entrepreneur. “At times my customers do not have the money to pay for the water. Then, I sell it to them on credit. The good thing is that they always pay the debt,” says Fred. By being flexible with payment, he motivates them to continue using the borehole as a source of water. Because his wages are a percentage of the money he collects, he remains motivated to attract buyers.

Currently, 16 households collect water from the borehole every day, but the number reduces during the rainy season when people harvest rainwater elsewhere. There are roughly 30 households within the radius of two kilometres from the borehole, so not everyone fetches water from Fred. Some community members are opposed to the idea of payment, arguing that water from boreholes must be free. Some still collect water from the wetland, and those owning bicycles collect water from the free borehole more than three kilometres away at Rwebinonyi. Yet more people are using the borehole than was previously expected.

The Pay as You Fetch scheme in Rwambu shows how previously unsuccessful attempts may discourage community investment in water systems, and how important a holistic landscape approach to water management is. Before the 3R measures improved the borehole’s water table, the community would also jointly pay to repair the pump. But they became frustrated by the reducing volume of water and lost the motivation to pay for repeated repairs. As a result, they were hesitant to pay when the Pay as You Fetch scheme was set up. But Fred’s encouragement, awareness raising meetings on the effects of 3R and the low price of water convinced them to start contributing to this self-sustaining rainwater harvesting system.

Once there was a well in Kinagamukono village, in south-western Uganda. Prolonged droughts and poor infiltration of rainwater into the hilly slopes of Kinagamukono’s farms ensured that this well was dry for long periods. When water was actually available, the well was filled with silt and debris and covered with algae, dead frogs and insects. The well happened to be on Mr Kazaro Kahenano’s land, but was also used by many in the community. Kazaro, hospitable neighbour as he is, not only welcomed his neighbours but also welcomed significant improvements to his well.

Kazaro, 78 years old, is a respected resident of Kinagamukono village. “Our problem is water,” Kazaro said at a meeting organised by the NGO Joint Efforts to Save the Environment (JESE). “If JESE can only give us a safe water source, you will have solved a million problems faced by Kinagamukono people.” His farm of about three hectares housed an open well that he, his family and neighbouring households used to fetch water for domestic use and watering cattle. But the well was not yet a safe water source.

In 2013, with support from the RAIN Foundation, JESE replaced the old hand-dug well on Kazaro’s farm with a protected shallow well. The well includes a cattle trough that taps overflowing water for animals to drink. With the history of dried up water points in the area, JESE supported Kazaro to construct two earth bunds, each about 100 meters long, across the farm upstream of the protected shallow well. This helps to trap runoff rainwater and allow it to infiltrate into the soil and recharge the shallow well. JESE also helped the community set up a committee representing the benefiting households, which organises meetings, carries out maintenance of the well and develops rules to govern its existence.

“It has been two years now that my family and the neighbouring households are enjoying the clean water,” Kazaro says. “To my surprise, the well has never dried up! We attribute this constant flow to the earth bunds that were constructed on my farm upstream of the well to ‘catch’ the runoff. This also improved my pastures. Just look at them, they are all green!” Kazaro explains with a big grin, pointing at the pastures around the earth bunds. Grazing on the green pastures increased his cattle’s milk production from two to 4.5 litres. “Despite my old age, I am able to cater for my family’s needs and even pay school fees for two of my grandchildren. And I feel this is just the beginning of my journey to prosperity.”

Kazaro improved his own livelihood significantly, but this is not what makes him a rainwater harvesting champion. What really makes him unique is his consent to let so many others benefit from the water on his property. “I believe that denying people access to a water source is wrong,” Kazaro states.

Unfortunately, not all water users see it as their responsibility to maintain the well. But Kazaro does not wait for them and takes action himself, even if it means he has to do maintenance activities like slashing and cleaning almost alone. “Water sources should be kept clean,” he believes. The community members did contribute local material and their labour during construction of the well and the soil bunds, and some of them
still support Kazaro on a regular basis. The water user group meets every two months and has established informal guidelines for water users. JESE trained committee members on group dynamics and governance, and record keeping, which will hopefully improve the regulation of community participation in the future.

The improvement of Kazaro’s well was driven by the demand from the community. They understand how the constructed soil bunds improve their environment, and are able to maintain the simple and cheap technology themselves. But most importantly, Kazaro’s well demonstrates the importance of social values in water resource management, and the role one individual can play in that.
As we arrive at the home of Mr. Birungi Julius, we are met by a young man who is very welcoming and happy to see visitors from Emesco Development Foundation. He makes a signal to call his wife who is washing clothes in front of the main house to team up with him to receive the visitors. After a few minutes, the wife meets us, kneels down as local culture demands, and welcomes us to their house.

Birungi Julius is a Community Health Worker (CHW) living in Lubaya community, in Bwanswa Sub-county, in Bugangaizi West County. He is married with four children, of whom two are schooling and the remaining two are still too young for school. Julius says he is very happy to voluntarily serve his community after receiving training from Emesco Development Foundation in 2014, and he is quoted as saying; “Before joining Emesco Development Foundation, I had many health problems and my children would fall sick and I would take a child to Kakumiro Health centre every week. The training received changed the life of my family because hygiene and sanitation levels improved. I smeared my house with alluvial soils, my wife started boiling drinking water and we sleep under treated mosquito nets”.

“The training received changed the life of my family because hygiene and sanitation levels improved.”

Birungi Julius was selected to serve as a CHW by community members and trained to promote community health by Emesco Development Foundation. Lubaya community was having challenges arising from open defecation and therefore cases of typhoid and intestinal worms were rampant in the community. Out of 147 rural households in the community, only seventy three (73) were having good and acceptable pit latrines. His lifestyle and that of the population changed when Emesco Development Foundation started implementing the Integrated Community Health Programme as well as the Water and Sanitation project being implemented in the community.

Mr Birungi Julius is also very happy to have registered tremendous changes as a result of the water source developed by Emesco Development Foundation in Lubaya community. Availability of water has enabled the community members to adopt the culture of hand washing with soap especially after using a pit latrine.

Promoting culture of hand washing in Lubaya community

Julius was also very quick to comment that the water and sanitation programme had reduced water related diseases like diarrhoea and typhoid. He said that before the construction of the Kakaramagi shallow well, the water user community. This fund has been put in place to cater for maintenance of the water source.

Mr Birungi Julius further said; “we are all smiles because the Water Source Committee has initiated a savings and credit scheme where group members save collectively and loan out the money with interest to the water user community. This fund has been put in place to cater for maintenance of the water source. The total savings for the water source has now grown to the tune of Ug. Shs. 450,000.”

Mr. Birungi Julius commends Emesco Development Foundation for training community health volunteers about how to promote community health in Lubaya community, and is convinced that a strong foundation was put in place through the construction of the Kakaramagi shallow well and various awareness creation meetings conducted by the team from Emesco Development Foundation.
TRANSFORMS LIVES OF RURAL COMMUNITIES

Emesco Development Foundation constructed a four girls). She lives in Lubaya community where married farmer, with ten (10) children (six boys and County in Kibaale District. Miss. Peteralina is a transformed as a result of the Water and Sanitation access to clean and safer water for domestic use.

The Water and Sanitation Programme for Bugangaizi in Bugangaizi West County in Kibaale District, mid-western Uganda. The programme is funded by SIMAVI in the Netherlands. The overall goal of the Water and Sanitation Programme is improved health status of the rural poor people of Bugangaizi West County in Kibaale District through reduced incidences of Water and Sanitation related diseases as a result of improved and increased access to clean and safer water for domestic use.

Miss. Peteralina Ganyana, aged 49, is one of the beneficiaries whose thinking and way of life has been transformed as a result of the Water and Sanitation programme being implemented in Bugangaizi West County in Kibaale District. Miss. Peteralina is a married farmer, with ten (10) children (six boys and four girls). She lives in Lubaya community where Emesco Development Foundation constructed a shallow well with funding support from SIMAVI in the Netherlands. Miss. Peteralina has been living in Lubaya community for the past twenty nine (29) years and vividly remembers the agony she has passed through in terms of accessing safe water for domestic use.

As we walk to the water point that was constructed by Emesco Development Foundation, Peteralina points to a very big rock behind which is an open well used by herdsmen to provide water to their animals. She says, “that well has been in existence for more than twenty eight years in this community and we used to share it with animals since this community did not have any improved water source. Although the distance is great from my home, we have been using it as a sole water point in the community”.

According to Peteralina, the open well used prior to the development of Kakaramagi shallow well in Lubaya community did not only have dirty and smelly water, but was a risky water point for young children. She said, “the water from the open well was not good for drinking because it had a foul smell and above all, was very risky for the life of our children! – It being very deep. Whenever it rained, the water at this well would get contaminated by all sorts of waste due to the run-off downstream. The situation was bad as we had to walk a distance of over 5kms to get clean and safer water”.

According to Peteralina, a lot of changes have occurred as a result of the intervention in their community. She testifies that the construction of Kakaramagi shallow well had enabled their community with over 80 households to access cleaner and safer water than ever before. The children now find it easier to draw the water, whilst the walking distance to an improved water source has been reduced to less than 1 km.

“THANKS TO REDUCED ILLNESSES, OUR EXPENDITURE ON MEDICAL CARE HAS GREATLY REDUCED”

Access to clean and safer water has greatly reduced incidences of water – borne related diseases like diarrhoea and typhoid that were hitherto rampant in this community. “Thanks to reduced illnesses, our expenditure on medical care has greatly reduced” She added.

 Asked to explain further how the constructed shallow well has changed her life, Miss. Peteralina said, “today, I do not have the stress of collecting water from far away, and my children have ample time to do their home work because the shallow well was constructed next door. I do not get worried when my children go to fetch water because they no longer use the open well. I have also joined the savings and credit scheme started for the maintenance of the developed facility and have smeared my pit latrine with alluvial soils. I thank you Emesco for the wonderful support”.

Miss Ganyana Peteralina hastened to add that the Water and Sanitation programme being implemented in Bugangaizi West County was timely. The hygiene and sanitation meetings continue to create awareness about good hygiene and sanitation practices at household level in Lubaya community. The adoption rate of the recommended hygiene and sanitation practices is very high and attitude change among the beneficiary community members is positive.

Miss. Peteralina Ganyana hopes that the present situation will enable her family and the community to realize greater achievements. To her mind, the Water and Sanitation programme has indeed transformed the lives of the people at household level in Lubaya community.
Uganda Rainwater Association (URWA) values the fact that having access to safe water and basic sanitation is vital to everyone’s life. The negative impacts on the health and quality of life of people who do not have such access are massive. This is particularly the case for people in rural Uganda. URWA therefore works towards improving access to safe water and sanitation, so as to contribute to the lowering of the incidence of diseases carried by water, improving public health, and improving the peoples’ economic situations. A unhealthy community means a poor one because resources and time are spent in seeking medical care.

URWA promotes rainwater harvesting for domestic use, agriculture production and environment conservation for sustainable livelihoods.

Against this, URWA partnered with RAIN Foundation and Water Aid Uganda to put up a demonstration system in Masindi for small scale farming (Production) and domestic use. Rainwater is collected and used for irrigation in dry seasons. This demonstration was set up to promote small scale irrigation which is a sector gap that needs to be addressed.

A 10,000 liter tank was constructed at the home of 77 year old Mr. Bakari Abdallah of Kahembe parish Bwijanga sub-county Masindi district. Mrs. Hadija Bakari, wife of Mr. Bakari is a chairperson of the Bainomugisa women group of 10 members, 3 men and 7 women. They are involved in agricultural activities.

Mr. Bakari Abdullah and his family were happy to have water on the doorstep for both domestic use and agricultural production to serve a vegetable garden of 20 square metres. Mr. Bakari is a retired civil servant who is currently a farmer growing vegetables, mangoes (1 acre), sugar cane (9 hectares), groundnuts (1 acre), maize (1 acre), cassava (¼ acre) sweet potatoes ¼ acre, upland rice ¼ acre. He also rears goats (3), sheep (5), cows (3), and also rears poultry (900 birds). He has a family of 8 with 3 school-going grand children. To haul water for his activities was a problem because the shallow well was 1km away from his home and it would cost him 500 shs per jerry can. In a day, the worker would collect 12 jerry cans, both for the animals and the home.

However, this shallow well is seasonal. So, during the dry season they had to walk longer distances for safe water hauling. The area is hilly, and this made water hauling more difficult for the family.

**WITH URWA’S INTERVENTION, THE MONEY ORIGINALLY SPENT ON WATER HAULING IS SAVED**

With URWA’s intervention, the money originally spent on water hauling is saved and the small scale irrigation is playing an important role in food production, thereby improving their livelihoods.

**Challenge:** The beneficiary is currently involved in large scale farming, and the water tank drains quickly because it only has a small capacity.

**Lesson:** Using a participatory process when implementing projects is the best way to better engage knowledge exchange of the participants and maximized learning for scaling up purposes. Since he belongs to a group we are hoping that other members might also pick up interest in this demonstration and invest in a facility like this for their own homes, hence promoting self-supply, especially if they have an income similar to, or better than, his.
13 year old Kabagenyi Lucy is no ordinary girl. She is the Chairperson of her school’s health club. Lucy is a pupil at Kabale Primary School. Kabale Primary School is located in rural Nyantungo Sub County, in Kyenjojo district. The school has a population of 210 pupils. There are 78 boys and 132 girls.

As the Chairperson, Lucy is the first focal point for all health and WASH related issues affecting her fellow pupils. Her school does not have a female teacher because it is located in a hard to reach area. The girls come to Lucy when they need guidance on Menstrual Hygiene Management (MHM) and the boys come to her for guidance on how to cope with adolescent related body changes.

JESE, a local NGO, trained and mentored Lucy with leadership skills to facilitate her role as the Chairperson of the school health club. JESE is implementing projects on School WASH in schools located in hard to reach areas in rural Rwenzori Region, Western Uganda. These projects are aimed at improving WASH services in schools. Some of these projects include; integrated School WASH projects exploring sanitation and hygiene improvement among children, provision of safe water to schools and surrounding communities.

JESE has facilitated the initiation of school health clubs in twenty schools in Rwenzori Region, Western Uganda. The school health clubs are comprised of 20 pupils, both girls and boys, aged between six to fifteen years. Once trained, these pupils take the lead in promoting sanitation and hygiene related activities in their schools through interventions such as the talking compound, visual aids, football for WASH, music, dance and drama, where behavioural change messages on sanitation and hygiene are passed on. Examples of such behavioural change messages include; ‘Wash your hands after latrine use’, ‘Stop open defecation’, and ‘Cleanliness is next to Godliness’.

The heads of the school health clubs mobilize their peers to maintain a healthy, clean, safe and disease free school environment. All members of the school health clubs are nominated as health ambassadors in the communities in which they live, and they carry the same behavioural change messages home.

Lucy, like other health club leaders in other schools, works with JESE to highlight the challenges faced by fellow pupils. For instance, JESE in partnership with the Parents Teachers Association (PTA), School Administration, and School Management Committee, constructed changing rooms for adolescent girls for improved MHM in her school. This was brought to attention through the school health club.

Through the school health clubs, pupils are sensitized on proper latrine use, hand washing with soap after toilet use and before handling food, proper waste management, body cleanliness etc. The health clubs are pupil-led and have developed many pupils’ leadership skills while tackling health issues.

In each school, JESE has held sessions where behaviour-change messages are passed on, creating awareness among pupils on improved health and hygiene practices. This has motivated pupils to use sanitation facilities properly and keep clean. These pupils have been motivated to be agents of change in their schools and communities.

The School Health Club patron has been able to track these changes. “Pupils now understand basic hygiene and sanitation practices, such as hand washing with soap to help protect them from illness, so that they have the capacity to lead healthier and happier lives as children and later as adults,” he says.

JESE also trains teachers in these schools to boost pupils’ confidence through critical and creative thinking, and development of decision-making and problem-solving skills. As a result, pupils in these schools act as change agents for adoption of desirable behaviour in health, hygiene and sanitation, amongst their peers, family members, and community members.

JESE is implementing this approach at twenty schools. These schools now have school health clubs and pupils have been appointed as health club heads. In addition, pupils were nominated as WASH ambassadors, 1000 girls have been trained in making re-usable sanitary pads and have made 3,000 sanitary pads, which they re-use.

Under this project, JESE plans to improve the hygiene and sanitation situation for 24 schools and 9,650 beneficiaries in 72 surrounding villages through promotion of hygiene practices and appropriate sanitation technologies in a gender responsive approach.
Our baseline survey conducted in 2013 revealed that in Aria village, Atanga Sub County, 122 households had no access to safe water. Results showed that diarrhoea and typhoid were common diseases in the village, affecting both children and adults. Animal and human waste contaminated the water source due to the run off and sharing of the water source. In 2013, WASH Alliance partner LTP facilitated the construction of three deep boreholes with the aim of improving access to safe water in the most affected villages in Pader district.

The intervention
Consultative meetings were carried out with the different stakeholders including district water office, sub-county authorities and the community to solicit for their support and contribution towards the intervention. This was followed by meetings that saw the election of the water user committees, realisation of capital contribution, and an action plan for trainings.

The initial trainings of the water user committees were carried out. This aimed at equipping the committees with knowledge and skills in, amongst others, Operation and Maintenance (O&M), preventive maintenance, record management, sanitation and hygiene.

Link to Progress (LTP), an international NGO whose main objective is to improve the life situation of the rural population in Northern Uganda through provision of safe water, sanitation/hygiene, as well as improvement of educational infrastructure, contracted We Consult and The Good Shepherd Foundation Ltd for siting and construction. Based on the MOU signed between LTP and Pader District local Government, a provision was made for the availability of technical support from the District towards this project.

In the same breath, the district local government did provide technical support in terms of selection of areas for intervention and supervision. On the other hand, the community of Aria village were able to participate in deciding on the location of the water source, providing unskilled labour required by the contractor and monitoring.

Results
• The nearest water source was 4 km’s away, but the distance has reduced to less than 1km, which has contributed in a reduction of domestic violence.
• As a result of access to clean water, there is evidence of improved sanitation and hygiene. For example availability of clean water for hand washing and personal hygiene.
• By-laws have been set to guide the water users, which has contributed to an improvement in collection of funds for operation and maintenance.
• There is a reduction in water related diseases as a result of access to safe and clean water.
• Water users have been trained in safe water chain, which has increased their knowledge, attitude and practice in sanitation and hygiene.
• This has helped 732 people to access safe water

Lessons learnt
• Engaging the entire community from the inception of the activity to its handover increases their participation and ownership. This has led to an increase in funds collected for operation and maintenance of their water source.
• The engagement of the sub-county extension, staff and community leaders has increased the level of follow up and monitoring. This has improved the general household sanitation, hygiene and cleanliness of the water points.
• Since by-laws have been put in place, water sources are now fenced, and households have agreed not to graze their animals close to the water source. This has reduced contamination of the water sources, hence reduction of water related diseases.

• 85% of the households have constructed, and are now utilising, improved latrine facilities. This has led to reduction in open defecation, hence reduced diarrhoeal disease.
• Women are more involved in the management of the water sources. As such, 60% of the water source committee members are women, thereby realising increased user fee collection.
Having recognized that WASH is still a big challenge in both rural and urban areas of the country, and that the most affected groups are the women and the disabled, Natural Resources Committee (NRC) of the parliament recommended to members of the Alliance on Rights to Water the need to advocate for rainwater harvesting tanks as an alternative to other water sources like pipe water and bore holes which can’t be accessed, especially in rural areas.

With the National Association for Women’s Action in Development’s (NAWAD) interest in empowering women, in 2012 NAWAD, with support from Dutch Wash Alliance(DWA), successfully organized a workshop on human right to water and sanitation and again another awareness creation workshop on climate change in Nyabuhama district which attracted 106 participants. It realized that Uganda, like any other African country, has been hit by climate change, leading to water stress in many parts of the country. A case in point is Nyabuhama, Mbarara district, one of the areas in the dry corridor, that has limited access to the national water supply system. Consequently, communities depend on rain water that collects in ponds, which they share with their animals, thus causing a health threat to the people. NAWAD successfully constructed four rain harvesting water tanks in women led families in Nyabuhama Mbarara district. These 4 water tanks were constructed in strategic homesteads where many people around them can also benefit.

Achievements
• Women who benefited from the project no longer travel to distant places to get water, and this has enabled them to devote time to other productive work at home, such as on farms. For example, there are testimonies from Harriet Munarura who says “On behalf of my family members, I am really grateful for the effort that NAWAD has taken to make water accessible to us. Before, we had to walk a long distance to fetch water for domestic use and even sometimes we would find when the well has dried up especially during the dry season that would mean going to the next village to search for water. Now, with this tank which harvests water whenever it rains, we no longer have a burden of water”. Rosemary Nyakanwagi also says “As a woman, I thank NAWAD for coming up with this water project in order to support women. It has really been hard to travel a long distance in search for water in my situation as I am pregnant. Because the children are usually away at school, it has been my task to fetch water for both our animals and home use. But since this tank was constructed, water has been accessible. NAWAD really is a women’s organization”.
• The community obtained water for drinking throughout the dry season.
• They have access to clean water in the tanks, and this has improved their sanitation and prevented sanitation water related diseases.
• Women can now use readily available clean water on their farms for animals and to irrigate their gardens.
• NAWAD, in addition to empowering women, also uses a unique approach through inclusion of men in all our development activities. So, in the same way, men were fully involved in our project and at the end of the day there was a common understanding that climate change affects both men and women. It was also understood that when men support women in WASH they will both benefit.

Challenge
• Funds are still limited because only a few rain harvest water tanks have been constructed, leaving many more people not benefiting. Hence our case study can only be seen as a first step, rather than a completed project.
Through the Rwenzori Urban Sanitation and Waste Project, HEWASA and USSIA have used a business approach called the diamond business approach to contribute to a sustainable WASH system. The aim of the intervention was to establish sustainable Water, Sanitation and Hygiene systems in the 4 urban councils of Rwenzori, namely Fort-Portal, Kyenjojo, Kyegegwa and Kamwenge, that can easily be replicated and scaled up. In order to improve the functioning of the WASH market and thereby increase access to improved sanitation facilities, the focus was placed on 2 components of the diamond namely: the enabling environment and the business environment.

In order to improve the functioning of the business environment, HEWASA and USSIA/PRICON focused on bridging the customers/HHs (or demand) for urban sanitation services and the private sector providers of these services (the supply). In addition, project partners ensured that there is sustainable/local financing for sanitation service delivery (finance). To improve the enabling environment for sanitation businesses, HEWASA played a critical role in supporting local governments and authorities to enact ordinances, by-laws and legislations that enhance private sector involvement in WASH. Four new bye-laws/acts/regulations were enacted or issued in the course of the project. Ultimately, partners hope that the diamond will be fully operational when the above relationships between the core stakeholders are institutionalized and driven by demand and supply mechanisms. In addition, a sustainable system will be in place when the core stakeholders are systematically playing the following roles:

1. Government/Authorities - Local Governments and authorities enact laws, bye-laws and statutes that facilitate business activity.
2. The Entrepreneurs - offer services and products that clients can pay for
3. Financial Institutions - offer affordable finance to entrepreneurs
4. Clients/households - are able to pay for goods and services from entrepreneurs.

With this approach, USSIA and HEWASA supporting the above core stakeholders are slowly setting up a sustainable sanitation system in the Rwenzori - a functioning diamond in which all stakeholders know their role and act accordingly. Through its business development role, USSIA and PRICON have been instrumental in identifying and assessing the quality of entrepreneurs. 88 entrepreneurs were identified, assessed and trained, offering entrepreneurship training to entrepreneurs. 65 entrepreneurs have so far been trained, offering mentorship in financial management, branding and marketing to entrepreneurs, offering support in business plan development. 10 entrepreneurs have been supported to develop business plans, offering practical/hands-on training in hygienic latrine construction, rammer/gulper fabrication. 50 masons have been trained in pit-latrine construction and 30 fabricators in xxx. Furthermore, USSIA and PRICON have played a crucial role in coordinating the different diamond stakeholders, policy advocacy and sanitation demand creation. Similarly, HEWASA has played a critical role in coordinating the different diamond stakeholders, policy advocacy and sanitation demand creation.
## Title 1. How a small scale entrepreneur in Fort-Portal is making money from solid waste

| Name & Designation | Patrick Kaahwa  
| Regional Coordinator  
| Uganda Small Scale Industries Association (USSIA) |

### Introduction
The four urban councils are struggling with the issue of solid waste management. The challenge of solid waste management is set to increase as the country undergoes urbanization, coupled with the increasing population. According to a market assessment study carried out in 2014, Household waste contains mainly wet organic material (70-80%). Today only about 10% of the households in the 4 UCs are served by the authorities. Waste from the rest is not properly disposed, leading to diverse health risks.

### Description
The above challenge presents opportunities for small scale entrepreneurs to recycle/re-use, or to sell this waste and earn a living. One such entrepreneur is Jane Nyakaisiki who was identified by USSIA and trained in recycling organic waste into briquettes. With the knowledge acquired, Nyakaisiki mobilized other women, and they have established a women’s briquette making group. This group of 7, sorts, collects and recycles organic matter into briquettes. These are sold to schools, hospitals and households. At the moment the group makes about 250 kgs of briquettes per week and this earns them Ushs 125,000 per week.

### How the approach contributes to better WASH delivery
By supporting existing entrepreneurs offer a WASH service while improving their incomes/livelihoods, it ensures that the intervention is sustainable.

### Results
- App 12 tonnes of organic waste recycled by one group of small scale women entrepreneurs with no subsidy in 2 years
- Over 35 waste pickers trained in briquette making

### Lessons learnt
- Support private sector entrepreneurs to deliver WASH services
- Ensure public-private partnerships
- Offer business development and financial services to ensure the success of sanitation businesses.

### Recommendations and conclusions
- There is need for scaling up this best practice

## Title 2. How a public-private collaboration has resulted increased access to safe water in Kyenjojo town council

| Name & Designation | David Azoora  
| Programme Officer  
| HEWASA |

### Introduction
Kyenjojo Town Council faces the challenge of unreliable water supply. Whereas most people in the rural areas of Kyenjojo depend on unprotected and some protected water sources, those in the urban council have to rely on an unreliable piped water system from a productive well.

### Description
A local business person - Mrs Phiona Byamugisha - identified this as a business opportunity. Due to limited personal savings, she accessed a loan from Hofokam on the recommendation of HEWASA. Using this loan of Ushs 3,500,000 and her personal savings, she drilled a well within the town and bought a water pump plus 2 water reservoir tanks. Using these facilities, she is able to supply safe water to about 150 households each day. Each day she sells 300 jerry cans of water at Ushs 200 per Jerrycan. In a month, she makes Ushs 1,800,000. Furthermore, she operates a washing bay using the same water source. Each car is charged Ushs 7,000. On average, the bay handles 10 vehicles a day. In this business line, she makes Ushs 70,000 per day. Monthly, she makes 1,400,000. No wonder she was able to repay her loan to Hofokam on time. The local town council granted her a permit for which she paid Ushs 150,000. In addition, she pays an annual operating license of Ushs 250,000.

### How the approach contributes to better WASH delivery
This unique public-private partnership ensures that public authorities can offer better WASH services through supporting private entrepreneurs. Moreover, there is a possibility for them to raise revenue from such arrangements, as illustrated above.

### Results
- Over 150 households in Kyenjojo Urban Council accessing safe water through the activities of one entrepreneur.
- Urban council raises revenue from the entrepreneur
- Increased incomes for the entrepreneur
Title 3. How the Private Public toilet operators in Fort-Portal are improving access to sanitation services

Name & Designation
David Azoora
Programme Officer
HEWASA

Introduction
Many people in urban areas, especially those doing business and those on long distance transit routes, do not have access to private toilets. Public toilets therefore become handy to fill the existing sanitation service gaps for these people. Fort Portal municipality has got more than ten public toilets distributed in strategic locations within the town. These public toilets are used mainly by the business community and those people on long distance journeys.

Description
Fort Portal Municipal Council authorities have adopted the use of Private Public Toilet operators to manage their existing Public Toilets. One of the biggest challenges facing the urban authorities is how to ensure that these public toilets are properly managed and offer clean and safe sanitation services to the public. Many times, some of the public toilets have been found to be unhygienic, therefore posing a health threat to the people using them. To solve this problem, the urban authorities decided to privatize the management of these public toilets to the private Public toilet operators. These private operators charge a fee of between UGX 200 and 300 per visit to the public toilet. The income generated from the PT is used to buy disinfectants and other cleaning materials, settle water and electricity bills, pay wages for the workers, emptying the septic tanks and to carry out repairs and maintenance works on the public Toilet. Mr. Byamukama is one such private operator who was engaged by Fort Portal authorities to manage the Public Toilet at Link Bus Park.

How the approach contributes to better WASH delivery
The use of the private Public Toilet Operators has ensured that the existing public toilets are properly managed and offer clean and safe sanitation services to the users. Specifically, the private PT operators have ensured that the Public toilets remain clean, hygienic and pose no health threat to the users. Furthermore, the private PT operators have ensured that the required items like toilet papers, soap and water are available at all times.

Title 4. How the WASH loan product is improving community access to local finance for WASH

Name & Designation
Rusa Herbert
Operations Manager
HOFOKAM

Introduction
The lack of local finance is one of the factors impeding improved access to adequate WASH services and facilities. Many households do not have the funds for the construction of improved sanitation facilities. Furthermore, many entrepreneurs do not have the financial capital required to set up business in the WASH sector.

Description
Working under the Rwenzori Urban Sanitation and Waste project, HOFOKAM Microfinance developed a new WASH loan product to help communities within the region access WASH loans. Individual households are now accessing WASH Loans from HOFOKAM Microfinance for the construction of their domestic sanitation and water facilities. Furthermore, private entrepreneurs are also accessing WASH loans for setting up WASH business enterprises. To-date, over sixty WASH loans have been given to households and to private entrepreneurs. How much money has been given out so far?

How the approach contributes to better WASH delivery
Individual households and private entrepreneurs have been assisted to access local finance for the construction of improved Water and sanitation facilities. Private entrepreneurs have been assisted to access local finance for setting up business in the WASH Sector

Results
• Properly managed public toilets have ensured that the public has easy access clean and safe sanitation services and facilities.
• Privatized PTs provide an income to the private PT operators. On average, at least 250 users visit the Link Bus Park Public Toilet each day. This means that Mr. Byamukama is able to collect at least UGX 1,500,000 per month.
• Privatized PTs are a source of revenue for the urban authorities in Fort Portal as the private PT operators pay some money to the Municipal Council. Mr. Byamukama pays the Urban Council UGX 550,000 per month. He uses approximately UGX 100,000 for operations. This means that he is able to get a net income of UGX 1,500,00 – UGX 650,000 = UGX 850,000 per month.

• There has been increased community access to improved water and sanitation services and facilities. There has been increased income by the private entrepreneurs from the established WASH businesses.
5. How Latrine Pit emptying is improving sanitation in Kamwenge Town Council

Name & Designation
Erastus Tugume
Health Inspector
Kamwenge Town Council

Introduction
The practice of latrine pit emptying was lacking in Kamwenge Town Council. Once a latrine pit was filled up, the community members would demolish the old latrine and abandon it altogether. They would instead excavate a new pit and construct a totally new latrine at a new site. This was expensive for the communities as they would have to invest huge sums of money to construct the new latrine facilities. Some households would resort to open defecation as the construction of the new latrine takes some time.

Description
Kamwenge Town Council is now promoting the practice of latrine pit emptying by developing the latrine pit emptying business. Ten (10) private latrine pit emptying entrepreneurs have been identified. These have been trained in the fabrication and use of the gulper and rummer. So far, two gulpers have been fabricated. Gulpers and rummers are improved latrine pit emptying facilities which are cleaner and safer to use when compared to the traditional bucket system. The trained pit emptiers have been linked to a number of clients among which include households, institutions (schools and health centres), and public places (bars, hotels and restaurants, etc). So far, Latrine pits have been emptied during this year. How do they charge? Income?

How the approach contributes to better WASH delivery
Latrine pit emptying ensures that households and institutions can re-use their latrine facilities after it is emptied. Latrine pit emptying eliminates the cost of construction of new latrine facilities as it allows for the re-use of the latrine facility after it is emptied. Latrine pit emptying reduces the practice of open defecation as households and institutions only need to empty the old facility and do not need to wait for the construction of a new facility requiring heavy investments.

Results
There has been increased community access to clean and safe sanitation facilities. There has been increased incomes by the private sanitation entrepreneurs.

Recommendations and conclusions
Promote the construction of improved sanitation technologies which can be easily emptied.
“Water is Life”. This is why Uganda Rainwater Association (URWA) focuses their attention on advocacy missions for utilization of every raindrop to address water shortage issues.

“Lack of access to safe water and sanitation facilities has a negative impact on the health, productivity and general socio-economic progress of people in the Technical Support Unit 2 (TSU2) region especially Northern Uganda”. They face challenges posed by the unavailability of a reliable supply of potable water. This region is particularly susceptible to extended dry periods and erratic rainfall seasons. Against this, URWA, with support from Rain Foundation and Water Aid Uganda, held a public dialogue for stakeholders in the region to discuss and come up with strategies on how to utilize every raindrop received. It was held on 16th -17th July 2015 in Gulu. The main aim was to discuss and share experiences on how to improve water supply to households via investment in utilization of rainwater harvesting.

Harvesting rainwater contributes a lot to improving livelihoods. However, the TSU2 region is not yet in a position to benefit fully from rainwater harvesting. Stakeholders in the dialogue pointed out that despite efforts to increase access to water, the reality in most of the communities is that many household challenges are still registered due to water shortages. These include water-related diseases and economic burdens in the region.

**HARVESTING RAINWATER CONTRIBUTES A LOT TO IMPROVING LIVELIHOODS**

**Bridging the gap**

During the dialogue, it was found out that even when rainwater harvesting had been practiced over the years, it has had inadequate influence on rainwater management in northern Uganda. They pointed out that this is due to limited awareness on integrated rainwater management and climate change. We identified that rainwater harvesting is not popular in the region due to challenges including:

- people’s poor attitude to the rainwater quality
- limited technical expertise to construct different infrastructure both for domestic use and production
- vandalism of existing rainwater harvesting facilities, especially in hospitals and schools
- little or no sense of ownership of institutional rainwater systems.

It was agreed that stakeholders should be equipped with knowledge and skills of risk prevention measures. The stakeholders showed commitment in advocating for utilization of every raindrop through generating a statement, which was later shared with the Ministry of water and environment. The statement reads; “We, as TSU2 representatives, hereby commit ourselves to advocate for promoting the adoption of ‘Rainwater harvesting’ as a mass movement. ‘Rainwater Harvesting’ is an important component for achieving the goals of ‘water, food, and ecological security’. Therefore, Universal adoption of Rainwater Harvesting by government departments, Non- Governmental Organizations (NGOs) and people in our communities, would go a long way in improving the ground water levels as well as in meeting the immediate requirements of the people for fresh water, and food security. We pledge to work together to issue comprehensive guidelines to coordinate the activities of various agencies involved in Rainwater HARVESTING to maximize the benefits and bring about synergy.’

As a result of the statement, an action plan to promote rainwater harvesting in the region was made by the stakeholders in a District Water Officers’ meeting in Gulu. They agreed that there should be emphasis on rainwater management and usage and persistent promotion of local rainwater associations. All actors in the water sector need to adopt the dialogue tool because it yields positive fruits. There is power in dialogue. Do not underestimate it.
The WASH Alliance International is a multi-national consortium of over 100 partners worldwide. We work together with local NGOs, governments and businesses to make sure everyone on this planet has sustainable access to water and sanitation.

For more information: www.washalliance.nl