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**36th WEDC International Conference, Nakuru, Kenya, 2013**

**DELIVERING WATER, SANITATION AND HYGIENE SERVICES  
IN AN UNCERTAIN ENVIRONMENT**

**Developments in the promotion of rainwater harvesting  
through the private sector in Uganda**

*Jonathan Naugle, Tom Opio-Oming & Geoffrey Beinomugisha, USA*

**BRIEFING PAPER 1648**

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*This paper summarizes the lessons learned during almost two years of a commercial pilot project that is promoting an innovative flexible rainwater storage tank with a 1400-litre capacity in Uganda. It provides an update of project activities that were originally presented at the 35<sup>th</sup> WEDC Conference. The lessons learned cover product development, product promotion and marketing, as well as product performance. The product, a rainwater bag called bob<sup>®</sup>, was developed to provide a low cost easily transportable water storage container for household use; solving a problem facing many households around the world, the lack of an affordable large volume water storage vessel. Over 2500 bob<sup>®</sup>s have been sold in Uganda since March 2011 and more than 96% of the users in a recent survey said that they would recommend a rainwater bag to a friend. Low cost rainwater storage enables households to have the convenience of water right at their doorstep.*

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**Introduction**

Two years ago EnterpriseWorks presented a paper (Naugle, 2011) on the early stages of a project in Uganda to promote a new rainwater storage technology using a private sector approach. The premise was that there is a large unmet demand for a low cost water storage container and the product that had been developed would respond to the demand. At that time, July 2011, a commercial pilot had recently been launched in 3 districts in south-western Uganda. Now, 18-months later, more than 2500 units have been sold, a patent has been filed, the brand name bob<sup>®</sup> has been registered and recently a nationwide promotional campaign for bob<sup>®</sup>, the rainwater bag was launched. In addition the rainwater bag is being tested in Kenya, Micronesia, Ghana, Honduras and Nicaragua.



**Figure 1. Package size of bob<sup>®</sup> only slightly larger than a jerry can**



**Figure 2. Client with her bob<sup>®</sup> in Insiro Uganda**

Promoting a radically new product through the private sector has not been without challenges. Until customers see a rainwater bag in use at their neighbour’s home they are sceptical that a small package weighing less than four kilograms will expand to hold 1,400 litres of water. Uganda poses special challenges because the shipping cost from Mombasa to Kampala is the same as the shipping cost from China to Mombasa, effectively doubling the cost of shipping. In addition import duty and taxes add 56% to the landed cost of the product. However, a great deal has been learned about the best ways to promote the product and to provide after sales service to ensure that customers are satisfied. EnterpriseWorks is building a sustainable supply chain and there are many satisfied customers who no longer trek long distances to fetch water during the rainy season because they have it right at their doorstep.

### Product development

When using a private sector delivery mechanism the clients are the key to success and the product must be continually improved to respond to their desires and aspirations. Initially 150 units were placed in households who agreed to invest in gutters and build a base for the rainwater bag. These households were followed closely by project staff and partner agencies by means of monthly visits and questionnaires that documented issues and recorded feedback from the users. Because of their investment in the gutters and bases the households had a vested interest in the product. One clear message received from clients during the initial pilot testing was that they wanted more storage capacity. The product was modified in Generation 2 (G2) to have 40% more capacity, increasing the volume from 1000 to 1400 litres. Further feedback from customers indicated that they also wanted:

- a frame to support the rainwater bag when it is empty;
- an inlet screen to prevent leaves and lizards from getting into the tank; and
- a locking mechanism to secure the water from theft or misuse.

In addition, EnterpriseWorks learned that although people were seeing bob®s at their neighbours they were not aware that what they were seeing was what was being described on the radio. It was critical to identify bob® on the product and not just on the packaging. A detailed comparison of G2 and G3 rainwater bags is shown in Table 1.

Table 1. Comparison of Generation 2 and Generation 3 bob®	
Generation 2 bob®	Generation 3 bob®
1. Additional purchase required for galvanized funnel with wire screen and mosquito net screen.	1. Integrated moulded uPVC plastic filter with fine mesh nylon screen included with purchase.
2. Additional purchase required for metal support rods attached to outer bag with tying wire.	2. Fiberglass support rods that fit into loops and pockets in the outer bag and into holes in the inlet filter, included with purchase.
3. Outlet pipe attached to liner with clamps and tape, attached to outer bag with a tie.	3. Outlet pipe attached to liner with moulded uPVC bulk head fitting with engineered attachment point for tying to reinforced outer bag.
4. Mild steel locking mechanism that rusts, additional purchase.	4. Stainless steel locking mechanism, included with purchase.
5. No branding on the unit	5. bob® logo on each unit
6. Assembly by trained installers on site necessary.	6. Assembled in Uganda so the consumer only needs to take bob® out of the retail package and insert the fibreglass rods before use.
Suggested Retail Price \$50	Suggested Retail Price \$92
Additional Costs: \$20	Additional Costs: \$0

Given the lead time for manufacturing and shipping it was important to address the customers' demands promptly even as a modified design for Generation 3 was developed. For this reason, local solutions to respond to the clients' preoccupations were developed by:

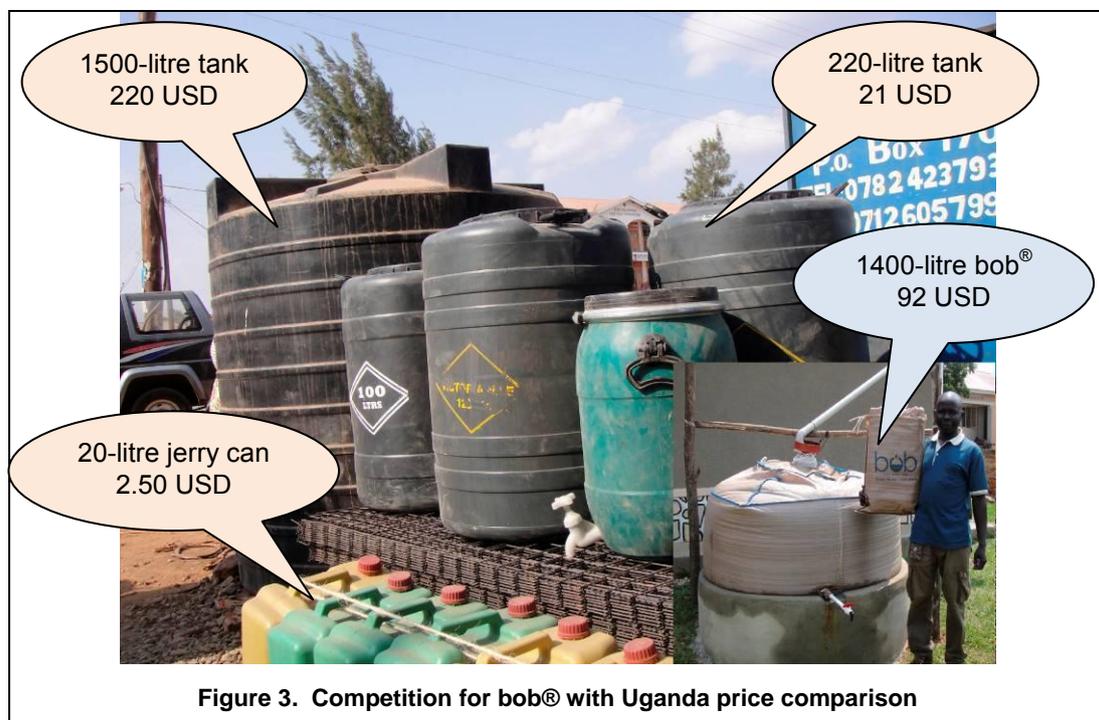
- using 5 mm steel rods to form a frame for the empty rainwater bag;
- having local metal smiths make a metal funnel and screen for the inlet and a welded washer and chain to provide a locking mechanism.

While these solutions proved to be acceptable, they required the customers to purchase additional components to complete the installation.

Due to the novelty of the product the initial rainwater bags were designed to be assembled and installed by trained technicians. This is not a model that fits well with rapid geographic expansion because it takes time to train installers and their retention after training proved to be problematic. As skilled tradesmen they were often called away to other more lucrative jobs. The "some assembly required" model for the end user was also abandoned in favour of a fully assembled product. However, because the assembled product is about 30% larger in volume than the components, and because the shipping costs form a significant portion of the landed product cost, an assembly facility was established in Uganda. All rainwater bags are now assembled before being sent to retail locations. When the client gets their rainwater bag home they simply remove it from the package, insert the fibreglass rods and it is ready to use.

### Product sales and marketing

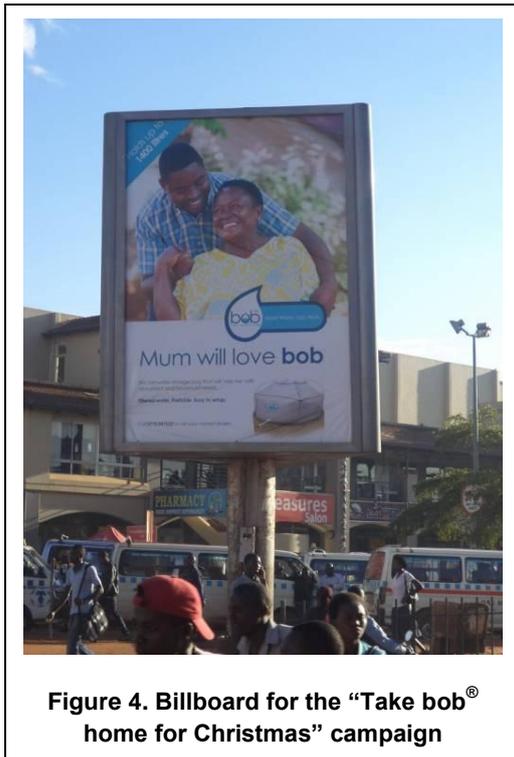
When introducing a new product through the private sector it is important to understand the competitive landscape. As can be seen in Figure 3, the rainwater bag is less than half the price of a similar volume roto-moulded polyethylene tank. In addition to being lower cost the rainwater bag is much easier to transport, weighing less than 4 kilograms and fitting in a package slightly larger than a jerry can. However, the novelty of the product causes customers to question its performance and durability. For this reason it has been critical to use an experiential marketing approach building on the satisfaction of customers to encourage their neighbours and friends to purchase. It is clearly a case of "seeing is believing."



Having rainwater bags available through community based sales agents, who have experience using the product and the confidence of their neighbours, has proven to be effective in increasing sales. In addition, well known local government officials have been recruited to act as ambassadors for the product. This helps bob® sales through the endorsement of a trusted local opinion leader and provides the officials a way to show that they are concerned about the water needs of their constituents. In addition some of the local

leaders have become sales agents, earning a commission on sales in their localities. Group solidarity has also proven to help overcome the scepticism associated with a new product. When groups purchase at the same time the individual does not feel as exposed to ridicule if the product does not live up to expectations.

Above the line promotion has been primarily through radio advertisements and talk shows because it is the most cost effective means of reaching rural clients. In addition to the radio, promotional efforts have used billboards, trade show presentations, and in Kampala television. The national launch in November was based on the theme “Take bob® home for Christmas” and featured radio, television, billboards and live demonstrations around Kampala.



**Figure 4. Billboard for the “Take bob® home for Christmas” campaign**



**Figure 5. Trade show promotion with working demonstration of bob®**

## Lessons learned

Feedback from clients has shown that they really appreciate the convenience of having 1400 litres of water right at their doorstep. This saves them time and/or the expense of fetching water from more distant sources. Access to an affordable rainwater bag, has further made households appreciate the benefits of collecting rainwater from their roof tops during the rainy season in a more organized way, rather than only in pots and pans.

People manage the water from their rainwater bag differently depending on the season. In the rainy season the water in the rainwater bag is used for all household needs and most households have sufficient water in the bag that they do not need to go to other sources. However, near the end of the rainy season the usage pattern shifts and the water in the rainwater bag is conserved as a high quality source used for drinking and for washing white linen.

Many rainwater bags are more than half full even three months after the last significant rainfall. Alice, in the success story below, from Rakai District (Southern Uganda) was found with her water bag almost full to capacity during a relatively dry spell in the area. She carefully manages the water in her rainwater bag. These observations indicate that rainwater harvesting can be an effective water supply option even at levels that are well below 6000 litres, the minimum level recognized by the government of Uganda for an improved water source.

Clients appreciate the water quality in the rainwater bag but more from an aspirational or status perspective than from a health perspective. For example, one client said that when he had family and friends at his home for a celebration that they thought the water from the rainwater bag had come from a refrigerator because the water was clear and cool, he was clearly pleased and proud. It is important to remember that while we approach water quality improvement from a health perspective seeking a better quality water

supply for rural households, this is not the household's primary motivating factor when purchasing bob®. The household appreciates the convenience of water at the door step and the social status of going to church in a clean white linen shirt. When promoting the product we need to keep in mind what motivates the clients to purchase the rainwater bag.

While the rainwater bag is not as durable as a ferro-cement tank it is faster to install and easier to transport than bags of cement, iron bars and sand. Transportation of a large roto-moulded plastic tank incurs additional delivery charges. In addition, if the person moves they can easily take their rainwater bag with them to their new home. The rainwater bag has a greater risk of damage than a cement tank or large plastic tank but its durability depends on how well it is treated, the sales staff tell potential clients "If you take care of bob® he will take care of you."

### Success Story: Making life easier for the elderly in Uganda with bob®



"I have been able to have clean natural water for my cow and my household. Plus, I no longer buy water for my cow and I now have enough time to collect fresh grasses for it to eat and work in my gardens."

Alice currently lives with her elderly husband and 3 young grandchildren in Uganda. She is a small-scale farmer and has a zero-grazed cow producing milk for sale to the neighbours. Her grandchildren are in school and only come home during holidays, leaving Alice and her husband with no one to help fetch water from the borehole, which is 2 miles away. "We used to spend a lot of money and time getting water, especially during the dry season for us and our cow," she says.

Before she bought bob®, Alice was forced to spend the few coins she had to pay other people to collect water. "I had to buy about 4 jerry cans (80 litres) of water per day for my cow alone." When she was introduced to bob® by a local dealer, she immediately saw that bob® was a game changer. "I was sure the new technology would eliminate the problem of not having enough water."

Ever since Alice purchased bob®, she has not had to buy water again. "I have spent close to four months with bob® full of water for us and my cow." She even had some advice for the EnterpriseWorks team saying, "I think you bob® managers need to sensitize more people, especially the elderly, so they can enjoy the life I have now."

Recent household surveys (November, December 2012) in Kiruhura, Sembabule, Rakai and Isingiro Districts of bob® users have shown that 96.9% of the customers surveyed would recommend bob® to a friend. The same household surveys found that 96.4% of the bob®s visited were working well and contained water. However 59% of the users surveyed reported that they had some challenges with using bob including poor guttering, bob leaning slightly to the side and leaking taps. This feedback is important and shows the need for further consumer education to improve guttering and attention to quality control of assembly to make sure that the liners are well distributed in the outer bag and water taps are free of defects.

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### Acknowledgements

The author/s would like to extend thanks to the Bill and Melinda Gates Foundation for providing the resources for EnterpriseWorks to undertake this pilot project.

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### References

Naugle, Jonathan (2011) with Tom Opio-Oming and Michelle Minc, "Promoting Domestic Rainwater Harvesting through the Private Sector", WEDC 35<sup>th</sup> Conference Proceedings Loughborough University, UK.

Additional reports, field studies and resources are available at the project website:

<http://drwh.enterpriseworks.org/>

**Contact details**

Jonathan Naugle  
EnterpriseWorks  
818 Connecticut Avenue NW  
Suite 600  
Washington, DC 20006  
Email: [jon.naugle@ri.org](mailto:jon.naugle@ri.org)  
<http://drwh.enterpriseworks.org/>

Tom Opio-Oming  
Relief International  
Mbarara, Uganda  
Tel: +256 772 482 748  
Email: [tom@ri.org](mailto:tom@ri.org)  
[www.ri.org](http://www.ri.org)

Geoffrey Beinomugisha  
Mbarara, Uganda  
Email: [geoffrey.beinomugisha@ri.org](mailto:geoffrey.beinomugisha@ri.org)  
[www.ri.org](http://www.ri.org)

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