Individual Project Report

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Rotary Club: Whitehorse 5010

Project Title: Two Borehole Installations in Mukono District, Uganda

Progress report Final

Project Description

1. Describe the project. What was done, when, and where did project activities take place? If this is a progress report, what remains to be done?

Ndese

In Ndese, a hand digging device, designed by an engineer from Como Rotary Club of Perth, Australia was used to 'drill' up to 30 feet, near an existing water source. PVC pipes were placed into this hole, with slats at the bottom to funnel water through. Around these slats, a combination of sand, gravel and aggregate was placed to filter the water so that it was potable by the time it was pumped to the surface. A hand levered pump was then installed onto a cement base and a protective fence was built from tree branches to stabilize the hand lever and prevent damage.

At 3 feet, the digging encountered sand and a PVC pipe was installed to prevent the hole from collapsing. This was an intervention developed by Mukono Rotary from previous experiences with installing boreholes in sandy areas. At 10 feet, on the first day, the soil was impacted so hard that the digging tool was unable to break through it. Rotary and the engineer discussed possible solutions and decided to begin again in a new location. Other solutions would have required further funding which was not available. It was decided that as the community was so keen and involved, they would not be discouraged by losing only one day of work.

A site was chosen within 50 meters of the first, but closer to the village road for even better access, on the land of the same owner that had granted Rotary permission to install.

The work at the second location was completed within a week without further incidents. It is producing enough clean water to meet the community needs and is expected to produce water even in the dry season. A water management committee has formed and there have been no reports of problems at the time of this report. The community has expressed their appreciation to Rotary for the clean water.

Kisowera

The borehole in the school grounds was not functioning.

A discussion was held with the engineer, the school and Rotary and it was determined that the 12 pipes used to create the borehole were not enough. Consequently, water was being pumped from the top of the water basin and this had caused extra stress and contributed to its poor performance and eventual breakdown. At least 14 pipes were needed, but only 12 had been used because of lack of funding.

Four possible solutions were presented to repair the borehole:

1.To place an electrical pump at the site and ask the community to pay for water to sustain it. The engineer felt that much research and investigation would be necessary to determine if this borehole could function with an electrical pump and that the budget would exceed the money available.

2.To replace the 12 iron pipes and the damaged rings with 14 new iron pipes and keep the cost within budget. The engineer informed Rotary that iron pipes are generally only durable for approximately 12 months. This borehole which had been installed with iron pipes, had stopped functioning within 3 months of installation and the pipes had rusted.

3.To replace the 12 iron pipes with 14 new stainless steel pipes and exceed the budget, but ask the school and this writer to top up the excess. Stainless steel pipes tend to last between 5-10 years

4.To replace the 12 iron pipes with 14 PVC pipes and exceed the budget by twice the amount available. PVC pipes are known to last 20 years or longer.

After some debate, advice from experts and conversations with Rotary and the school it was decided to replace the iron pipes with stainless steel and to top up the budget by:

1.in kind donations from the school

2.negotiating 4 terms of free schooling for the one Canadian sponored child boarding there and divert those funds to the borehole

3.reusing any viable components from the old borehole

4.negotiating reduced prices with salespersons, based on the amount of business Rotary has given them over the years

5.financial donation from Karen Smith for the outstanding amount, once the above options were exhausted

2. How many people benefited from this project?

Ndese = up to 300
300 community members living near the borehole
Kisowera =up to 1700
700 school children and staff
300 parish members
700 community members living near the borehole

3. Who were the beneficiaries, how were they impacted by this project, and what humanitarian need was met?