

CLEAN WATER PROJECT FOR SCHOOLS IN MERU- KENYA

Project progress report- Feb 2014

Most people don't have to think about where their next glass of clean water is coming from since they just turn on the tap. But in the developing world, 1.1 billion people lack access to clean and safe water, and face unimaginable choices every day.

People around the world face this crisis every day. For women at the rural household level in Kenya, many times the choice is between giving their families dirty, disease-ridden water or go thirsty and at schools the latter is the best option as children have no better option as it is the hard- hit by this global challenge of clean water which is a scarce resource.

According to the World Health Organization each individual needs at least 20 liters (5.2 gallons) of water per day to meet basic needs. That's over 40 pounds of water per person. Imagine if you had to walk six kilometers (3.7 miles) to reach a pump and then turn around and carry 40 pounds or more back with you — every day, several times a day — to ensure you had enough water to live? It's what children and women go through in developing country.

Imagine if you had no ready access to a clean toilet. People in the Kibera Slums in Kenya dispose of their waste by putting it in plastic bags and throwing it into the street — what they call a "flying toilet".

Where there are no toilets at all, some women wait until dark to avoid being seen out in the open, endangering their health every day. In the 21st century, with cell phone towers sprouting up in rural villages, people are still struggling to maintain their dignity and privacy when using the bathroom and to keep their children alive and healthy by providing access to clean water.

Rotary International believes that when people get access to basic services or have the ability to be heard by their local government official, they can help themselves through partnership in solving their local social problem. With the few resources from well wishers and desire for a

better world Rotary International and partners have seen this dream come true in Eastern part (Meru Region) of this country- Kenya.

Concerted efforts by RI and other partners in ensuring the objectives are achieved in timely manner by ensuring every child in partner schools has universal access to clean and safe drinking water, sanitation and hygiene improvement for better academic performance and improved children health.

Clean Water project funded by Rotary International- USA through its sister club in Kenya- Meru Rotary Club, and it's Faith Based Partners in Methodist organizations have managed to supply, treat, store and promote hygiene and sanitation in schools sponsored by Methodist Church of Kenya- Kaaga Synod with the objective of enabling them to access clean and safe water, boost their academic performance and reduce water borne diseases in the community. It is believed that in every 21 sec a child dies of water borne diseases according to UNICEF. Every child is entitled to at least 3 liters of water per day while at school. Most of the schools in Kenya this is no longer a problem but a disaster as 70% of the rural schools which have no water at all and for the few that do, it is shared together with animals (Livestock) and highly contaminated.

With children consuming such water they are exposed to water borne diseases bearing in mind their immune system is not well developed as well as for the old people they are subjected to deadly recurrent treatable diseases.

Rotary International with its Partners have developed this Project with Running Water International to use an open source technology that is environmental friendly and made from locally available materials – installing Bio Sand filters in schools. An average of 5 filters per school, 5 hand washing station, and 6 safe water storage containers has been supplied to these schools.

Besides treatment, they have as well managed to collect 80,000 m³ serving over 3000 pupils in schools from rain water harvesting system installed through Supply of 10,000L tanks and other accessories for Rain Water Harvesting has necessitate this. Every single drop of water counts, that's why we are installing these tanks in schools trying to conserve the available water.

As at the moment the following schools have benefited since the project was initiated six months ago as from Sept 2013.

Table 1: Summary of the 1st phase of Clean Water project and Current status.

No.	Name of the school	Beneficiary population in total	Water supplied/ Rain Water Harvested - tank (Litres)	Water treatment systems- Approx' clean and safe H2O (Litres)	Hand washing systems supplied	Safe water storage system	Remarks
1.	Kambiti Pri	892	18,000L – tanks	8 BSf (500L)/ day	5 (250L capacity)	8 Pcs (120L capacity)	complete
2.	Kambiti Day Sec	163	10,000L – tank	5 BSF (300L)/day	5 pcs(250L)	6 pcs (100L)	complete
3.	Thuura Day Sec	153	10,000L – tank	5 BSF (300L)/day	5 pcs (250L)	6 pcs (120L)	Complete
4.	Mck Mugumone pri.	326	10,000L - tank	5 BSF (300L)/ day	5 pcs (250L)	6 pcs (120L)	Complete
5.	Gachua Pri.	472	10,000L - tank	5 BSF (300L)/ day	5 pcs(250L)	6 pcs (120L)	Complete
6.	Ntani Pri.	214	10,000 L- tank	5 BSF (300L)/ day	5 pcs (250L)	6 pcs (120L)	Complete
7.	Karimba Pri.	228	2 Km piping from borehole to school	5 BSF (300L)/ day	5 pcs (250L)	6 pcs (120L)	Less than 15m trench and power connection to pump H2O.
8.	Mugae Pri.	233	Piping water from borehole 800m away	5 BSF 300L/ day	5 pcs(250 L)	6 pcs (120L)	In the process of completion
9.	Kuuru Pri.		10,000L – tanks	5 BSF – 3 installed(180L per day	3 HWS (150L)	6 pcs 3 are in use 60L	Re installed and working well complete
10.	Mbuuta Pri	380	New borehole dug by the ministry.	5 BSF (300L)	5 Pcs HWS (250L)	6 pcs (300L)	Working & complete
		2,908 Students benefited	78,000L RW Harvested & 3800m piped	53 BSF installed to treat water in schools	48 HWS installed for pupils to wash hands	72 SWS containers supplied. No recontamination of water after treatment	Work accomplished

	Other schools						
11.	Kurum Pri	183	10,000L tank	4 Micro filters	4 HWS	5 SWS	In progress stage
12.	Leruk Nursery	35	-	2 Micro filters	2 HWS	2 SWS	In progress stage
13.	Mwiriamw anki Pri			5 BSF	5 HWS	6 SWS	Assessment stage complete
14.	Matuuru Pri.	250		5 BSF	5 HWS	6 SWS	Yet to be assessed & install the systems
15.	Kiirua Pri.			5 BSF	5 HWS	6 SWS	Completed Assessment
16.	MCK Kirimba Pri	218		5 BSF	5 HWS	6 SWS	Not yet Assessed
17.	Kiirua Sec boys	140		5 BSF	5 HWS	6 SWS	Assessment Complete
18.	Kiirua Girls Sec	175		5 BSF	5 HWS	6 SWS	Not yet Assessed
19.	Kieni kia Ndege Pri.	135		5 BSF	5 HWS	6 SWS	Assessment Complete
20.	Marinya Ja Ruibi	270		5 BSF	5 HWS	6 SWS	Assessment Complete
21.	Ndunyu Barikui Pri	175		5 BSF	5 HWS	6 SWS	Assessment Complete
22.	Ndunyu Barikui Sec	173		5 BSF	5 HWS	6 SWS	Assessment Complete
23.	St. Mathews Pr	52		3 BSF	5 HWS	6 SWS	Not yet Assessed
24.	St. John Academy			3 BSF	5 HWS	6 SWS	"
25.	Rugetene Pri	219		5 BSF	5 HWS	6 SWS	
26.	Kibirichia Pri	273		5 BSF	5 HWS	6 SWS	
27.	Kibirichia Boarding	248		5 BSF	5 HWS	6 SWS	

Kambiti Pri

The school has the largest water storage capacity of 18,000L capacity we did installed. The school has a section of mentally disadvantaged well known here as special pupils. With the population of about 884 pupils the school had a sigh of relief after we installed the Rain Water harvesting system. This saw the lunch program that was being threatened by lack of water in schools being revitalized to serve pupils with special needs. They also received 8 Bio Sand filter enabling them to treat 480L of water every day for pupils to consume in the course of the day while at school. Supply of 5 hand washing station has promoted a behavior change to children in school by washing their hands. The previous hand wash station was a single cow tank.



Kambiti Day Sec

The schools got 10,000L to collect Rain Water. Initially they were borrowing water from a neighbor and it was unreliable. Sometimes they would buy water so as to prepare lunch for students. Currently they are running Lunch program without water shortage and they are very excited. They as well treat water using 5 Bio sand filters installed in the school. Hand washing is now easy for both teachers and the students and even share their water with the community when not in session.



Thuura Day Sec

The school got 10,000L tank and 5 Bio sand filters as well 6 safe water storage containers and this kick-started a lunch program in school. The teachers and the students and parents were very excited as it was a main obstacle to running of the school.



Lawrence and a teacher besides School tank @ Thuura Day Sec, and a student pouring water into the Bio Sand Filter.

MCK Mugumone Pri.

The school received 10,000L tank and gutter system to collect Rain Water. 5 Bio Sand filters were installed and 5 Hand washing stations and 6 safe water storage containers supplied to the school. At the moment the school initiated kitchen garden and to supply itself with vegetables used for the lunch program and promotion of hygiene in school.



School head teacher with Isaac Soita after completion of RWH system installation and D/H with Bio Sand filters @ Mugumone Pri.

Mbuuta Pri

The school received 5 Hand washing station, 6 Safe water storage containers and 5 Bio Sand Filter to filter the water from a new borehole. The school was lucky to be included in the sinking of a borehole in their compound by the Ministry of Water Resource Management. Therefore it has enough water supplied to serve even the community neighboring it. Hand wash stations and Safe water containers were the only issue here.



Pupils try Hand Washing at Mbuuta Pri School & HWS supplied to the school.

Mugae Pri.

The school has received 5 Bio sand filters 5 hand washing station and 6 safe water storage. We have also delivered 120 pipes (900 meters) to collect water from a nearby reservoir tank.

There has been a change in the course of the pipeline due to the changes made by the engineer so as to ensure that the school will get enough water. They already started constructing the distribution reservoir tank and it's ongoing. We halted the digging of the trench so that we don't do double work after the engineer changed the plan.

The parents are very excited and motivated to ensure that they get their children water in the school compound.

Gachua Pri

The school has benefitted with RHW system which collects 10,000L – tank. Besides their unreliable tapped water project now they are happy to have supplemented with harvested water. The school has already started lunch program in order to enhance lunch improved academic performances. In addition, we supplied them with 5 Bio sand filters and 5 hand washing station to promote hand washing behavior to pupils thus reducing diseases contraction. More so they also received 6 safe water storage containers for storing and dispensing clean and safe water to pupils. Before then the school has been buying water from vendors @ 40 kshs per 20L jerricans which was not even enough to the larger school population. Today the school is among the excited community.



Gachua School structure and pupils learning how to prepare bio sand material.



Some of the filters that were installed yet to mature at GachuaPri and a complete RWH system.

Ntani Pri

The school has benefitted from the RWH system that saw them able to collect 10,000L of water from rain. Its location on uphill can tell you a lot about water supply to the school. Basically no water available in the school and school and pupils were either supposed to carry water from home or get to school and go to a nearby stream located approximately 800m and very steep for young pupils. During the rainy season most cases of pupils arm or legs dislocation were not news as the route became very slippery as they collect water downstream. Today that is a good tale to share.

They were not only supplied with the Rain Water Harvesting system but 5 Bio Sand filters, 5 Hand Washing stations and safe water storage containers as well. With continuous improvement in academic performance it is hope positive results will be recorded.

“Rotary International is the first donor to this school since its inception and it has brought life to this school I lack word to express my gratitude. May God bless whoever donated any single penny to see this school get clean and safe water are my prayers”, Said the Head teacher.



Karimba Pri

Rotary agreed to purchase PVC pipes to get water from the nearby borehole (drilled in 2007) to the school. The parents gave in kind support by digging the trench of approximately two kilometers. Dry and hard surface has derailed the digging of the trench and the climatic condition of the area has delayed the completion of the project in time. The climatic condition of the area dictates the income of the community and therefore people's priority is putting food on the table and it means low turnout of members working on the trench which has been a major challenge as well.

All in all, a greater part of the project has been completed and soon it will be over. The trench is almost getting to the school compound approximately 15 meters distance.

At the same time the school has been supplied with 5 Bio sand filters 5 Hand Washing Stations and 6 Safe water storage containers where they can keep clean water after treating it.



Karimba Community working on a trench & pupils lend a hand in carrying the pipes



Trench and another trench showing and water laid pipe at Karimba.

Summary

The objective of this Project is to implement Clean Water Systems at 24 rural schools by July 1, 2014. With the continued support from all parties will see this project successful to serve to its purpose.

We have begun the assessments of the next schools on the Priority List and have already visited *Mwiriamwanki, Kiirwa Pri, Kiirua Boys Sec, Marinya Ja Ruibi, Kieni kia Ndege, Ndunyu Barikui Pri & Ndunyu Barikui Day Sec.*

Acknowledgement

The success of this project and the sustainability of the installed Clean Water Systems is the Partnership of **Rotary International** and the **Methodist Kaaga Synod of Meru District**. Joe Schon of the **Rotary Club** of Scottsbluff-Gering, Nebraska USA (President Rawnda Pierce) leads the fund raising efforts and the developed the Partnership between **Meru Kenya Rotary Club** (Project Chairman Catherine Kimathi and Club President Dr. Peter Gaitho), and **Kenya Connection of Lincoln, Nebraska** (Leader Jan Brockley) and **PEAK of Fort Collins, Colorado** (Rich Fisher and Debbie Weldon) and **Methodist Church - Kaaga Synod** (Bishop Catherine Mutua) to implement this Rotary Global Grant Project. Many other Rotary Clubs and Faith Based organizations have joined this Partnership since. **Rotary** contracted with **Running Water International** (Isaac Soita) to execute the installation of the Systems at the schools. This includes assessing the schools, training the teachers and students, installing the water storage, filtration and hand-wash stations, and to ensure that budgets are met and quality work is maintained. We also acknowledge **Silverspread Hardwares Ltd** for giving us favorable prices and supply on materials. Rotarian Lawrence Mathiu, the Head Teachers at the schools and many other individuals have been very supportive and helpful in executing this Project.

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1st March 2014

*"Unless someone like you cares a whole awful lot,
Nothing is going to get better. It's not." Dr. Seuss from THE LORAX*