

Bear Valley Ventures Ltd

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Grantee Overview

DIV Grantee Briefer #1 I: Bear Valley Ventures Ltd

Timeline:



Figure 1: Uganda Operations During DIV Grant

BVV has worked to develop, evaluate and realize the potential of the Tiger Toilet.



Bear Valley Ventures Ltd, through Water for People sanitation program in Uganda, piloted the Tiger Toilets innovation which was supported by DIV. The DIV grant came in handy to support a pilot that intended to evaluate their user and technical performance. The Tiger Toilet is a complete sanitation solution for low income families that neutralizes waste on-site, and provides an odor-free and low maintenance experience which encourages use.

DIV support was pivotal in moving the Tiger Toilet from being a promising concept with lab support to demonstrating that it worked well when used in real settings by real people, not just in Uganda but in Myanmar and India as well. It gave Bear Valley Ventures and all three field partners, Water for People, Oxfam and PriMove, confidence to continue developing the technology and work to bring its benefits to as many people as possible. Those efforts continue, building on the platform that the DIV grant provided, and we will always be grateful for that support”.

Walter Gibson,
 BVV Director

Grant: Evaluation Of An Affordable, Effective On-Site Sanitation System

Sector	Innovation Stage	Award	Audience	Problem(s)	Key Focus Areas
Water, Hygiene and Sanitation (WASH)	DIV Stage I	\$173,420	Primary Audience: Direct consumers/ households Secondary Audience: Masons building the toilets	Problem(s) Often toilets have visible excreta, smell and attract flies; Cost of emptying / replacing full toilets is high	Sanitation

Time Period of DIV Engagement: 2013 – 2015

How the Team Measures Success

BVV helped to develop the Tiger Toilets technology, and through partners Water for People (WfP) and the Appropriate Technology Centre (ATC), which is the research arm of the Ministry of Water and Environment (MWE), trained masons to install the innovative toilets. ATC now takes the lead in installation of the tiger toilets wherever the demand is there.

On an annual basis, WfP gathers information through household surveys and/or interfacing with the masons to find out how many have been installed and where they are located. The partners then assess how the technology is progressing on the market. Through the surveys, feedback is collected from the customer about the performance of the technology and the general satisfaction of the customer that is actually using the toilet. WfP further selects a sample of the toilets constructed, to establish if these are still being used by the household and find out if the toilets are still working effective according to the users.

Cost of Delivering Innovation: Measured Quarterly

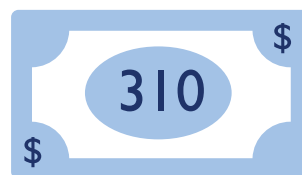


Figure 2: Most Recent Full Cost of Delivering the Innovation in 2020

Measured Annually

The innovation is still being sold in Uganda to date, and it is sold majorly through Appropriate Technology Centre and the trained masons, mainly for manure (vermiculture) production and a few for toilet purposes.

The most recent full cost of delivering the innovation per customer in Uganda is noted in Figure 2 as \$310 and this cost includes bricks, worms, labor, transportation, delivery and a minimal profit margin for the person that installs. The cost of delivering the innovation has decreased since the grant end. Each HH has on average an estimate of 5 people which makes the cost per person at \$60.

Products Offered

Since the end of the the grant Water for People continues to offer Tiger Toilet systems that are cost effective because they do not need to be emptied frequently, and are free of smell and flies and the excreta is not visible. The Tiger Toilet system uses Tiger worms and these were initially imported from South Africa. The tiger worms keep the toilets from filling up as well as keeping the flies and bad odor away. However, later into the pilot, Water for People discovered the Africa night crawler worms which are available in Uganda and are as effective as the imported Tiger worms. Later on, some of the toilets that were installed used Tiger worms, while others used the Africa night crawlers.

Key Performance Indicators

Previously, DIV grants Key Performance Indicators (KPIs) have been defined by DIV grantees based on their innovation and delivery model. However, lately, DIV has selected a set of six core KPIs that all current DIV grantees are now required to report on. Table 1 contains available BVV data related to the 6 core KPIs.

Table 1 BVV Performance Against KPIs

Key Performance Indicators	At Project Close (2015)	Previous Semi-Annual Oct 2019 - Mar 2020	Last Semi-Annual Apr 2020 - Sept 2020	To date
Number of Innovation Units Deployed	10	3	1	TBD
Number of Direct Beneficiaries	50	15	5	70
Amount of Follow-on Funding	N/R	N/R	N/R	\$13,754
Number of new resource providers	N/R	N/R	N/R	1
Demonstrated uptake	Blended	Public	Private	N/A
Semi-Annual Sales (Revenue)	N/R	\$1,054	NR	N/R

(NR indicates that this data was not requested by DIV. N/A indicates that this information is not available.)

BVV's innovation unit is defined as # of Tiger Toilet systems installed.

Figure 3: Organizational Type

Traditional Non-Profit Organization	NPO With Income Generating Activities	Social Enterprise	Impact Enterprise/Social Business	Social Responsible Enterprise	Traditional Business
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BVV is a for-profit social business employing trading activities with some grant funding. It is considered a Private limited with Share Capital company.

Adapted model from the Trialogue Knowledge Hub (n.d.)

Follow-on Funding

In Uganda, the innovation received additional financial follow-on funding worth \$11,054 from public sources; specifically, Ministry of Water and Environment (MWE) through the Appropriate Technology Centre (ATC). They also received \$2,700 from other sources. The MWE funded construction was for 3 units, additionally, the government has continued with investing for vermicompost production using the worms, and that is so far worth about \$10,000. BVV, however, is no longer working in Uganda.

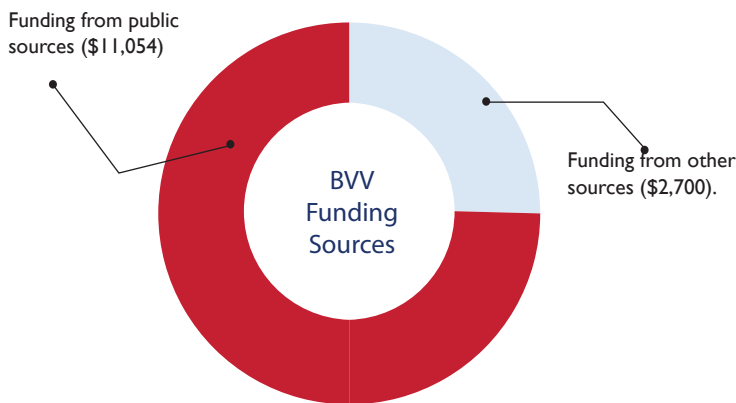


Figure 4: Follow-on Funding in Uganda

Business Model

Direct to Consumer, Sales and Service package

Manufacturing: In house by trained masons

Business Model

In Uganda, WfP works with Appropriate Technology Centre and a group of trained masons who do the sales and installation of the Tiger Toilet systems for customers.

Pathway to Scale: Public (At award), Hybrid (Currently)

During the DIV award the organization had adopted a purely public pathway to scale although it is currently a hybrid.

Success Factors

Several identifiable factors have helped BVV's partners to achieve success in scaling:

- Although the partners initially imported the tiger worms from South Africa, the partners later found that there was a source for African night crawlers in Uganda. Finding local sources for the worms made it cheaper and increased access and sustainability of the technology.
- The Ugandan Ministry of Water and Environment has supportive policies for the Tiger Toilet technology having seen it work effectively.

- Partnering with ATC is considered a success factor by the partners and MWE. MWE also has a mandate to promote and share information about such innovations as the Tiger Toilets.

Rapid MEL Systems Assessment Results:

Table 2 MEL Systems Assessment

Information Gathering	Organizational Leadership, Monitoring, Evaluation and Learning, Structures & Functions	Organizational Learning and Collaboration
<p>Reporting</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Data was collected and reported monthly during the pilot period of the grant. <input checked="" type="checkbox"/> DIV provided guidelines for reporting. <p>Indicators were as per the award document.</p> <p>Additional Data Collection</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All additional support came after the DIV funding. 	<p>Data Management Structures</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Had 3 staff responsible for data management. Included the Project Manager and M&E Officer. <input checked="" type="checkbox"/> They were trained appropriately for the role. <p>IT Infrastructure</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Had sufficient IT infrastructure for data management. 	<p>Collaboration</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Appropriate Technologies center; supported the dissemination of the new innovation. <p>Learning reviews/forums</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Members of the National Sanitation Working Group; who organized the learning journeys. <input checked="" type="checkbox"/> In 2016 BVV published a paper in relation to technology use in India that was widely disseminated by Appropriate Technology Centre. <p>Impact of Learning</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Learned about the existence of the African Night Crawler worms available in Uganda; which worked as well as the Tiger worms that were being imported from South Africa.
Data Management Systems	Availability of Standard Operating Procedures (SOPs)	Other Key Findings
<p>Data Quality</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Had quality control procedures. <input checked="" type="checkbox"/> Conducted data supervision to assess data quality. <input checked="" type="checkbox"/> Had an established mechanism to address data quality. <p>Information Filing</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The data filing systems was both computerized and manual <p>Beneficiary Data Protection</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Customer names were kept anonymous. <input checked="" type="checkbox"/> Sought for consent for interviews and pictures. <input checked="" type="checkbox"/> Followed the research data collection codes as approved by the research body in Uganda. 	<p>SOPs</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> <i>They did not have any data management SOPs in place.</i> 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Currently partnering with OXFAM to adapt and scale the new innovation. <input checked="" type="checkbox"/> Partnering with Health through Water and Sanitation (HEWASA) to provide microfinance for the innovation at household level.

Journey to Scale – Lessons and Challenges

Challenges

Some of the challenges that BVV/ WfP/ ATC faced during the scale up included;

- Some municipalities and/or towns, including Kampala City Council, did not appreciate the Tiger Toilet technology because of the bad experience they had gone through previously with Eco-San toilets. They therefore did not want to include them in their toilet standards and that affected the uptake of the technology.
- The cost of the Tiger Toilets is quite prohibitive for many households in Uganda.

Networking and Partnerships

The innovation was implemented in Mukono District, where ten Tiger Toilets were installed during the Ugandan pilot. BVV/ WfP partnered with the ATC as a measure to ensure continuity. Water for People are members of the National Sanitation Working Group in Uganda, which has various sub committees, of which WfP are part. The Tiger Toilet technology was reviewed under some of the sub committees, and learning journeys to better understand and appreciate the technology were conducted. It is through these learning journeys that WfP learned about the existence of Tiger worms alternatives in Uganda. The team also received feedback and guidance through these forums about the different policies that govern town councils and municipalities and how the technology can be accepted.

OXFAM and HEWASA were interested in the technology and visited some of the sites that had installed the technology, to learn how it works. WfP are hopeful that they would adopt the technology and further scale it up, through their humanitarian work particularly for OXFAM. HEWASA had interest to support the local communities with funding through micro finance, to enable households to afford the technology.

Partnering with ATC was another strong network that further disseminated information about the Tiger Toilets technology.

Impact studies

In Uganda, BVV conducted only one study that was done at the end of the pilot and the findings were shared in the final report that was submitted to DIV.

However, in 2016, BVV published the results of the partners

that implemented the same innovation in India. India had the most complete data set, which made the write up and publication smooth.

Demonstration of Uptake

In Uganda, scaleup/uptake was slower than expected. This was due to the fact that the technology needed to be appreciated and approved by the municipal and town councils, and also included in their policies and guidelines. However, total of 10 Tiger Toilets had been installed in four districts by the time of this study (Mukono, Kalagi, Wakiso and Mpigi districts) since the grant closed. Three of these were funded by Ministry of Water and Environment while the others were installed by individuals for personal use in their households.

Uptake has also continued in the other countries where BVV introduced the innovation. In India, Tiger Toilets are still being sold through TBF Environmental Services Pvt Ltd. TBF was founded by BVV and Primove, the BVV field partner in India during the grant implementation. Around 4500 Tiger Toilets have now been sold in India. In Myanmar, Tiger Toilets are also being made available through OXFAM. Oxfam was the field partner in Myanmar during grant period.

Lessons Learned

Water for People learned some lessons as they went through the implementation process

- The Tiger worms that they imported from South Africa often died during transition and this would cause some losses. However, through their interactions with some of their partners, WfP learned that they can get similar worms (Africa Night Crawlers).
- While in India the uptake of the technology was much higher than in Uganda, this was attributed to the fact that India conducted demonstrations in the communities on how the technology works and this made it easier and realistic for the communities and hence the uptake. The demonstration of the technology did not happen in Uganda and it is believed it could have influenced uptake as well if it had happened.

Bibliography

<https://uk.globaldatabase.com/company/bear-valley-ventures-ltd>