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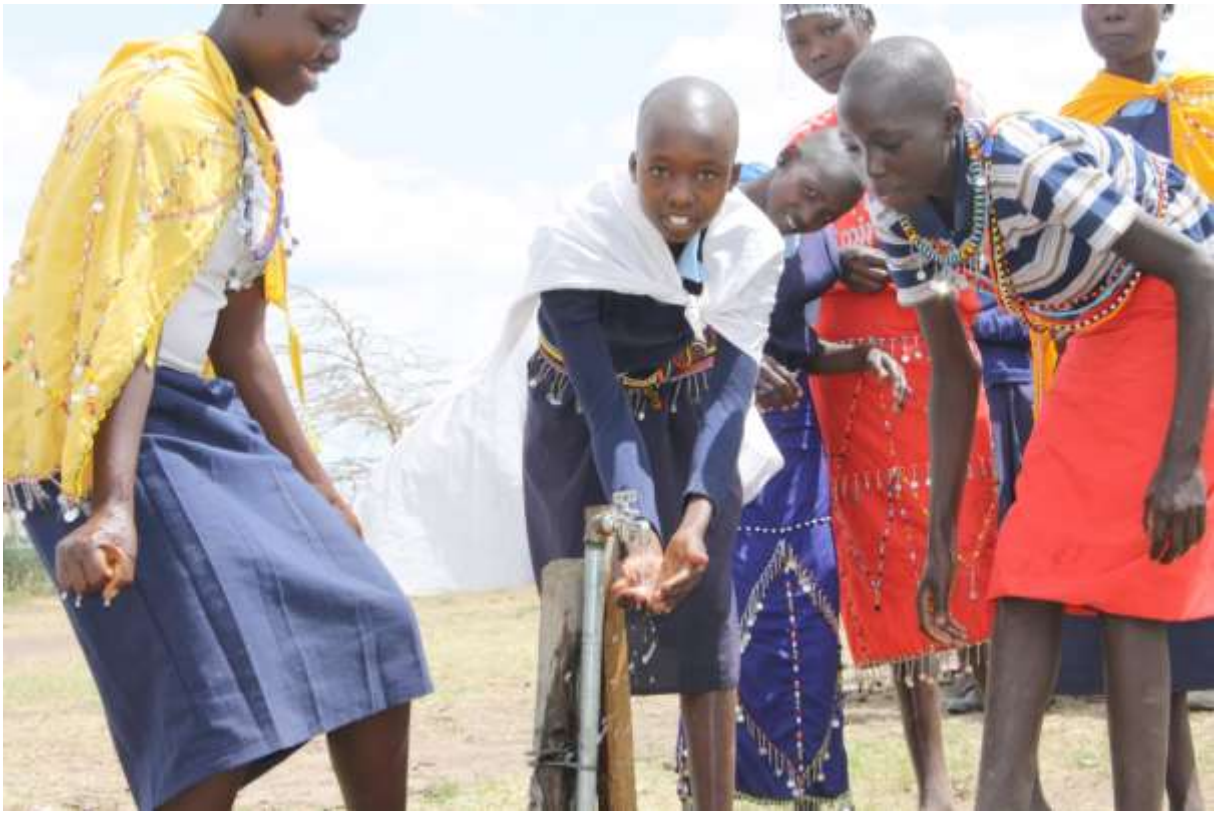
WASH project Oloonkolin Primary school



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1. Background information- Foundation Oloonkolin Kenya

Vivian Mutindi, who was born in Kenya but now lives in The Netherlands, and David Muthengi Musili, a Kenyan resident, visiting Maasai Mara National Reserve, by chance came to the town of Oloonkolin and were confronted with the deplorable living conditions of the people there. Vivian and David decided to try and help them. For this purpose both Stichting Oloonkolin Kenya (in The Netherlands) and Oloonkolin Foundation Kenya (in Kenya) were founded in 2014. Together with the locals and people from outside the area with knowledge of development aid, they identified the needs and opportunities of Oloonkolin and prepared a number of project plans designed to solve these problems in a sustainable way.

The work of Oloonkolin Foundation Kenya is to assist the people of Oloonkolin to improve their living conditions. We achieve this by focusing on setting up health care facilities, reducing the causes of poverty and improving overall circumstances by providing knowledge and empowering the inhabitants on issues such as hygiene, healthcare, farming and trade. We realise this by providing means and practical assistance for the construction of sanitary facilities, drinking water facilities, and by starting up businesses such as in the fields of agriculture and tourism. This will initiate a development that should eventually bring about significant improvements in the areas of housing, health, education and basic needs. It is our policy to engage and facilitate the inhabitants to carry out the projects themselves to give them a sense of ownership and motivate them to sustain these projects.

Oloonkolin Foundation is located and operates in Oloonkolin village in Narok County in the former Rift valley province of Kenya. Oloonkolin is one of the poorest villages with an estimated population of about seven thousand inhabitants. The people of Oloonkolin are of the Maasai tribe. Traditionally, the Maasai were a nomadic people, who travelled with their herds through East Africa in search of pasture and water. However, over the past few decades their traditional way of life has gradually come to an end because of the continuing division of land, which makes it impossible for the Maasai to travel freely. Many Maasai have therefore settled in settlements and villages, among others in the area of Trans Mara. One of the poorest settlements in the area of Trans Mara is Oloonkolin, which is our starting point. Oloonkolin is our ‘pilot project’, and our aim is to extend the envisaged changes in Oloonkolin to the rest of Trans Mara which has a population of about 700,000 people. We operate in an area where lack of knowledge, poor medical healthcare, poor water sanitation and hygiene are the key problems to the people of Oloonkolin Village.

The Mara River separates the village of Oloonkolin from one of the largest and best-known nature reserves of Kenya: the Maasai Mara National Reserve, a vast park which attracts approximately 300,000, mainly foreign tourists each year. Those tourists stay in one of the many luxurious lodges and enjoy game drives through the park. The wealth of this tourist attraction contrasts sharply with the poverty of Oloonkolin.

2. Organizational Structure

Stichting Oloonkolin Kenya in the Netherlands and The Oloonkolin Foundation in Kenya work in close cooperation. The main activity of Stichting Oloonkolin is to collect funds, to set up the various projects and to determine strategy. The Oloonkolin Foundation Kenya is responsible for the operational business on the site and for carrying out the projects.

Oloonkolin Foundation Kenya is a Local Non-Governmental Organization Registered number NO.OP.218/051/14-0409/9742 in Kenya, under the Ministry of Devolution and Planning and currently operating in Oloonkolin in Narok County Kenya. Oloonkolin Foundation is governed with the following structure:

The Kenyan Board:

1. David Muthengi Musili - Chairperson and Project Leader
2. Daniel Letaipa Legage – Secretary
3. Simon Talengo Koriko - Treasurer
4. Alice Chemgeno Koroko – Member
5. Nashuru Kosenja - Member
6. Welison Lei – Member
7. David Kinyamal- Member

The Kenya Support Team

1. Veronica Omariba - Medical Advisor
2. Joseph Mutinda- Water District Officer T/Subcounty
3. Raphael Sande-Public health Officer
4. Leina –Student Midwife

The Kenya Support Team basically offers the Technical and Professional support to the Oloonkolin Foundation in Kenya. On that note the team also trains the volunteers and community in relation to our four pillars of operation.

Stichting Oloonkolin is a Non-Governmental Organization Registered at the Chamber of Commerce in the Netherlands under registration number 60101873. The Foundation also has an ANBI status.

The Netherlands Board:

1. Vivian Mutindi - Chairperson
2. Soesma Angnoe- Secretary
3. Fred Kuin - Treasurer

The Netherlands Board offers support and governance to Oloonkolin Foundation in Kenya. They do the resource mobilization for the NGO.

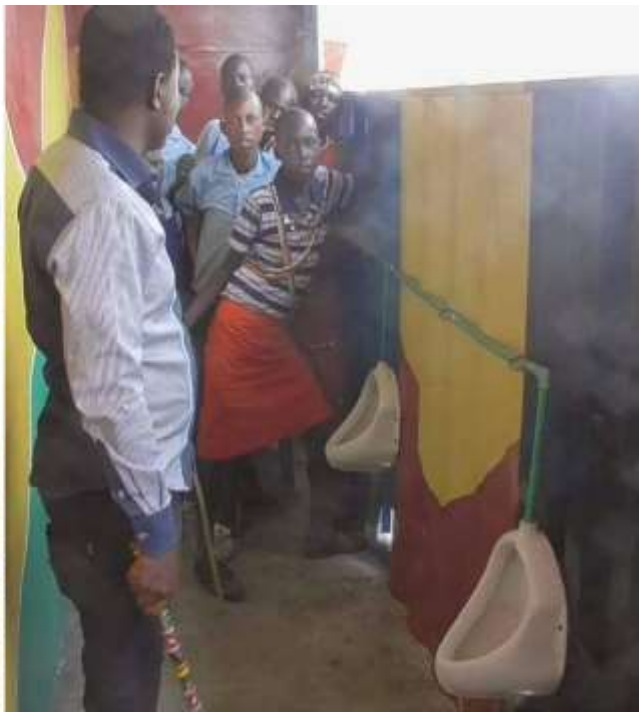
The Netherlands Supporting Team

1. Chris van Moorsel: Social media: website, Facebook, Instagram e.t.c.
2. Dr. J.A.E. Raams - Primary Health Centre
3. Dr. A.J.G.M. Smit - Medical plan
4. Chantal Westerhoff - Education on hygiene Ir.
5. Richard de Ruiter - Economic development
6. Saskia Tieken - Care and guidance of mother and child
7. Viktor Keppel Hesselink - Sanitation and biogas
8. Lianne de Vries - prevent female genital cutting

The Netherlands Supporting Team basically offers the Technical and Professional support to the Oloonkolin Foundation in Kenya. On that note the team trains the local staff and community in relation to our four pillars of operation too.

Results:

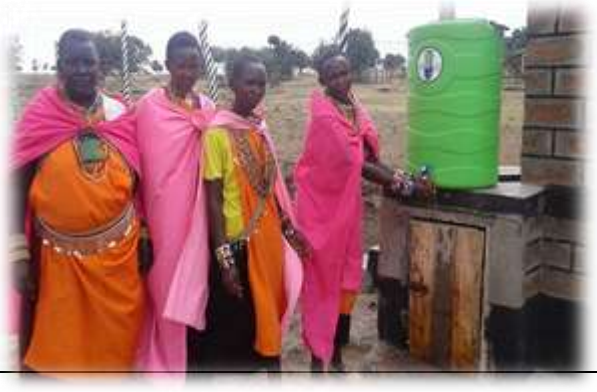
2017: Clean Drinking water and sanitation project at Oloonkolin primary school: construction of a borehole with solar pumps. This water is transported via connected pipelines to schools in Oloonkolin and to a water kiosk in the center of the village hence we built toilet of sea containers at Oloonkolin primary schools



2016: Clean Drinking water Project Elementary School-Ntulele.: We constructed a borehole in partnership with Cordaid and World Vision, water storage tank has been built and it supplied water to Oloonkolin Elementary School-Ntulele.

Eye care Project: Eye screening and cataract surgeries in co-operation with Foundation SLAH, (leer anderen helpen), Zienderogen and the Ministry of Health - Narok County Council.

Hygienic education project: Broadcasting from the Netherlands of an education team regarding hygiene, trained 15 local information officers who further spread the knowledge about relevance of good hygiene among the local population.



2015: Education project: A local student Leina started training as an obstetrician, in cooperation with the Dutch ‘Help Verloskundigen in Kenia’ and ‘Wilde Ganzen’ Foundations.

Centre for community gatherings, education and information.

3. Problem analysis – Oloonkolin Primary School

Oloonkolin Primary School is located in the central core of Oloonkolin. Here, approximately 3,000 Maasai take their children (mainly the boys) to this school. The school year starts in January. In the months of April, August and December, the children are on vacation. Children up to 6 years can go to nursery school.

Starting at 6 years, children begin attending primary school which consists of 8 years in total. This means that the children are about 14 years old if they get the basic school diploma.

Currently, 400 children attend this school who are mostly boys. Girls do not go to school because they need to help their mothers fetch water. They walk long distances to fetch water from the river, leaving them with no time left for school.

There are 10 classrooms, 2 of which are used as nursery and for exams. The classes are sometimes quite crowded; mostly in class (grade) 1-6 sometimes 50-60 children can be in one class.

Due to high school absenteeism caused by illness for example, the children fall behind and ultimately even drop out of school. Girls are circumcised and married at a young age.

The children at this school do not have clean drinking water. They get drinking water from the Mara River. This water is the natural habitat of wild animals, such as crocodiles and hippos, and is packed with all kinds of parasites and germs. Also, the children currently do not have access to sanitary facilities. The toilet at the school has recently collapsed. This leads to a range of health problems, such as cholera, diphtheria and pharynx. These diseases lead unnecessarily to the death of many children, partly because they do not have access to health care. In addition, many people fall prey to crocodiles and hippos when fetching water at the river.

The government grants basic education to a few posts; the registration fees and books are free of charge. However, other costs such as uniforms, writing and other materials (water / sanitary) etc, come at the parents' expense. The government does not have enough budget to reimburse all of this.

The parents do not have sufficient income to be able to repair the congested WC. They came to us for support. They have formed a committee that will work to collect money from the community and to help with the construction of the toilet building. Also, some moms have offered jewelry for sale. The proceeds can be used for water and sanitation at school.

4. Project Objectives

The following are the objectives of the projects:

- Clean drinking water for 3000 inhabitants of Oloonkolin and about 1000 inhabitants of neighbouring villages.
- Continuity of education for 400 children.
- Increase in overall health of the people.
- Reduction of diseases, cf. lack of clean drinking water, poor sanitation and an unhygienic lifestyle by 100%
- Diseases and deaths caused by attacks from wild animals when fetching water in the river will decrease by 100%;
- School absenteeism due to unhygienic related diseases will decrease by 100%
- Reduce school failure among girls due to water shortage by 100%;
- Self-employment by women through economic development;

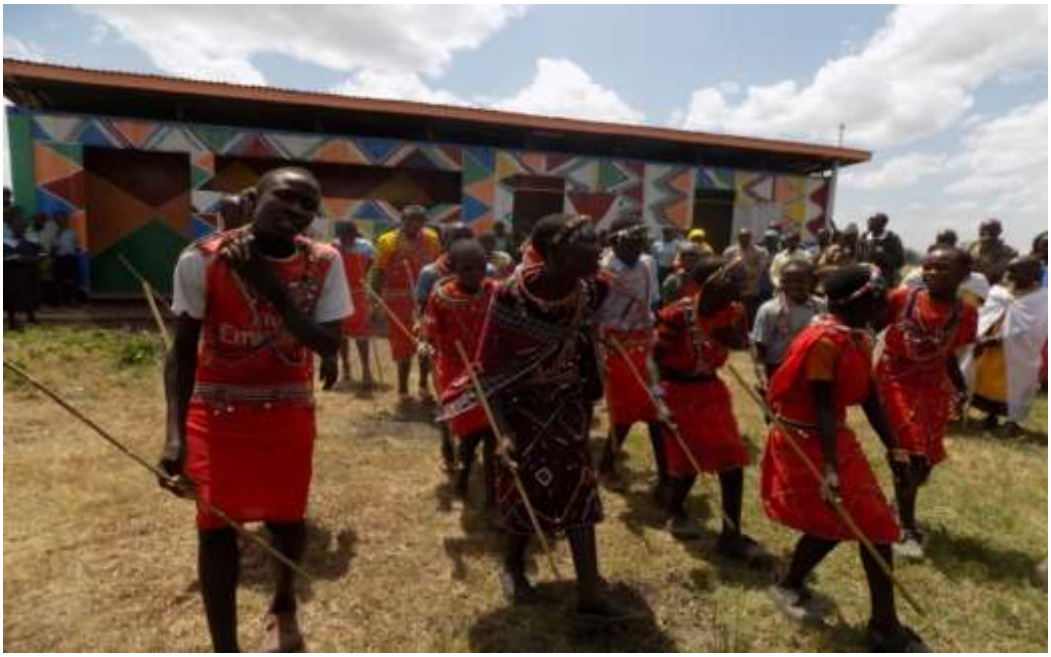
5. Input

Inputs and activities carried out in the implementation of the projects:

- Construction of a 40-ft. long sea container toilet.
- Installation of 8 toilets in the sea container.
- Installation of 4 washbasins next to the toilets.
- Construction of water reservoirs at Oloonkolin primary school, so that the children can have access to clean drinking water and take water home after school. Thus, residents are encouraged to bring their children to school.
- Construction of water reservoirs at a reasonable distance from the residents of Oloonkolin, so that they walk for a maximum of 30 minutes to access clean drinking water. There must be sufficient water available; about 20 liters per person per day.
- Increasing knowledge and effective behavioral change in the field of hygiene through information and training.
- Guide women to develop economically, for example through education in the field of land, horticulture and tourism.
- Training and teaching of staff to maintain the toilet building, the water facility and perform small repairs.

6. Project activities – Oloonkolin Primary School

6.1. Project plan 1: Construction of 8 sea container toilets in Oloonkolin Primary School.



6.1.1. Basic Data

Project Title: WASH PROJECT Oloonkolin Primary school.
Project Dates: 05/12/2016-1/6/2017
Date of Report : July 2017

6.1.2. Total Cost and Funding of the Project

The Exchange rate is
1 euro is 110ksh

SNO	DESCRIPTION (Toilet containers)	TOTAL AMOUNT KSH/=	EURO
1	Purchase and transportation of the container to the site	450,000/=	4,091eur
2	Metallic windows and fittings	25,000/=	227eur
3	Metallic doors and fittings	56,000/=	509eur
4	Painting	50,000/=	455eur
5	Toilet partitioning	60,000/=	545eur
6	Plumbing materials and fixtures.	100,000/=	909eur
7	Foundation	20,000/=	182eur
8	Art works maasai design and logo	50,000/=	455eur

9	Septic tanks (3 chambers)	150,000/=	1364eur
10	Education for maintenance of the WASH projects.	350,000/=	3182eur
		1,311,000/=	**11,919eur**

6.1.3. Project Execution

The WASH project incorporated the building of sanitation facilities with the objective of encouraging the people of Oloonkolin to live in improved conditions that uphold high sanitation levels. The soil in this area is highly alluvial and may not support the weight of stone or brick toilets. The best option that Oloonkolin Foundation chose was to build its facilities using container. Thus the need to purchase one, which will serve the purpose of building eight toilet units four for males and females each.

David muthengi Musili, project manager of Oloonkolin foundation started first research on where to purchase the container and how to transported it to Oloonkolin. After enquiries and getting the container, Simion Talengo Koriko who is one of our board members accompanied David Muthengi to Mombasa Nyali where they successfully purchased the container. The C.E.O of Sino Trailers authorised the towing of the container to the trailer and later that evening they started their journey of about 1000km back to Oloonkolin. It took them one day to reach to Oloonkolin, although they experienced some challenges on the way, the container successfully arrived at Oloonkolin Primary School.

The community together with the pupils and the teachers received the container with joy and happiness and were ready to help David and Simion with offload the container from the trailer. Since they did not have a offloading machine, the container was offloaded by pulling it off from the trailer with the help of the community. Later that day a meeting was held between the board and the community to commission roles towards the beginning of the project.

Before any move ahead we had a board meeting together with a few members of the community and schoolboard committee. we planned for a community funds raising towards the project, the community contributed 150,000/= Kenyan shillings and they faithfully agreed to help with the construction of toilet.

Under the supervision of a qualified engineer from Green Berg Contractors, our local building experts laid a foundation on the ground for the container, to ensure that it is firm and steady in its position. The floor of the container was cemented for an attractive look and to prevent absorption of water since the floor is made of wood. The women of the village played a crucial role by assisting in bringing water and sand for establishing the foundation, and cooking for the contractors as they were building.

Once the foundation was completed we contracted the local welding and building team to partition the container as per the engineer's instruction. They put in place doors, four on the girls' side and two on the boys' side, they then followed with the windows and ventilations. Everything went on successfully despite the challenges we experienced due to lack of electricity. We however managed with the use of a generator to carry out the activity.

The partitioning of the container was done by the use of local hardwood and soft board. Our local building experts subdivided it into six rooms; four toilet rooms for the girls, two toilet rooms for the boys and one big urinal for the boys. This activity took a duration of three weeks to be accomplished as planned.

After successful subdivision of the container we installed the toilets, low level toilets for the girls and high level toilets for the boys. Connections were made from the toilet directly to the septic tank.

Upon completion the local painters did some painting work on the toilets. They did a commendable job by incorporating artwork of patterns resembling the Maasai community.

As the paint work was in progress the construction of the septic tank commenced immediately, the septic tank included three chambers and a soak pit. This was done successfully.

We also established rain water collecting system. This included water catchment points and a tank capacity of 2000liters. This would be used by pupils to clean their hands, maintain cleanliness in the toilet facility and classrooms.

6.1.4. Challenges in Project Execution

- The process of inspection before leaving the port after purchasing the sea container was time consuming, as well the heavy traffic experienced as we tried to leave the port.
- Secondly we experienced a mechanical problem along the highway and it took us 3 hours to fix the problem and continue with our journey.
- As we took the road to Oloonkolin off the main road, the truck stalled because the road was muddy and impassable due to the rains.
- The lack of power in the area required the use of a generator for welding activities, this was more time consuming and an additional cost of hiring a generator was included.
- The project execution was time consuming due to logistical issues that arose, for example transportation of material was challenging due to the muddy roads in the rainy season.
- The rain water collected may not be sufficient for daily use because we don’t have rains throughout the year.
- The rain water system from the tank doesn’t have enough pressure to fill all the toilets since there are too many pipeline connection within the toilet, therefore it takes a lot of time to fill in the toilet flashing tanks. therefore we have done another connection to the toilet from the main tank at Oloonkolin primary school which has sufficient pressure to supply enough water to the toilet.

6.1.5. Output and Outcome

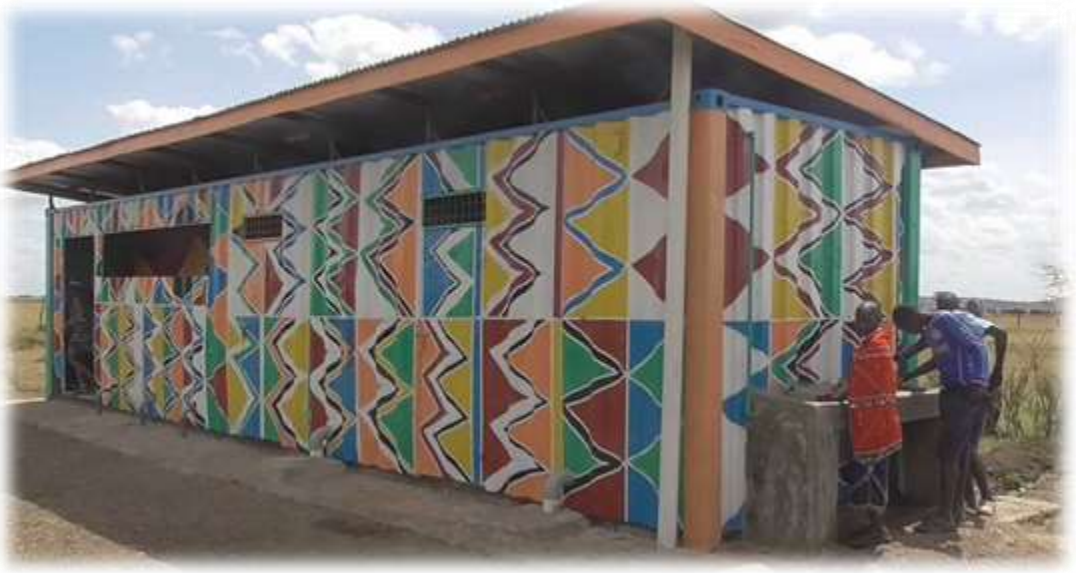
Output	Outcome
The children of Oloonkolin Primary School received a sanitation block in the school. This included toilets for boys and girls and a septic tank.	This improved the hygiene standards of the children and therefore their health has improved. There was a threat to the closure of the school . This will not happen and the children will continue comfortable with their studies.
The sanitation project benefitted 400 boys and girls.	The children enjoyed sanitation facilities of modern standard and they have gained knowledge on better hygiene practices.
The school environment is clean and presentable. The availability of toilets has changed the behaviour of the children making it easier to maintain cleanliness in the school.	The incidences of sickness due to poor hygiene greatly reduced and therefore school attendance increased. Due to improved health of the children, they are able to concentrate better in their studies, and their performance has improved significantly.
Local community members were able to earn an income during the implementation process of the project. They provided labour and other services and they were paid for it.	The community is able to pay school fees for their children, buy food and develop them self's.
A local committee was formed and they were trained on the benefits of the project and best management practices. This will be useful for posterity and for implementation of future similar projects. A local was also trained who will be responsible for all general repairs of the sanitary facility.	The local committee participated in the project and therefore gained knowledge on the process on implementing the project, maintenance and the benefits of having a modern sanitation block. This participation and knowledge will motivate them to sustain the project in order to continue enjoying the benefits.

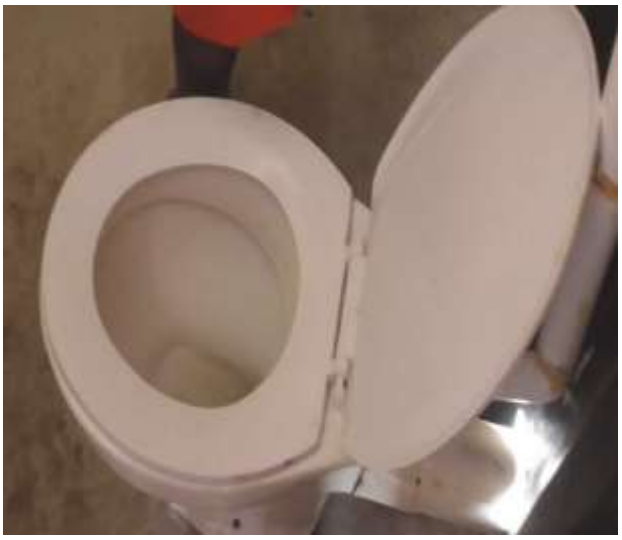
6.1.6. Photo Report









6.1.7. Sustainability

There was full involvement of the local community by appointing community members to be involved in the planning and execution of the project. Their involvement gave them a sense of ownership and with this in mind they are inspired to take charge of the project and ensure its success even in the long term.

The committee members were trained on how to manage the project and to identify areas that need repairs so that the toilets are maintained in good condition in order to serve the school effectively in the long term.
Also the committee pointed out an individual from the community who was taken to a nearby vocational training centre and was present during all the project execution. He will be responsible for all the repairs and advising the way forward in case of corrections to be done or further expansion of the project.

The school community and local committee members were educated on good hygiene practices and the benefits they will gain in terms of improved health which in turn will lead to better performance in school. The knowledge received will motivate them to adopt good hygiene practices and to pass on the knowledge by educating others.

The sanitary facility is built from a sea container, therefore durability is guaranteed. The soil texture of Oloonkolin doesn't actively support the construction of buildings made of bricks and cement (the previous toilet had collapsed) therefore a sea container is guaranteed to stay for long.

The school has a Greenhouse project which will generate income to the school therefore part of the revenue collected will be used to maintain the project.

6.1.8. Conclusion

The building of the sanitation project will have a long term positive impact not only on the children of Oloonkolin Primary School but also on the community. Availability of modern toilets raises the hygiene standards of the children and improves their health because they are less exposed to diseases. Children that are healthier will have high school attendance, perform better in school and in the long term actively engage in the development of the community. With similar projects carried out in other schools within the community, the results will be a healthier and stronger community that is more productive towards development of the community that will be enjoyed by future generations.

6.2. Project Plan 2: Construction of Clean drinking water at Oloonkolin Primary School

6.2.1. Basic Data

Project Title: WASH PROJECT Oloonkolin Primary school

Project Dates: 1/2/2016-1/6/2017

Date of Report : July 2017

6.2.2. Total Cost and Funding of the Project

The exchange rate is
1 euro is 111 ksh

SNO	DESCRIPTION	TOTAL AMOUNT KSH/=	EURO
1	HYDROGEOLOGICAL SURVEY REPORT, APPLICATION DRILLING PERMIT, APPLICATION FEES AND THE ENVIRONMENTAL IMPACT ASSESSMENT.	**162,500**	**1464eur**
2	COMPLETE BOREHOLE INSTALLATION	2,012,000/=	18126eur
3	SOLAR PANELS AND INSTALLATION TOWER.	1,000,000/=	9009eur
4	PROVISIONAL BOQ FOR 3KM PIPELINE TO THE MAIN TANK AT SCHOOL.	751,000.00	6766eur
5	PROVISIONAL BOQ FOR 1.5KM pipeline from the main tank to the sea container toilet, greenhouse and the proposed point of the health center	400,000.00	3604eur
6	PROVISONAL BOQ FOR 1KM pipeline from the main tank to the proposed point of the health center	350,000.00	3153eur
		4,675,500/=	**42,122eur**

6.2.3. Project Location

The proposed project site is located in Oloonkolin about 45 Km south- west from Kilgoris town in Transmara west sub-county, Narok County. The site is situated 15Km North-west from Kirindon. The area is accessed by weather road from Kirindon which is normally impassable during rainy season. The area borders the famous Maasai Mara Game Park and is traversed by the Mara River which is infested with hippos and crocodiles.

6.2.4. Project Execution

Establishment of Water & Sanitation User committee

A local committee was formed, Water Supply and Sanitation User Committee (WUSC), for the purpose of including the community in participation and decision making in matters involving them. The committee was formed with representation of the women and other discriminated groups in proportion to populations in the project areas. The committee consisted of men, women, youths and disabled people. The committee was trained on effective management of the project, its operations and maintenance. They were also trained on how to utilize the finances for repairs and maintenance and also to initiate other development projects for sustainability purposes.

Opportunities were provided to the local people to be involved in the implementation of the project by employing semi-skilled personnel, casual labourers and security guards for the material and ongoing project on site. With the full participation of the local people, successful implementation of the project was ensured.

S/No	Name	Position	Responsiblity
1	DANIEL LETAIPA LEGAGE	B.O.D (Secretary)	Monitoringand supervision
2	EUNICE YIAMPOI	B.O.D (Member)	Monitoring
3	SIMION TALENGO KORIKO	B.O.D (Treasure)	Monitoring
4	DAVID MUSILI	B.O.D(Chairperson	Monitoringand supervision
5	NOONGUTA ENOLE	B.O.D (Member)	Monitoring

Environmental Impact Assessment and Hydro-geological Survey

In accordance with the law, an environmental impact assessment was done to assess the feasibility of the project and to ensure that it will not have any negative impact on the environment. The assessment was carried out successfully and we received approval from the necessary authorities, National Environmental Management Authority (NEMA) and Water Resource Management Authority (WRMA). In addition our contractor Ground Scan Consult did a hydrological survey within Oloonkolin Primary School and they were successful in locating a position where the drilling will be done. At this position the results indicated that the water is at a depth of 180 metres. This level has sufficient capacity to meet the daily requirements of the people. The estimated capacity is 20 litres per person per day, which totals to 400,000 litres per day.

Drilling of the Borehole

Once the capacity was confirmed to be sufficient, we contracted Ground Scan Consult in partner with MSHACK Technical Services Ltd to carry out the drilling of the borehole. The drilling took one day and night to complete. A sample of the water was taken and we carried out a quality analysis and the report showed that the water is fit for human consumption and that it is very clean. After a successful drill at a depth of 180metres, a water pump was installed fitted with a motor and pipes. This process took a full day to be completed successfully. The borehole was reinforced by constructing a security fence around it and a gate to ensure that unauthorised persons or animals do not tamper with the facility. the community gathered themselves organised a small celebration for this achievement they tested the water and said its pure and clean.

Installation of the Solar System

A solar system was installed for the purpose of providing power to pump water from the borehole to the main storage tank at Oloonkolin Primary School, a distance of approximately 1km. The installation included solar panels, a control panel and a changeover system. The process took one day to complete and it was successful because we managed to pump water from the borehole.

Additional Water Points

We built a pipeline from the borehole to the main tank at Oloonkolin Primary School. The tank which has a capacity of 50,000 litres/ 50m3, was built by World Vision Kirindon ADP. It takes one day to fill the tank to capacity. From the water tank, we managed to extend connections to the Oloonkolin Community Center Water Kiosk 1km away, to Oloonkolin Primary School, to a greenhouse at Oloonkolin Primary School and to the modern toilet facility at Oloonkolin Primary School. There is an ongoing connection that will go to the proposed Health Center and another to the nearby village for easy access.

Hygiene Education

Veronica, a nurse and a medical expert, was hired by the Oloonkolin Foundation to coordinate education on hygiene standards to the people of Oloonkolin. A team of the local people that had initially been educated by Chantal de Ruiter will support Veronica in this activity. The members of this team are

1) CHW (Community Health Workers) from Oloonkolin and the nearby villages. i.e Ntulele and Emarti.
2) Teachers from Oloonkolin Primary School who will continue to educate the pupils.
3) Elders and Chiefs from the community.

A representative of the Ministry of Health in the local area provides support by testing the quality of water periodically to ensure that it is fit for human consumption. They also monitor the progress of the community in terms of maintaining high standards of hygiene and they advise whenever they detect a need for medical attention.

The school community has been the main recipient in hygiene education. They follow a program whereby, Veronica assisted by her team, trains them on good hygiene practices every twice a week. The first lot of the training included pupils and the teachers of Oloonkolin primary school, then the second lot of the training included members of the community (CHW"s, Elders and Chiefs). A total of 60 members of the community including their representatives were trained and later awarded with certificates indicating that they will maintain good hygiene at their households and teach the rest of the community about importance and advantages of good hygiene. The representatives with the help of a representative from the ministry of health will be doing follow ups to ensure that the set standards of hygiene are maintained.

Part of the hygiene training includes demonstrating how to clean the toilet and thereafter tasking the children to practise what they have learnt by maintaining the cleanliness of the toilets. The children must scrub the toilets with the aid of disinfectants every morning under the supervision of their class teacher. The classes take turns to clean the toilets as per a schedule provided by the school management. This will improve the hygiene of the pupils also will help them to keep their homes clean and help their parents improve hygiene at their home place.

6.2.5. Results – Output and Outcome

The initial estimation was that the borehole would provide 3,000 inhabitants of Oloonkolin and about 1,000 inhabitants of neighboring villages with clean drinking water. But surprisingly, the borehole has attracted people from many more villages around Oloonkolin. This means that the bore hole sufficiently provides clean drinking water to a total of 10,000 people living in Oloonkolin and neighbouring villages which are Mailolong, Kimelok and others. 75% of the total population that are able to access clean drinking water are women and children, while 25% are men. The borehole has the capacity to supply about 200,000 litres of water daily, assuming that a person requires 20 litres per day on average.

The people of Oloonkolin are traditionally herders and therefore need to water their cows regularly. The borehole project has also benefitted their cattle that now have access to clean drinking water drawn from the nearby borehole. The herders no longer have to go to the river to water their cattle and this prevents attacks on the animals from wild animals.

The table below illustrates the output and the outcome of the Borehole project. It highlights the immediate and the long term results realised by the Borehole Water Project.

OUTPUT	OUTCOME
The project was able to provide access to clean drinking water to a population of 10,000 people.	The health status of Oloonkolin has generally improved. The availability of clean drinking water has curbed the spread of waterborne diseases such as cholera, diphtheria and typhoid fever.
The percentage of women and children impacted by the project is 75% while that of men is at 25%. Out of these 6,000 are girls women and children 4,000 are boys and men.	Access to clean drinking water reduces death rate caused by germs, parasites and poor hygiene. It also reduces the rate of infant and maternal mortality. There are also reduced incidences of death caused by attacks from wild animals. People no longer have to go to the river to fetch water.
The source of water is now within easy reach of the people. The distance covered by the women and girls to fetch water is significantly reduced. The borehole is situated within the village.	School attendance is high for both boys and girls because they fall sick less. By consuming clean drinking water, they are no longer exposed to germs and parasites that cause diseases. Therefore they are able to attend school without interruption.
The local committee gained valuable knowledge on the management of the borehole which is useful for future similar projects.	Due to good health, the men and women are able to work better and engage in economic activities to provide for their families. They will be able to provide a better quality life for their families and drive development activities in their village.
The local villagers save time and energy that was previously spent on fetching water.	Children are able to concentrate better in their studies. They now perform better because they focus their time and energy in learning and are in good health.
The school immediately begun to earn revenues from sale of water to the villagers and the environs.	The area has seen a rise in enrolment of children into school, more so girls who no longer have to spend their days fetching water from the dirty and dangerous river, full of wild animals. They can get clean water at school with their mothers and stay at school to study, while their mothers and father's safe time to work and earn a living for their family. The for example women at the community center gathers together after while the children are at school and makes maasai jewels that provide them income and from the community

	center they can take water at home.
The local committee acquired monitoring and evaluation skills. They were empowered with skills that can be useful for future similar projects.	The project will create an awareness of hygiene and increase the standards of cleanliness among the people.
The cattle could now be watered with clean Water from the nearby borehole. The herders did not have to go to the river to water their cattle, thus avoiding attacks from the wild animals.	Less incidences of attacks on their cattle meant that their numbers remained high. Their cattle improved in health and this resulted in better milk production and quality beef production. This being their main source of livelihood, their economic situation improved as a result of improved productivity of the cattle.

6.2.6. Challenges

The villagers were initially resistant to change due to cultural beliefs and practices that required girls to stay at home and do their chores that included fetching water. It was a challenge to convince the people of Oloonkolin to allow their girls to attend school who now no longer had to go to the river to fetch water. But the benefits that came with the availability of clean water helped to convince them that the change is for the betterment of the entire community.

6.2.7. Sustainability

We have put measures in place to ensure continuity and sustainability of the project. The first step was to fully involve the people of Oloonkolin in the implementation of the project by educating them on its use and benefits and helping in the construction of the facility. Their involvement gave them a sense of ownership of the project and therefore the goodwill to ensure its success.

The people were sensitised on the value the project will add to their lives by having access to clean drinking water. This way they will ensure that the facility is maintained in good condition for them to be able to continuously enjoy the benefits of clean drinking water.

They were also trained on the use and maintenance of the borehole facilities. A local committee was formed to supervise and to oversee the finances that will be used for

maintenance. The finances will be obtained from sale of water and it will be the responsibility of the committee to manage these funds and allocate them appropriately to repairs and maintenance. Also the committee pointed out an individual from the community who was taken to a nearby vocational training centre and was present during all the project execution. He will be responsible for all the repairs and advising the way forward in case of corrections to be done or further expansion of the project.

The revenue collected from selling the water will also be used to sustain the water project.

Part of the revenue collected from the greenhouse will be used to maintain the water and the toilets at Oloonkolin primary school

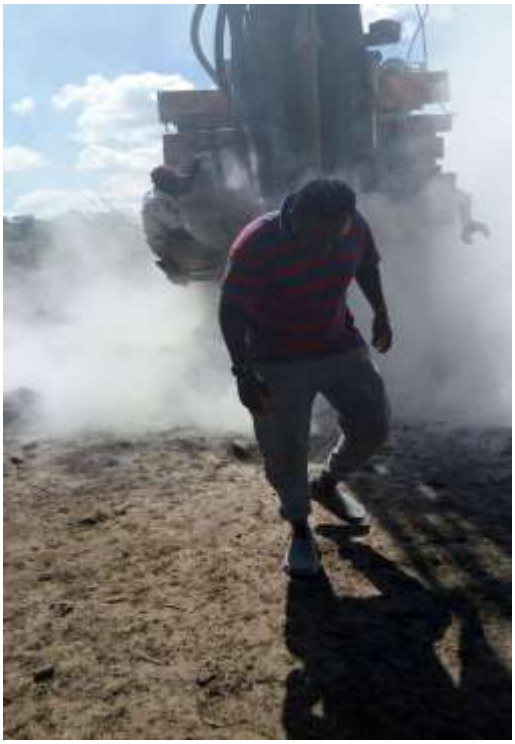
6.2.8. Conclusion

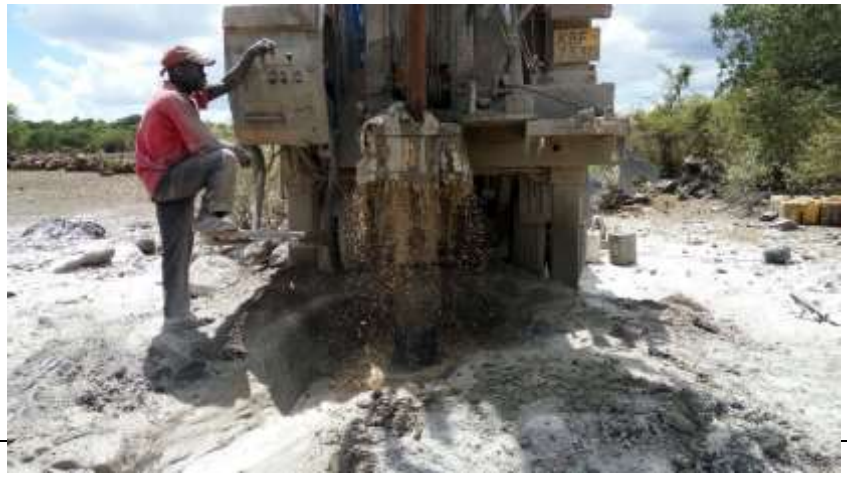
The borehole project has had a significant impact on the people of Oloonkolin which are seen in the immediate benefits and the long-term benefits that will be experienced over a long period of time.

We have seen a positive impact on the health of the people which in turn empowered and strengthened the people to perform better in school, in economic and also domestic activities. This has and will continue to improve the quality of life of the people if well sustained.

In order to strengthen the outcome of the project the community should be sensitised on the importance of safeguarding their project for posterity, continuous training in order to increase capacity and also pass on the knowledge to the younger generation. They should also be sensitised on water conservation methods to ensure that they have continuous supply of water in the rainy as well as the dry seasons. Finally environmental conservation should also be a subject of importance by looking at its contribution to the water table which is the primary source of water supplied to the people.

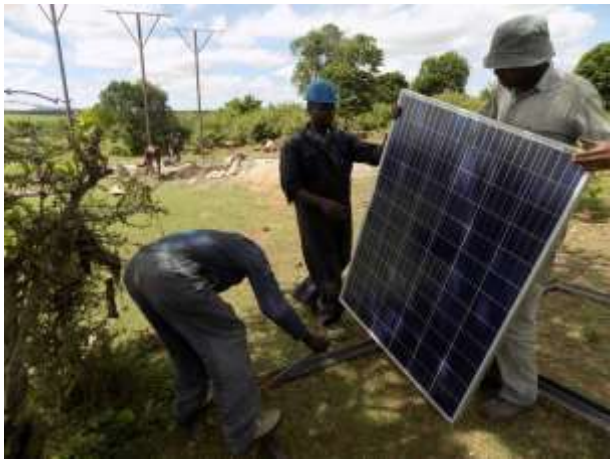
6.2.9 Photo Report





6.3 Installation of the Solar System

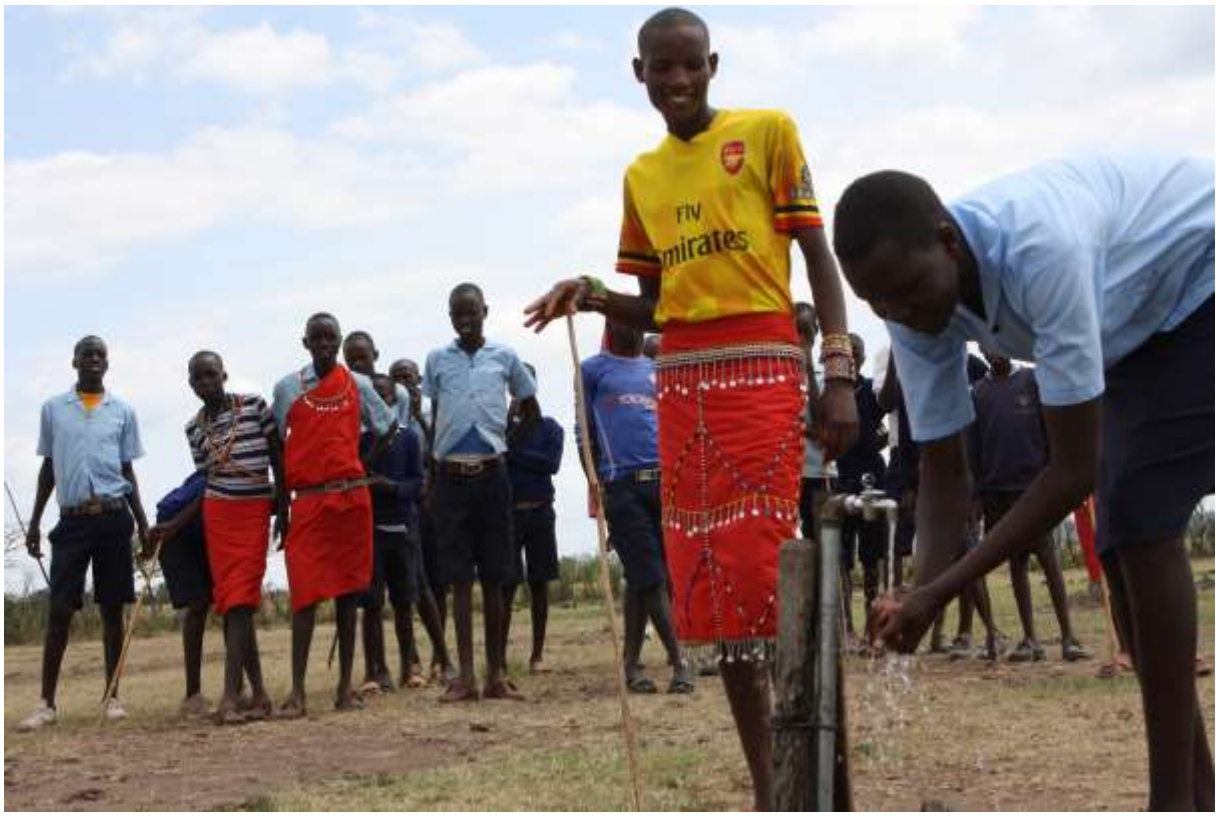
6.3.1 Photo Report



6.4 Additional Water Points

6.4.1 Photo Report

6.5 General Photo Report Clean drinking water at Oloonkolin Primary School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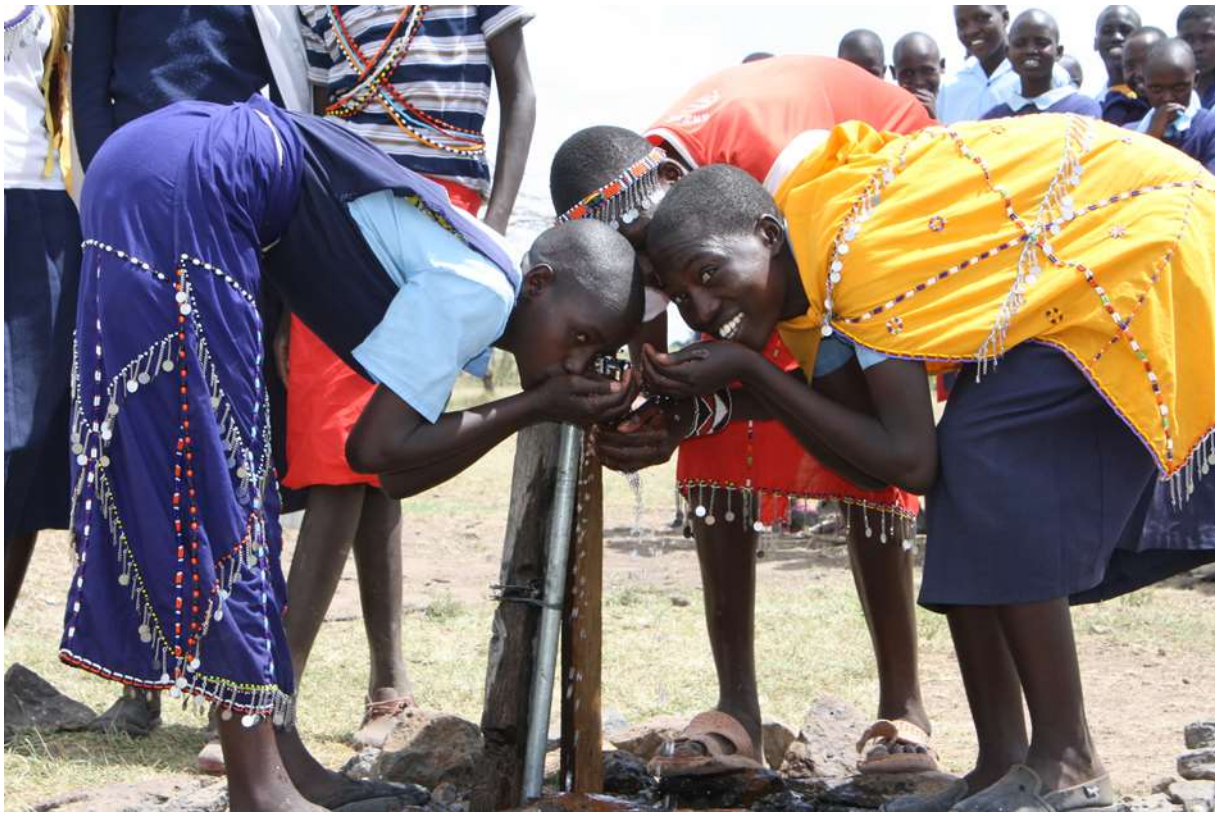

Water at the community centre

Water At the village centerKiosk

6.5.1Security and hygienic education

6.5.2 Certificate Hygienic education

6.6 Total Budget WASH project Oloonkolin Primary School

SNO	DESCRIPTION (Toilet containers)	TOTAL AMOUNT KSH/=	EURO
1	Purchase and transportation of the container to the site	450,000/=	4,091eur
2	Metallic windows and fittings	25,000/=	227eur
3	Metallic doors and fittings	56,000/=	509eur
4	Painting	50,000/=	455eur
5	Toilet partitioning	60,000/=	545eur
6	Plumbing materials and fixtures.	100,000/=	909eur
7	Foundation	20,000/=	182eur
8	Art works maasai design and logo	50,000/=	455eur
9	Septic tanks (3 chambers)	150,000/=	1364eur
10	Education for maintenance of the WASH projects.	350,000/=	3182eur
		1,311,000/=	**11,919eur**

SNO	DESCRIPTION	TOTAL AMOUNT KSH/=	EURO
1	HYDROGEOLOGICAL SURVEY REPORT, APPLICATION DRILLING PERMIT, APPLICATION FEES AND THE ENVIRONMENTAL IMPACT ASSESSMENT.	**162,500**	**1464eur**
2	COMPLETE BOREHOLE INSTALLATION	2,012,000/=	18126eur
3	SOLAR PANELS AND INSTALLATION TOWER.	1,000,000/=	9009eur
4	PROVISIONAL BOQ FOR 3KM PIPELINE TO THE MAIN TANK AT SCHOOL.	751,000.00	6766eur
5	PROVISIONAL BOQ FOR 1.5KM pipeline from the main tank to the sea container toilet, greenhouse and the proposed point of the health center	400,000.00	3604eur
6	PROVISONAL BOQ FOR 1KM pipeline from the main tank to the proposed point of the health center	350,000.00	3153eur
		4,675,500/=	**42,122eur**

The exchange rate

1euro is 110ksh

SNO	DESCRIPTION (Sustainability Of the project)	TOTAL AMOUNT KSH/=	EURO
1	Hygienic education	100,000/=	909.1eur
2	Green House	300,000/=	2727.3eur
		400,000/=	**3636.4eur**

FINAL SUB-TOTALS

FINAL SUB-TOTALS DESCRIPTION	TOTAL AMOUNT KSH/=	EURO
Clean drinking water	1,311,000/=	11,919
Sea Container Toilets	4,675,500/=	42,122
Sustainability of the project	400,000/=	3,636.4
	6,386,500/=	**57,677.4**

Financial overview Greenhouse first year/first harvest

The greenhouse project was donated by world vision to oloonkolin primary school to help the school in its development programes. oloonkolin foundation together with Oloonkolin Primary (both commitees) commisioned various duties towards themanagement and the maintenance of the GreenHouse. It was agreed that Oloonkolin Foundation will take the overal management of the project for five years. After that an evaluation report would be generated to establish if the project was a succes and if the outcome was positive or negative. Both paties agreed that a 1/2of the revenue collected will be used to maintain the WASH PROJECT at Oloonkolin primary school and the rest will be upon the school management to decide.

THE EXCHANGE RATE

1 EURO = 110KSH

ACTIVITY	FUNDED BY	AMOUNT IN KSH	AMOUNT IN EURO
Purchase and istallation of the greenhouse	World Vision	N/A	N/A
Ground prepation, setting up of the nusery, and beds,	Oloonkolin Foundation	20,000/=	181.81EUR
Transplanting,Maintenance and management of the greenhouse for one year	Oloonkolin foundation	100,000/=	909.09EUR
Fencing	Oloonkolin primary school	20,000/=	181.81EUR
Harvesting and transportation	Oloonkolin foundation	50,000/=	454.54EUR
Total Expenditure 1st Year		190,000/=	1727.25EUR

IN THE GREEN HOUSE

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting Maturity 3-4 Months Produce 64kgs/Month	**200ksh**	**12,800/ksh**
2nd Harvest 64kgs	200ksh	12,800/=
3rd Harvest 64kgs	200ksh	12,800/=
4th harvest 64kgs * 3months	200ksh	38,400/=
Total per year/Harvest		76,800/=

THE EXCHANGE RATE

1 EURO = 110KSH

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting Maturity 3-4 Months Produce 64kgs/Month	**1.81EUR**	**116.36EUR**
2nd Harvest 64kgs	**1.81EUR**	116.36EUR
3rd Harvest 64kgs	**1.81EUR**	116.36EUR
4th harvest 64kgs * 3months	**1.81EUR**	349.09EUR
Total per year/Harvest		698.17EUR

OUTSIDE THE GREEN HOUSE FIELD PLANTATION

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting Maturity 3-4 Months Produce 60kgs/Month	**200ksh**	**12,000/ksh**
2nd Harvest 60kgs	200ksh	12,000/=
3rd Harvest 60kgs	200ksh	12,000/=
4th harvest 60kgs * 3months	200ksh	36,000/=
Total per year/Harvest		72,000/=

THE EXCHANGE RATE

1 EURO = 110KSH

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting Maturity 3-4 Months Produce 60kgs/Month	**1.81EUR**	**109.09EUR**
2nd Harvest 60kgs	**1.81EUR**	**109.09EUR**
3rd Harvest 60kgs	**1.81EUR**	**109.09EUR**
4th harvest 60kgs * 3months	**1.81EUR**	327.27EUR
Total per year/Harvest		654.54EUR

Balance	Yearly expenditure	Yearly income
Positive/negatieve	**190,000/=**	**148,800/=**

Balance	Yearly expenditure	Yearly income
Positive/negatieve	**1727.25EUR**	**1352.71 EUR**

RECOMMENDATIONS

Our main target for sales will be, the nearby lodges and camps in Maasai Mara National reserve and exportation to towns eg Narok, Nairobi and open air markets.

The price for the locals will be relatively negotiated at a pocket friendly price.

The first year the expenditure will be relatively higher compared to the income this is because it's the first project and a lot of investment has to be put in place.

The revenues collected on the second year will yield enough profits to run the green house and manage other projects.

A 1/2of the revenue collected will be used to maintain the WASH PROJECT at Oloonkolin primary school.

2nd YEAR HARVEST

ACTIVITY	FUNDED BY	AMOUNT IN KSH	AMOUNT IN EURO
Purchase and istallation of the greenhouse	World Vision	N/A	N/A
Ground prepation, setting up of the nusery, and beds,	Oloonkolin Foundation	5,000/=	45.45EUR
Transplanting,Maintenance and management of the greenhouse for one year	Oloonkolin foundation	30,000/=	272.72EUR
Fencing	Oloonkolin primary school	N/A	N/A
Harvesting and transportation	Oloonkolin foundation	50,000/=	454.54EUR
Total Expenditure 1st Year		85,000/=	772.71EUR

IN THE GREEN HOUSE

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting	**200ksh**	**12,800/ksh**

Maturity 3-4 Months Produce 64kgs/Month		
2nd Harvest 64kgs	200ksh	12,800/=
3rd Harvest 64kgs	200ksh	12,800/=
4th harvest 64kgs * 3months	200ksh	38,400/=
Total per year/Harvest		76,800/=

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting Maturity 3-4 Months Produce 64kgs/Month	**1.81EUR**	**116.36EUR**
2nd Harvest 64kgs	**1.81EUR**	116.36EUR
3rd Harvest 64kgs	**1.81EUR**	116.36EUR
4th harvest 64kgs * 3months	**1.81EUR**	349.09EUR
Total per year/Harvest		698.17EUR

OUTSIDE THE GREEN HOUSE FIELD PLANTATION

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting Maturity 3-4 Months Produce 60kgs/Month	**200ksh**	**12,000/ksh**
2nd Harvest 60kgs	200ksh	12,000/=
3rd Harvest 60kgs	200ksh	12,000/=
4th harvest 60kgs * 3months	200ksh	36,000/=
Total per year/Harvest		72,000/=

Total (kg)Harvesting tomatoes	Price Per Kilo	Price Total Harvest
1 st Harvesting Maturity 3-4 Months Produce 60kgs/Month	1.81EUR	109.09EUR
2nd Harvest 60kgs	1.81EUR	109.09EUR
3rd Harvest 60kgs	1.81EUR	109.09EUR
4th harvest 60kgs * 3months	1.81EUR	327.27EUR
Total per year/Harvest		654.54EUR
Balance	Yearly expenditure	Yearly income
Positive/negatieve	**85,000/=**	**148,800/=**

Balance	Yearly expenditure	Yearly income
Positive/negatieve	**772.71EUR**	**1352.71EUR**

POSITIVE	**63,000/=**	**580EUR**

6.7.1 Photo Report Green house

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BIC ABNANL2A

Kamer van Koophandel 60101873

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