



## **Safe Water Project: Obambo-Kadenge**

### **Report for Tweed Kenya Mentoring Program**

**2-26 March 2007**

by

Marty Hancock



**Marty and Mercelin comparing a glass of turbid water taken from the dam with a glass of clean water from the Skyjuice filters**

## 1.0 Introduction

The aim of the Safe Water Project is to provide an accessible and hygienic drinking water supply for a community in Kenya that extracted untreated drinking water from a contaminated source. This aim was realized in the community of Obambo-Kadenge in western Kenya. The village is situated 11 km west of Siaya, and 24 km from Lake Victoria. This report details my trip to Kenya from 2 -26 March 2007. It describes my experiences delivering the Safe Water Project as well as time spent with the Tweed Kenya Mentoring Program (TKMP) in Nairobi. My time spent in Kenya was amazing, challenging and rewarding and it was a great pleasure and privilege to be able to bring the Obambo-Kadenge community clean water on behalf of the TKMP. Prior planning including details on the Skyjuice filters and project initiation and funding are described in the Safe Water Project: Obambo-Kadenge document (attached).

### 1.1 Travel log

Date	Activities
Fri 2 March	Brisbane to Singapore (Singapore Airlines).
Sat 3 March	Singapore to Doha, Qatar then to Nairobi, Kenya (Qatar Airways).
Sun 4 March	Day spent with Olita in Nairobi. Visited CBD and Kybera.
Mon 5 March	Morning at Airport trying to arrange release of filters and Sams luggage. Afternoon with TKMP volunteers at desk in Dagoretti. Visited Sam at his home.
Tue 6 March	Most of day spent clearing luggage from customs. Luggage taken to Akamba transport and sent to Siaya. Sams luggage delivered to his home.
Wed 7 March	Met OJ in city. Visited Australian Embassy and then spent the day with OJ and Anastasia in Kybera.
Thu 8 March	Left early to travel by bus to Kisumu and then Matatu to Siaya (motel over-night).
Fri 9 March	Purchased supplies and then on to Obambo to inspect site and met committee and hosts.
Sat 10 March	Boda boda to Siaya and then Matatu to Kisumu to purchase plumbing supplies.
Sun 11 March	Plumbing commenced. Problems with Genetron and Wind pump. Plans modified to include a dual fuel and wind pumping system.
Mon 12 March	Back to Kisumu to exchange and purchase more plumbing supplies and Honda petrol pump.
Tue 13 March	Worked on plumbing most of the day. Afternoon we visited Graham Vetch of Dominion Farms regarding Dam construction.

Wed 14 March	Realisation that plumbing was progressing too slowly and most of day spent doing the internal plumbing of filters.
Thu 15 March	Plumbing progressing slowly. Much time spent trying to prime pump.
Fri 16 March	Finally got pump working and filled header tank. First taste of clean water. Woman and children taking buckets of clean water.
Sat 17 March	Training of operators and official opening.
Sun 18 March	Further training of committee and operators. Visit Dominion farms with Doug (Maintenance manager). Left late for Nairobi.
Mon 19 March	Traveling to Nairobi and the left for a Masai Mara Safari.
Tue 20 March	Masai Mara.
Wed 21 March	Masai Mara.
Thu 22 March	Masai Mara to Nakuru.
Fri 23 March	Nakuru to Nairobi. Visit of Kavuthe River Project site. Met with Kevin Tucker.
Sat 24 March	Debrief with Olita on Safe Water Project and TKMP. Assist with YCLEAN day in Dagoretti. Depart Nairobi for home.
Sun 25 March	Transit from Doha to Singapore. Afternoon in Singapore.
Mon 26 March	Arrive Brisbane.

## 2.0 TKMP in Nairobi

### 2.1 Life in Nairobi

Nairobi is at first glance a modern city with the typical skyscraper skyline. At ground level it becomes much more apparent that this is the capital city of a large third world African city. My first impressions of the city were while bumping along in a crowded Matatu (minibus taxi). Matatu drivers are paid by the number of trips they make and they are hell bent on making the day profitable. I wondered if I would live past my first Matatu ride but after a few rides I learnt to relax and to enjoy the city scenes and chat to locals. The roads are incredibly rough for a city and there is filth and rubbish everywhere. The roads are lined with all sorts of small businesses and markets and thousands of people walking who knows where.



The Nairobi City Skyline – deceptively modern



The Matatu – Kenya's most popular mode of transport



Road side stalls line the roads throughout Kenya

Olita lives in the suburb of Umoja. This appeared to be a fairly poor predominantly residential suburb on the SW side of the city. Most people live in apartments within a security wall. The units are small but are serviced with power and water. There seems to always be a traffic jam and it typically takes 1-1.5 hours to reach the city and up to another hour to reach the TKMP desk. Olita had arranged for me to stay with an elderly lady from the same apartment whose children had left home. She was very kind and hospitable. I ate with Olita's family, wife Judy and daughters Monica and Renae. Most meals centre around ugali which is baked corn starch and is considered to be the national dish. Olita and family took great care of me while in Kenya and I was thankful for their hospitality.



Olita's home – typical apartment accommodation in the city 'entry-level side of town'



Olita's wife Judy preparing dinner in her modest kitchen

## 2.2 Filters & Clearing Customs

My first task in Kenya was to arrange for the release of the four Skyjuice filters from the storage company and customs. Olita had received mixed reports about how this was to be done and how expensive it would be. Fortunately I met Timothy, the manager of Cargo at the church next door to Olita's home. We arranged to meet him at the airport on Monday morning. Timothy put us in contact with a clearing agent who was very experienced. There were many forms to fill out and much walking back and forward between buildings up to a few km apart, but by the afternoon we were told that all was in place and if we came back with the payment the next day we could pick up the filters. We were required to pay 16% VAT tax but the filters were exempt from import duty. We also had to pay the clearing agent. In future it would pay to contact a clearing agent in advance and receive advice and a quote on the clearing process. One of the complications was that we also had two bags of Sam's luggage. If this had traveled within a short time of his arrival it would not have been a problem but customs were determined to ensure that it was all second hand personal goods.



Filters finally released from customs and ready for transport to Siaya

The second day was to be straight forward and quick but nothing is quick in Kenya. It took till lunch time to withdraw money and make the necessary payments. Then everything closes from 1:00 to 2:00. So it wasn't till afternoon that we eventually had the filters and Sam's luggage. Then we had the problem of how to transport these goods to the city without a car. We ended up hiring a ute to take the filters to a transport depot in the city and then on to Sam's home in Dagoretti. This sounds easy but it involved about 3 hours of sweltering in an old beat up ute in crazy traffic to reach Sam.

#### **Contact Details**

Abdi (Clearing Agent)  
Youngline Cargo Services  
Jomo Kenyatta Airport  
Cargo Terminal Rm 153  
PO Box 60106  
Nairobi  
0722305559  
[onnmutisya@yahoo.com](mailto:onnmutisya@yahoo.com)

Timothy Nyaoga  
Kenya Airports Authority  
Jomo Kenyatta International Airport  
07226544778  
[tnyaoga@kenyaairports.co.ke](mailto:tnyaoga@kenyaairports.co.ke)

## 2.3 TKMP Desk, volunteers & YCLEAN



Olita and volunteers (left to right – Kori, accountant, Anastasia and OJ)

The TKMP is being well coordinated by Olita. He is particularly skillful in motivating and mobilising the youth and developing programs. Olita has a valuable knowledge of Nairobi, the slums and the deeper cultural issues involved in undertaking humanitarian projects. The most recent initiative to emerge from the TKMP desk is the Y-CLEAN program (Youth-Community Led Environmental Action Network). This was developed by Olita and the youth. On my last day in Nairobi I assisted with a YCLEAN event. There were approximately 100 youth involved, many of whom represented local football clubs. The day was also supported by an environmental group that provided some trees for planting. I was given the privilege of planting a tree. The National Television station was present and Olita, Sam and I all did interviews that apparently went to air. I used some of the Morning Tea money donated by Tweed Shire Council staff to add to \$30US dollars donated by a friend of Vicki Uhlmann to purchase tools (wheelbarrow, shovels, racks, hoes). The scale of the cleanup need is daunting and I was tempted to think that the exercise was a waste of time. However, to see the enthusiasm of the youth was encouraging and I believe that the YCLEAN program has the ability to make a difference. The strength of the program is that it combines youths enthusiasm and energy for football with their will to make a difference in their community. YCLEAN is working at the grass roots, changing attitudes and building the capacity of youth to initiate environmental improvements to their communities.



The Y-CLEAN community clean up event (Sam demonstrating how an Aussie uses a shovel)

I was particularly encouraged by the enthusiasm and capacity of the volunteers. There are a number of youths that the TKMP is working with but four have been offered more formal positions. OJ, Anastasia and Kori are helping with the TKMP programs, particularly YCLEAN, while a fourth girl works part-time on the accounts. The volunteers are paid 10,000KS (\$190AU) a month by the TKMP and are expected to work 3-4 days per week at the desk.

Olita is paid 75,000KS/month (\$1450AU). He was to be paid 85,000KS/month but this was reduced when the budget for the TKMP could not be met. Olita has also subsidized the volunteers from his salary. On discussion with Olitait was noted that a more sustainable payment structure would be 80-100,000 for Olita and 15-20,000 for volunteers.

One of my concerns is the sustainability of the program. It is really in a phase of development and growth and is very dependant on Olita's leadership. Two things that would improve the stability of the program are independent registration as an NGO and the formation of a board. The board could then assist in setting future directions and ensure that the desk has the capacity to undertake projects. The Safe Water Project has placed considerable stress on the TKMP because of the time commitment required of Olita. Olita has been very supportive of the Safe Water Project but it has compromised the initiatives within Nairobi. Olita has suggested that they may need to employ a consultant with technical knowledge to help facilitate the next Safe Water Project.

One issue discussed at length with Olita is the need for Australian volunteers to be well inducted into the philosophy and direction of the TKMP. Being a volunteer in a third world country is challenging and preparation is essential. Volunteers are well received by Olita and Kenyan Volunteers but they need to be sensitive to the unique nature of the TKMP and work in close cooperation with Olita. The expectations and responsibilities of volunteers also need to be well defined. Volunteers also need to

be sensitive with their apparent wealth. It is easy for foreigners to be seen as cash cows and then the attitude changes from one of mentoring and cooperation to what can they get out of you. This is certainly not the case with Olita but volunteers need to be sensitive with other contacts.

I was able to visit the Australian Embassy to investigate the process of bringing TKMP volunteers to Australia. Security was a lot tighter than I expected and it took some negotiating to eventually speak to an Australian. I was confident that I was speaking to the right person when he asked if I had bought him a carton of XXXX or VB.



Marty visiting Australian High Commission

As we suspected, the main reason Anastasia's visa was declined in 2006 was to do with the high rate of non-compliance with visa conditions by Kenyans and other East Africans when visiting Australia. I spent almost an hour discussing what we could do to ensure a successful visa application and at the end I was told that they could not see from the information I provided why an application in 2007 would not be successful. Recommendations for completing Visa application:

- Start with Passport application
- Start as soon as possible
- Complete standard visa application (I have returned with these)
- Supporting letter and documentation from TSC including – summary of the TKMP, program while in Australia, funding etc. Essential that Embassy can see that the whole program is supported by a reliable Australian agency.
- Demonstration by Volunteers of their Kenyan ties – family, land ownership, rental agreements, bank accounts etc.
- Copies of contract with TKMP – we need to formalise their employment contracts and also develop a short contract which they sign stating the expectations of them in Australia and their commitment to the TKMP
- Supporting letter of TKMP from Kenyan HC to Australia

- Letter from IRF stating their involvement and any financial support for Australian visit
- Letter of application from Volunteers stating why they want to come etc. (I have provided a format for this to Olita)
- Letter of support from Olita stating how they were chosen and their role in the TKMP
- Personal details of Kenyans that have been involved and returned (Olita, John, Sam). Include Passport details and dates of travel.
- Mark every thing to Stephanie's attention

### **Contact Details**

Matt Bricknell (soon to be replaced by Stephanie Egger)  
 Australian High Commission  
 PO Box 39765, 00623  
 Nairobi

Stephanie.egger@dfat.gov.au  
 0011 254 20 4445054  
 0011 254 20 444 2151

### **2.4 Samuel Mwangi**

I visited Sam at his home on several occasions. He seemed happy and healthy although life would be very different from Australia. He lives with his Aunty and Uncle and their children in the slums of Dagoretti. Sam seemed happy with his new school and Olita says he has been giving up some football time to attend his tutorials and do his homework. He took me around his neighborhood and he was well known and had plenty of friends. Sam would still love to come back to Australia and misses Bernie, Sandy and boys. Olita informed me that he has engaged lawyers to proceed with Sams legal guardianship.



Sam with his family in Dagoretti

## 3.0 Safe Water Project

### 3.1 Water Problem

The community of Obambo-Kadenge lies on the southern slope of a shallow valley that drains West towards Lake Kanyanbola and then on through a wetland to Lake Victoria. The community has several potential water sources. The best water is rain water but most homes do not have iron roofs or tanks and so rainwater harvesting is limited. Most water is collected from Gona Dam. This is a small shallow dam on the floodplain that is poorly designed and dries up quickly. The water is fresh but very turbid (>400NTU). It is also polluted by human and livestock wastes and there is no sanitation in the catchment area. An alternative source of water is the hand operated bore pump. Unfortunately, the water tastes salty and is very hard. I was told that the whole area is underlain with groundwater that is high in Calcium and Magnesium ions. This water source receives limited use as it is too salty to drink, the women do not like to wash in the hard water and the herders find it easier to drive cattle into the dam than hand pump water. Cattle actually like the water and some herders pump onto the ground for cattle. There are also several other dams within a few km but none seem to be any more permanent than Gona Dam. Some residents walk or cycle to Lake Kanyanbola, a distance of approximately 5km. The water is relatively clean but also has salt problems at times and the distance seems to stop many from collecting much water from this large water resource.

Without major infrastructure development and reticulation schemes the best solution for the Obambo-Kadenge community is to treat the water of Gona Dam, although the reliability of the Dam needs to be resolved.



Gona Dam and surrounding Obambo-Kadenge community

### 3.2 Village Life

The community of Obambo-Kadenge is a rural area relying on subsistence agriculture. There is a small central market area but most homes are scattered on small parcels of land. The typical homestead consists of a few mud and cow manure walled dwellings with thatched or iron roofs. The buildings are arranged in semi-circle with livestock (mostly cattle and chickens) in the centre. Most homes have no running water or electricity. People bath in the open out of a basin and toilet in the bush. My host family did their best for me and constructed a temporary enclosure for bathing and a pit toilet. William (aged 14) fetched the water from Lake Kanyabola by bicycle. This is a round trip of over 10km and rough dirt tracks so I was reluctant to waste bath water.



Lifestyle and family dwellings in the village of Obambo

Most families are polygamous with 2-3 wives being typical. Wives, children and livestock are a sign of wealth. The typical dowry for a wife is traditionally about 10 cows but these days apparently 1-2 cows is normal. The wives live in their own mud hut with their children. As the boys get older they build their own mud hut (Simba) in the family compound. Girls marry and move to their husband's home.

Food is prepared by the women in a central cooks hut. The main staple is Ugali. This is a corn starch damper and seems to be eaten with most meals. Other typical dishes include: beef, boiled greens, beans, eggs, dried or fresh fish, chicken, cooked green bananas, pineapple, paw-paw and tea. Black tea is served with every meal. Access to food did not seem to be a problem and the markets were well stocked with meats, beans, fruit and vegetables. However, poor families tend to eat the cheaper meals such as Ugali without the range of meats and vegetables that better off families can afford. I saw very little sweets in the typical meals other than sugar in tea and Coke. With no refrigeration it is always warm and although popular I found it difficult to see warm Coke as a treat.



A local lady preparing tea in her modest kitchen

With limited outside employment opportunities most families have little cash flow. They gain cash from selling in the markets and this is used to buy other goods for the home. The major assets of most homes I observed were: clothes, beds, basic furniture, bicycle, gardening tools and a mobile phone. Mobile phone coverage is surprisingly good although most people seem to have little credit on their phone and have to take it to the market or Siaya to have it charged.

With such a limited range of items at our disposal undertaking the construction of a water filtration system became a huge challenge. Basic tools such as screw drivers, hammers and spanners were not available, and even the plumber and builder we employed had very few tools. Of course if you don't own tools your skills with tools are limited and I found skilled assistance with the installation of the Safe Water Project a real practical challenge. The other challenge is that because of their way of life, locals not familiar with doing projects within a tight time frame. I would discuss the project with the committee and workers and agree on times and targets but it really meant nothing. It was a real lesson in diplomacy to balance the need to get things done in a timely manner with their culture of doing things in a more laid back, casual way.

### **3.3 Committee Structure & Function**

One of the first steps in the development of the Safe Water Project was the development of a representative Committee. Olita did a great job of pulling this together and when I arrived the Committee had been instrumental in overseeing the site selection and land acquisition, construction of the kiosk, tank stand and windmill. Olita and I spent hours with the Committee discussing security, maintenance, operation and water costs. The Committee was a bit overwhelmed by the technical aspects of construction and had very little experience with managing projects, but were motivated to see the Safe Water Project succeed.



Safe Water Project local Committee

### **3.4 Work completed on arrival**

Prior to my arrival Olita and the Committee project manager, Father Lucas, had organized the construction of the kiosk, tank stand and windmill. They had employed a fundi (tradesman) to build the kiosk and tank stand and contracted a Nairobi firm called Genetron to construct the windmill and associated electrical works. Constructing the kiosk was a major task with material availability/access being the major challenge. The road to the site had to be repaired and delivery costs were expensive. Olita spent many weeks in the village overseeing this part of the project, and it was a major accomplishment to have the Kiosk completed.

Upon my arrival the windmill and wind generator were installed and supplying power to the kiosk. Unfortunately the next stage of connecting the power to a pumping system was not completed (see below)



Construction of the kiosk to house the filters and tank stand



Windmill to generate power for the electric pump

### 3.5 Pumping

The original intention was to pump the water from the dam to a header tank with a petrol pump. Olita discussed the options with several businesses in Nairobi and on discussion with the Committee decided that petrol would be too expensive for the community and that a wind generator and electric pump would be the most sustainable option. Solar was also considered but was more expensive and because the area is windy most of the time they decided on the wind option. A business by

the name of Genetron and owned by Peter Emureit was contracted to build a windmill and install a generator, charge controller, inverter, battery bank and electric pump.

On my arrival only the windmill and generator were installed and the pump they had brought out from Nairobi was a small 0.5 hp pump that would not pump anywhere near the volume we had planned for. This was the most difficult stage of the project and I was caught between the Genetron people, Olita and the Committee members in heated negotiation about what was to happen. It appeared to me that Genetron were out of their depth and unlikely to be successful in pumping the volume of water we had planned. After a long discussion late into the night Genetron offered to purchase a petrol pump for the project and to go back to Nairobi to redesign the wind system.

The next day we headed to Kisumu to purchase the petrol pump. We were able to find a good 5.5 hp Honda pump that would pump the required volumes. After struggling for the best part of the day with priming the pump the 4000L tank was filled in under 30 minutes. The priming was made difficult by the 2" GI (galvanized iron) suction pipe. The smallest amount of air in the pipe would create an air lock and the pump would not work. In the end I installed a T piece in the pipe and primed the pump successfully. The future of the wind powered electric pump is uncertain. Genetron returned while I was on site with a new charge controller and inverter but were unable to get it working. Olita was handling the contract and payments and has told Genetron that the final payment will not be made until the system is working reliably and training is completed. At this stage I'm not sure if they will be able to deliver and another company may have to be brought in to complete the works. For future projects the pumping will have to be carefully considered and the cheaper petrol pump option reconsidered.

### **3.6 Plumbing**

After the pumping issues the plumbing was the biggest challenge. The Committee selected a 'qualified' plumber by the name of Edwin from several applicants, a nice young fellow who was keen to help. I assumed that he would be well equipped with tools and capable of doing the plumbing with just assistance on design from me. So on the first day I spent several hours with him drawing up how the system was to be plumbed. He then developed a list of materials required and the next day we traveled 3 hours to Kisumu to purchase the plumbing materials. Late that day we returned with the materials but as I started to go through the installation with him I realized that this project was way out of his past experience. I spent the next day redesigning the plumbing and returning to Kisumu to exchange and purchase the parts we needed. Plumbing in Kenya is made more difficult by the fact that most plumbing is done in GI (galvanized iron) and the limited PVC pipe is a glue together system with rigid straight lengths (6m) of low pressure PVC pipe. The system I designed was predominantly GI around the pump, tanks and filters and PVC running the distance from the pump to the Kiosk. The plumber was happy with this design and we set to work. What I didn't realize was that to connect GI they have to cut thread for every join of GI pipe with a hand held threading tool. This was incredibly slow and made what in Australia would have been a one day job into 5 days of cumbersome and challenging plumbing. It also meant that I and a few other volunteers had to do a good proportion of the plumbing ourselves.



Bicycle taxi (Boda Boda) – main means of transport to village



Plumber cutting thread on GI pipe

### 3.7 Filtration

With the reduction in pumping ability we first decided to scale the number of filters back to two and designed the plumbing accordingly. When plans changed again we added an extra filter. Unfortunately the fourth filter had been accidentally damaged and the PVC bottom cap cracked. This will be easy to repair with a replacement cap from Australia.

The filters were easy to install although connections were a bit cumbersome. We also had a few problems getting the top screw on caps to seal well. The filters worked well from the start and removed all turbidity from the water.

I spent several days going through the filter maintenance and operation with the operators. The language barrier made progress slow but by the time I left they were operating the filters well. The operators will be testing and recording the filter flow rate regularly and this will assist us with providing advice on filter cleaning and rejuvenation frequency. The biggest problem is the high turbidity which will mean more frequent cleaning than is normally required.



Trained operators with the Skyjuice filters

### **3.8 Training, Maintenance & Security**

Training was undertaken at three levels. The first training was provided to the Committee and consisted of a general overview of the system as well as some detail on the most critical aspects of filter and pump maintenance. The Committee nominated a small subcommittee to be trained in the complete operation of the filters and pumping. This group along with the three Committee-selected operators, received comprehensive training. Skyjuice provide operation manuals and copies of these were provided to the Committee and operators. Olita also has a copy of these documents.

Security was a major concern for the Committee. Surprisingly to me they seemed more concerned with the security issues than the operation. I think this was a positive sign as it demonstrates that they have taken responsibility for the project and are determined to see it protected and successful. The Committee appointed one security person and were looking at backup staff.



Security officer – not to be argued with!

### **3.9 Dam Issues**

Gona Dam consists of two dams approximately 0.5 Ha each. The dams are positioned on the floodplain and constructed like a turkey nest dam with banks raised above the floodplain. I drafted a water flow diagram of the dam area to try and determine how they functioned. I also spoke to local people to determine where the water flowed. What I could determine without a level was that the dams functioned very poorly in terms of collecting run-off water and storage. The first dam appeared to have a bottom level not much above the floodplain. The second dam was slightly lower but still had a bottom level similar to the floodplain. The dam walls were broken in several places. This appeared to be due to a combination of cattle erosion and flooding. Overall the dams were in a poor state of repair and were very ineffective.



Gona Dam – water collection point for the village

Prior to my arrival some Committee representatives had spoken to Graham Vetch the director of Dominion Farms about repairing the dams. Dominion Farms is a large rice farming venture backed by American interests. It is approximately 10km to the west of the project site and well resourced with machinery and equipment. I visited Graham with Olita and the Committee representatives and he confirmed that he was prepared to provide machinery if the Committee could find the funds to pay for petrol. The Committee agreed to this as they had previously been to see the local government representatives regarding CDF funding to cover fuel costs. The next day Graham sent his construction manager Tim to inspect the site. Tim advised that he needed the vegetation (mostly Lantana) cleared to complete a laser survey of the Dam area. This work was commenced but was not completed before I left the village. Tim agreed that the dam needed redesigning to be an effective and reliable water resource for the community.

When I left the village the bottom dam was drying up and the committee had decided to allow it to dry so that the dam reconstruction works could be completed. Having seen the leveling and earth moving works undertaken at Dominion Farms I'm confident that they will construct a much improved dam for the Obambo community.

### 3.10 Safe Water Opening & Media



Safe Water Project collection point for filtered water. Mercelin collecting the first water



Mercelin comparing the dam water with the Skyjuice filtered water.

The opening day for the Safe Water Project was very rewarding and a huge relief. With all the problems we had faced during the week I was concerned that we may not be able to deliver the project within the time I had available. However, the plumbing and pumping issues were resolved sufficiently to allow full operation of the filters and on Saturday 17 March the kiosk was opened and people were collecting water to take back to their homes. It was a real pleasure to watch the surprised and

happy faces collecting clean water. On Saturday afternoon they held a ceremony where I was the guest of honour. They had a traditional band and the ceremony was a series of skits, songs, dances and speeches. I had an interpreter for the speeches and it was interesting to hear village leaders describe what the project and safe water meant to them. The significance of safe water to the overall health and prosperity of the community was not lost on the leaders.



Marty as guest of honour at the opening ceremony. Mercelin officially opened the Safe Water Project.

### **3.11 Recommendations for future projects**

Kenya has major water quality and sanitation issues, particularly in rural areas. There is certainly the need if further Safe Water Projects can be developed. From my experience I would make the following recommendations.

1. Research the community, their water requirements and resources well before designing a project
2. Set up a representative committee and work cooperatively with the community from the outset.
3. Carefully consider the pumping options and design the system around the best option. Also try to keep it as simple as possible. I think the petrol pump is probably the best option unless a very reliable wind/solar company can be found.
4. Consider the need for a concrete kiosk construction. This is a major cost and may be able to be reduced by building tank stands and a simpler delivery point.
5. Consider the security options. This project relied on a solid kiosk to protect the filters but a well fenced area should be considered as an alternative.
6. Come prepared with tools and a well designed plumbing system. Be prepared to oversee all plumbing and pump works.
7. Research the local expert help available. Don't assume that the community can provide well informed advice on these matters. They will probably have

very little experience with projects of a technical nature. If another project is to be undertaken in the Siaya region, Dominion Farms could provide invaluable advice on plumbing, pumping and construction. For example. Dominion advised me when I was about to leave that they use a hardware supplier from Kisumu that will take an order and deliver to the site. This sounds obvious but it is not typical and places we went to did not provide this service. It may be that they offer this service for Dominion because they purchase so much but Dominion offered to help negotiate this anyway and, if necessary, use their site as a delivery point. They also stock plumbing supplies from the US that are not available in most stores.

### 3.12 Morning Tea Money

Prior to my departure several morning teas were organized within Council to raise funds for the project. Including some personal donations the total raised was **\$932 AU (48240 KS)**. The intention was that this money go towards specific needs that I identified such as education or a needy family. Deciding how to distribute these funds was difficult. Not because there was no need but because there was need everywhere and where do you start? So I spoke to Olita and some of the Safe Water Committee people and based on their advice the money was spent in the following way.



Mercelin's home and family

1. Mercelin (6000KS) – This is the girl whose photo was used to promote the project. She comes from a very poor family. After talking to the family it was decided to assist the family with: school uniform, shoes & bag for Mercelin; mattresses, floor mats and blankets for the family
2. William (16450KS) – This boy was the son of the Safe Water Committee Chairman and the family I stayed with. He was very helpful with the project. He completed primary school in 2006 but has not commenced secondary this year as his parents can not afford the fees (Unlike Primary, Secondary

Education is not free). He is quite a bright boy and was very keen to continue his education. We payed for his fees, uniform, textbooks.

3. Y-CLEAN (3000KS) – This is the TKMP clean-up program in the slums of Nairobi. This money was provided to buy tools such as rakes, hoes, shovel and wheelbarrow.



#### Y-CLEAN event

4. Preschool & Orphanage (5000KS) – Father Lucas was the onsite coordinator for the Safe Water Project. He runs a preschool and orphanage for young children with no parents or family to care for them. The funds were used to buy classroom resources – tables, chairs and books.
5. Tools & Equipment (7790KS)– In order for the Committee to maintain and operate the filters and pump I purchased tools, oil, fuel etc.
6. Operating costs (10000KS) – The Safe Water committee was given these funds for the purpose of employing operators and security for the safe water project. It will also help with maintenance on the dam and cattle exclusion from the dam. Olita will monitor the expenditure of these funds

### 3.13 Budget

Actual income and expenditure is presented in Appendix 1. Income is as budgeted with all pledged donations received. Expenditure is within budget. The balance is a debit of \$1813. This is to be covered by staff contributions from April 2007 – June 2007 or other income such as Colours of Kenya contributions.

## 4.0 Safari

A long-time dream to see African animals in the wild was fulfilled when I visited Masai Mara and Nakuru National Parks. The Masai Mara is the classic African Savannah and I was amazed to see elephants, lions, cheetahs, leopards, giraffes, buffalo,

hyenas, gazelles, antelopes, hippos and monkeys at very close range. From there I travelled to the small Rift Valley, Lake Nakuru National Park. Here a small lake is fringed by thousands of Pink Flamingoes. It is also famous for rhinos and I saw both Black and White Rhinos. The whole safari was a memorable experience and it was a surreal experience watching the animals in the wild after so many years watching documentaries. I was almost expecting to hear David Attenborough's commentary in the background, but no, this was the real thing!



Lion eating an antelope



Majestic elephants – my favourites

## 5.0 Summary

My three weeks as a volunteer for the TKMP were an amazing and rewarding experience that I will never forget. I thank the TKMP and Tweed Shire Council for the opportunity to represent the program and deliver the Safe Water Project. Most of my time was spent on the Safe Water Project, and although there were many practical challenges, a few of which are yet to be resolved, the Safe Water Project was successful. When I left, the community were collecting clean, safe water from the Kiosk. The issues to be resolved are maintenance and dam reconstruction. Olita will be following up on these issues and I'm confident that the final outcome will be a much improved dam and a well maintained filtration system. I also spent some time with the TKMP urban program in Nairobi. Some fantastic work is being done but the program, particularly Y-CLEAN and Nairobi River Restoration, is in a developmental stage. The youth volunteers in the program are enthusiastic and doing some great work. Olita is the backbone of the program and continues to effectively coordinate the program in Kenya.

