

## **Zambia Water Project**

The genesis of the Zambia Water Project was in 2012 under the leadership of Colin Rose, who was the Rotary Club of Karrinyup's International Director at the time.

The committee first identified a long term goal to support a school with boarding facilities for orphaned and vulnerable children in Ndola, Zambia. It soon became apparent that before much progress could be made, a reliable source of fresh water must be sourced. What also became clear was that this would take some considerable time.

In February 2016, Incoming International Director, Peter Durrant returned from his second visit to Ndola, where he was able to inspect the recently completed Zambia Water Project, successfully undertaken by the club.



**Karrinyup Rotarian Peter in Ndola with the students.**

The project involved scoping and drilling a bore to sufficient depth and installation of a pump and water tank. This has now provided clean drinking water for the school of some eighty orphaned and vulnerable children under the support of Arising Life Ministries in Ndola, Zambia as well as to the community of the Kaloko area.

The provision of clean drinking water will help reduce the number of diarrhoea related diseases, which are on account of drinking water from shallow wells. This will improve class attendance.

Furthermore, the water will provide for continuing infrastructure development. Part of the sustainability plan includes a vegetable garden in which the school can produce vegetables to support the school food supply program. Already peanut and maize crops are flourishing. The school now makes its own peanut butter for the children's breakfast.

Medium term goals include the establishment of a piggery, chicken run and fish ponds to meet the growing protein needs of the students. These programs will entirely depend on a stable supply of water.



**The peanut crop thriving with regular water.**

Project management was a critical part of the success of this project. The Rotary Club of Karrinyup joined with the Rotary Club of Ndola Kafubu and managed the project from beginning to end. This included engaging contractors to quote and subsequently select preferred contracting personnel to drill the bore, develop the infrastructure and maintain quality control and quality assurance.

While a number of challenges were encountered along the way, the club is delighted with the outcome of Phase 1 and looks forward to the next step.

This is the tank stand 8M in the air with 2 x 5 KLt tanks providing the head of pressure for gravity feed around the site



The building in the background was the second one to be built and is ostensibly a store room at the moment, however, it will serve as offices and store rooms in the future. The diesel generator is temporarily housed in this building as is the control electrics.

Here is Joyce Chimbila one of the most amazing ladies you will ever meet and on her right is Mumba Kolala an ex-Rotaractor and soon to be Rotarian. Mumba is the District Water Officer with the Ministry of Energy & Water Development, Department of Water Affairs and he was the one who finalised this project with his ingenuity and some money from us



In front of Joyce & Mumba is the top of the borehole with a lockable lid. The cable to power the submersible pump is underground from the building shown in the left hand side photo



Here above is the power & control equipment for the submersible pump. For protection Mumba installed a liquid relay. Installation of liquid relays is a provision that will make the pump stop running whenever the water levels falls below the reach of the pump, but will automatically resume running immediately the water levels in the borehole has adequately recovered. The external cabling is temporary as mains power will be connected in due course.



This is the diesel generator used to power building lighting & power and when the diesel is running the pump is started to fill up the water tanks





Above shows the base of the tank stand and the concrete box in front is where the stop cock is installed



The stop cock is the shut off for the head of water coming from the tanks to isolate the system should that be necessary



There are a number of standpipes around the site well constructed and interconnected underground – sited on concrete plinths. Below some perspective of the outlying area where the bore and tanks take pride of place



This is the top of the borehole into which the submersible pump is lowered and the power and control cabling connected. Below is the borehole cover with lockable lid, nicely set in concrete



Below our compatriots Joyce & Mumba

Mumba has a Bachelor of Science and a Master of Environmental Engineering and he is a fine young man we hit it off straight away and he will continue to assist us from Ndola.

