Most communities have some source of water that they are dependent on for their drinking and cooking needs. This water is often contaminated with bacteria, amoeba, and the cysts of various helminthes. If this water is filtered and purified, it can make a significant difference in reducing the disease burden, especially for water-borne diseases, which can be as high as 75% of the disease load that the community encounters. This project introduced the use of a special water filter with proven capabilities and a long life. The project launched out in needy rural areas of several countries where MAP International has country offices. This report shares stories of success in communities in Ecuador, Bolivia, Cote d’Ivoire, Ghana, Kenya, and Uganda where the water filters have been introduced. This project was possible because of the generous donation given by an Irish Donor processed through Mr. Ken Gibson, CEO of Irish Leprosy Mission.
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GHANA

OVERVIEW
The pure water for the needy project was implemented in the THV (Total Health Village) Tumiamayenko and its surrounding settlements by MAP International. The project began in June 2010 and ended in December 2010 with a total budget support of USD 2000. The area, mostly peasant farmers with a population of about 625 relied on the river Bisi for drinking water. As a result, water related conditions like diarrhea were common especially in children. When MAP entered the community, one of the burning issues was getting access to safe water.

GOAL
The goal of the project was to reduce water-related diseases in about 90 families. The project intended to achieve this goal by supporting the families to acquire Sawyer water filters to filter their drinking water.

DETAILS

- Community dialogue on safe water practices
Community dialogue sessions were organized where members interacted between themselves and MAP to identify the adverse effects of unsafe water on their health. It was initially the position of the elderly that the River Bisi has been their source of water for years and they could not believe the water posed a threat to their health. The sessions helped community members identify diseases and infections associated with drinking unclean water, on the dangers of sharing water sources with animals and the need to practice personal hygiene and sanitation in the community to promote their state of well being.
- **Education and training on the use and proper installation of Sawyer filters**

  Members of the community were trained on installation, use and proper maintenance of buckets and filters. This was done through demonstrations by MAP staff on installation and cleaning of filters. Members were asked to wash filters and buckets regularly to ensure proper and continuous flow of filtered water. A three-member team made up of two men and one woman were nominated by the community to constitute a committee to oversee usage of the buckets in the community. They were to ensure that the buckets were not diverted for any other purpose.

- **Taking initiative**

  As a self-initiated project, members of the community contributed labor to build a shed to be used for a child welfare clinic. Both men and women in the community contributed hours of labor in the construction of the shed to help the nurses who come to the community on child welfare visits.

**DETAILS OF DISTRIBUTION**

In all, 83 families which make up a population of 445, comprising of 165 adults and 280 children were supplied with buckets and Sawyer filters. An extra bucket was given to every family to be used as a reservoir for filtered water in order not to run out of pure water. Every household in the community had been covered by the end of the project. Out of 83 filters supplied, 3 were found to be faulty and were therefore replaced. The remaining 14 filters will be distributed as further progress is made in the THV.

**PROJECT OUTCOME**

Buckets and Sawyer filters were distributed in August and November 2010. Regular follow up was done weekly in-between to ensure proper usage of buckets and filters. Members of the community were well educated by the end of the project on the infections associated with drinking unclean water. Community members also have access to pure and safe drinking water thereby resulting in a massive reduction of infections such as diarrhea and skin rashes among both children and adults. There has also been an increase in the attendance of child welfare programs by mothers in the community and visits of nurses are now regular as a result of the initiative which the community members took.
ACCOMPLISHMENTS

*14 filters still await distribution.
UGANDA

OVERVIEW

Before MAP staff arrived with Sawyer Water filters, this village of 154 households had one very poor water source (which they shared with animals). Women and girls would walk an average of 20 minutes several times a day to get to this water source, only to come away with dirty water. Eighty percent of the disease burden could be attributed to impure water. In addition to bringing the filters, MAP health promoters and staff have been discussing the benefits of clean water, having a separate source from animals, solar disinfection methods, and boiling in order to provide comprehensive training.

Today, more than 900 lives have been transformed. There is a visible reduction in disease burden particularly those related to drinking unsafe water. This has improved community productivity and overall wellbeing of people in Abala village. Through health promotion, the community decided to declare that all animals be taken to the swamp for water so that only human beings can use the rock water source available. They also acknowledged boiling the filtered water before drinking.

Mrs. Catherine Okello, the wife to the village chief, who is also the Village Women representative on the Parish council, was so thankful for the project that she said, “We had not known the actual cause of constant illness of our children until the filtration of water and the community education on household hygiene and sanitation was introduced in our community by MAP. Today, we are stronger as a community and are much more able to be focused in all our work in the fields than spending half a year in hospital with sickly children. We will demand that government provides these filters to every household!”

150 Filters
150 Families
900 People
ACCOMPLISHMENTS

- Project Evaluation
- Follow up Visits
- Utilization of donated labour to support installation of Community Development Project
- Training of Users in Installation and Maintenance of Sawyer Filters
- Formation of Community Water Committees
- Introduction of Sawyer Filters
- Community Dialogue on safe water use and benefits
- Community Entry/Household Data Collection
- Selection of Beneficiary Community and End Users
- Clearance of filters through customs/Parcel Service Company

Legend:
- Complete
- Not Complete
Ecuador

OVERVIEW OF RESULTS

The Pure Water project in Ecuador began when the MAP Ecuador team chose 5 communities for filter distribution. In each community, 10 families were carefully selected to use the filters, and to be community leaders. Each family would receive one filter, reaching a total of 50 families.

To date, the filter project in Ecuador has been successful in completing its foundational goals, such as raising awareness so that communities can see the importance of the filters, and establishing water committees in the communities with filters.

Geovanny Santamaria, part of the MAP Ecuador Staff (pictured at left) is training an indigenous Amazonian group, called the Tsa’chilla, to use the filters. Here he is with the President of the community, including him in the demonstration to the 10 families who will receive filters that same day.

After a few months with the filters, MAP staff returned to the communities, including the Tsa’chilla in Napo, and the communities of Santo Domingo and Apatug, in order to look after the progress of the project. In Santo Domingo, Geovanny found that innovations had been made to the filter that increased the pressure, allowing the filter to work faster. The community had invested $15 for this innovation, and they all assured Geovanny that it was a worthwhile investment.

“Fifteen dollars is not a lot to pay for something as invaluable as safe water. My children drink this water before they go to school instead of dirty water. I would recommend the filter and the $15 improvement to others in the community.”
In 50 families, the most common diseases, frequent diarrhea, fever and stomachache was 4 times per month before implementing the filters. Now the frequency of the diseases is 1 time per month, (Figure 1), this represents a saving from **30 to 40 dollars** in treatments and visits to the doctor. The time saved now is destined for productive activities and to act on other problems in the family.

![Common diseases frequency](image)

The water consumption also has improved. Formerly, a maximum of 3 liters of water per day was consumed, now the quantity has increased to **7 liters per day**. (Figure 2). The adults also feel that has improved their health, because the diseases related to the low consumption of water like: muscular pains, problems in kidneys, headache, etc., have diminished considerably. The children under 1 year old are most benefited because the quantity and quality of milk has improved in mothers.

![Water consumption - liters/family](image)

Charles and Jaime (Apatug)

Jaime (right) is 12 years old, has problems in the studies, and when he was an infant had low weight, and always he was sick, now the father says that his son is improving; he thinks that is by the water of the filter because his son takes constant water and has energy for to play, also he help to take care of the animals.
IMPROVE IMPROVEMENT OF KNOWLEDGE AND SKILLS

As a result of workshops of training with the families on many topics were shared as hygiene, nutrition, improvement of the water, parasites, environmental care, etc.

Would you return to drink not sure water?
Would you recommend to other families the use of the filter?
Has you benefited the training to your family?
Does you think that the maintenance of the filter in the family is difficult?

ORGANIZATION PROCESS

During the days of donated labor, the families showed their concern with care of the environment and children’s health. In Apatug, 10 families painted the water tank, in Toachi Valley the families a dry latrine in the school.

ACCOMPLISHMENTS
OVERVIEW

The community members from villages of all the THVs in Kenya (Maasai – Esonorua THV, Kagwa THV, Kilonga THV and Burangi THV-Malindi) have been overwhelmed by the efficiency of the filters, and have even taken the initiative to teach others in the village about the importance of the filters and having clean water. The cry for the requests for more water filters has swept across all the villages with emphasis on those who never received a filter. Those that heard about the wonders of the water filters have sought information from the recipients of the filters and the recipients have voluntarily provided the information. Community members have been requesting for more but unfortunately the message has been no more filters until we receive them because they are not available in the Kenyan market.

In one incidence, the District boss of Kaloleni heard about the wonders and went to Mombasa 44 km away looking for the filter in the supermarkets and never got it, he went to Nairobi Kenya’s capital city 600 km away searching for it and he was disappointed that he never got it. He came back to the village requesting for one. The THV committee was generous to donate one to their district boss but under condition that he markets it to all the dignitaries in the district.

Joyce Kadenge is a very active water committee member and has been teaching other community members the importance of clean water and good health and hygiene. This has triggered so much interest to the community that she invites them to her house to sample the difference between the unfiltered and filtered water. She insists that this has all been possible through the assistance of MAP International. She says, Lives especially of the young ones and also the elderly would have been lost if something like the water filters had not come around. The training in Health and Hygiene has given us so much insight into healthy living. We have learnt so much, yet there are diseases that we live with everyday just because of ignorance and lack of knowledge. If only MAP had come sooner, this whole village will be alive with a healthy, disease-free community.’

Joyce tells a skeptical man in the village that he should try her clean water. After trying it, he concludes that he likes it, and promises to come back for more.

Due to much publicity of the wonders of the water filters, villagers including children have understood that it is important to drink filtered water because they will have no diarrheal conditions as before which would result into school absenteeism and fewer playing hours with other children.
Following a visit by Debby Gale and team to the Kilonga THV, they had the following report,

“Community Visit: Application of the Concepts and Ideas
Discussion of development concepts remains theoretical
unless that information is put to action. We visited one of the
homes to see, in a practical way, how the community
members are applying the concepts they are learning
through the THV program. We went to Joyce Kadenge’s
home, at Mwamleka: Joyce has such a pleasant demeanor.
While at her home, she proudly conducted us through
several things that she and her family had implemented.
These included (but not limited to) an Open-Air Table for
drying plates; a Water Pan which had plenty of water already conserved; and a demonstration of water
filtration process, using a Sawyer Water Filter inside her living room”.

(Joyce demonstrates the use of the Sawyer Water Filter in her home)

Daniel Ngowa a committee member of MAP Kilonga
emphasises the importance of the Water Filter to his
community. As a Committee member in charge of
promotion of education, He says “The water filter has
made it so simple for us to pass the message across
the importance of clean water and good health and
hygiene. The community can now physically see that
water can be purified in a very simple method of the
water filter and the impact has actually been felt far
wide than even our THV”.

(Daniel passes the filtered water to his wife)

Challenges

- Clearance with the customs department raised the cost of the filters
- Older generation people are still skeptical about the wonders of the filters.

Opportunities

- Many of the leaders including opinion leaders in the village have come to accept the use of
  the water filters and this provides room for scale up on the provision of the filters.

Conclusion

The project stands out to benefit many more people in the community as the demand for clean water
has been created.
Recommendation

This is an excellent project that stands out to benefit many members of households and therefore it requires a scale up.

Note

Based on the success of this project, another 42 filters were donated to MAP Kenya and used in classrooms to provide students with safe water.

ACCOMPLISHMENTS
Cote d’Ivoire

OVERVIEW

MAP International Cote d’Ivoire is committed, in partnership with the government, to eradicate Guinea Worm, a very painful disease that is easily preventable with education and clean water sources. The introduction of the Sawyer Filters to MAP Cote d’Ivoire’s existing program of Guinea Worm eradication has been a breakthrough for the program. Installing and maintaining hand pumps is an expensive process, and so with the simple, easy-to-use technology of the Sawyer Filters, the project became much more feasible, sustainable, and effective. The project is aimed at primary school children in rural areas. The young students are provided filters at their schools, and they are taught the importance of good hygiene and clean water. 9 filters were given to headmasters to be used for training and demonstration (1 filter was faulty). Not only will they have this knowledge from a young age, but they can also share what they have learned with their families and communities.

- Since the end of October, schools have stopped to work in the project area (under rebels’ control). So we could not achieve the training of teachers and pupils despite the fact that we installed 99 filters.

- Due to the political crisis, and the closing of primary schools, some follow-up and monitoring visits are pending.
ACCOMPLISHMENTS

![Bar Chart]

- Project Evaluation
- Follow up Visits
- Utilization of donated labour to support...
- Training of Users in Installation and...
- Formation of Community Water Committees
- Introduction of Sawyer Filters
- Community Dialogue on safe water use and...
- Community Entry/Household Data Collection
- Selection of Beneficiary Community and End...
- Clearance of filters through customs/Parcel...

- Complete
- Not Complete
Bolivia

OVERVIEW

MAP has been working in the Municipality of Morochata during the last 15 years facilitating community reflection in the subject of health and wellbeing of their communities. During these years they have been discussing the health-disease process in their families especially among children. Water is a very good catalytic issue to facilitate the self empowerment processes and to better understand the interactions of the different health determinants with the wellbeing of the families and communities.

During the different educational activities and health promoters’ training, the community has been able to see the link of water with personal health determinants such as nutrition and family binding through parents caring for the hygiene care of their children. They also have been aware of the link of water with social health determinants such us lack of accessibility and discrimination, poor productive processes (including food scarcity and insecure livelihood), poor political participation and deterioration of their environment.

They also have seen the clear link between water and the third health determinant “preparedness and capability to deal with adversity” at the family level, with the water link diseases (diarrheas, malnourishment, intoxications by agrochemicals, skin diseases, parasitoids, and other infections), and community disasters related with droughts, flooding, mudslides, etc.

Rural communities in Cochabamba, Bolivia have very little access to clean and safe water. There is an estimate that only 34.19% have access to water from small creeks, puddles or wells. In the community of Tuini Chico the population has been consuming the water from an open water channel for the last 12, but this source was highly contaminated as it served for cooking, cleaning, bathing, and disposal of feces. Around 80 people from this community have benefited from the Sawyer filters.

Each family brought a big container where they connected the filters. They could see evidence of the effectiveness of the water filter in purifying the water and were very satisfied and thankful to have access to clean and safe water. Not only are they committed to take good care of the filter but also to protect the water channel, and assumed the commitment to join once a month to have a general cleaning of the water channel. They also understood the importance of building a place for the garbage.
- The members of the Tuini Chico community now are eager to continue their training in other aspects of Total Health and are willing to coordinate with the Health Promoter to provide these educational activities in a more regular basis.

The local church also got involved in the training activities

WATER RELATED DISEASES AND DEWORMING

A second important component of the project of access to clean water and gaining control over water-related diseases, the community saw the importance of deworming of their children. They got organized and thanks to MAP International’s provision of deworming medicines the community provided treatment to all their children.

These pictures show how the community gets very well organized in each one of the steps of the children of the worming campaign.
Finally, clean water accessible to all, especially to the children!!!!!

OTHER SANITATION ACTIVITIES AND LATRINES

This comprehensive approach to access to clean water includes behavior modification on personal and family hygiene practices. One of these components required the building of latrines. The community got very well organized to do their own planning and schedule to implement this project component. Even though the distance of the community was very large from the closest city that provides the materials (6 hours from Quillacollo) through poor quality roads the community got the materials, transported them the first part in trucks and then by hand to the different houses where the latrines were constructed.

The arrival to the community was late at night. The excitement of getting construction materials keep high levels of engagement.
Now several families can use excellent, well constructed and comfortable latrines, with proper technology to separate feces from urine in order to keep bad smells to the minimum level and encourage everybody to use them.

**ACCOMPLISHMENTS**

*15 more filters will be distributed in the coming months.*
In Honduras, the community of Nuevo Amancer was chosen to participate in the pure water project. The community is located about an hour away from MAP offices in Honduras, and is composed of about 20 families. The community was selected in part because MAP has been training health promoters in the area for 2 years, but also because the water quality is very bad in the region. MAP Honduras staff decided to give a filter to each family in the community, but on the condition that the families clean their houses and volunteer 5 days of work to the community, in order to empower the families with a sense of ownership, responsibility, and pride in the filters. Before distributing the filters to families, they demonstrated how to use and clean the filters, and they also left one filter with a health promoter, Gloria. Gloria’s filter is pictured at the right.

When the staff returned to the community with the filters, they could tell that the families were excited and encouraged to have clean water for their families. Undoubtedly, the most excited person in the entire village was a small boy named Catalino. He approached the staff, excitedly asking, “When are you coming to my house? My house is clean!” They decided to leave his house for last, so that they could discover more about him, and why he showed so much interest. After following MAP staff from house to house, Catalino was very excited when they finally arrived at his own home.

When his mother came out the MAP staff realized that she had problems with her eyes, and it was difficult for her to see. She told them that Catalino had worked hard to clean the house before they came. They decided to teach Catalino how to use the filter, because his mother could not see. The entire time he exclaimed,

I cleaned the house because I wanted a water filter for my family! Now we have clean water to drink!

The staff left knowing that their work was far from over, but that the enthusiasm of this small boy was very encouraging.
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- Complete
- Not Complete
SUMMARY

In total, MAP International has distributed around **650 water filters**, reaching over **9,000 people** worldwide! We saw in Ecuador improved behavior and school performance in children. In Kenya, the village boss recognized how valuable the filters were, and searched all over to find more! In Bolivia, the introduction of the water filters meant much more than just a source of clean water. The filters served as a springboard for holistic, community-wide change in water and sanitation. Special thanks to the generous heart of an Irish donor, without whom this project would not be possible. This donation, the innovative technology of the Sawyer Water filters, and the careful, caring hands of MAP staff, have created tangible, measurable, and lasting change.
PROBLEMS ENCOUNTERED

This multi-country project encountered several problems:

1. Customs clearance has been a serious problem in Kenya and delayed the availability of the water filters considerably besides adding a great amount to the cost (we had to pay custom duty as a commercial product— even though we had all the necessary documentation for it being a special donation for Humanitarian purposes). Also, when we finally cleared customs, 3 water filters were missing from the lot. This problem occurred despite efforts made by the country office to enlist the support of the Ministry of Finance in Kenya. We are trying to get some support through the Kenyan embassy in the US for future shipments.

2. In Uganda there were problems with logistics in collecting and sending it from Kampala the capital to Gulu where we work.

OPPORTUNITIES

There are many advantages in having a project like this:

1. The results are very clearly visible and tangible

2. Progress is easy to monitor

3. Demonstrating the use of the filter has a strong impact on the community

4. It allows for a lot of innovation (as can be seen from the Ecuador report)

5. If problems with customs in some countries can be overcome, it is very easy to obtain an exact cost of a water filter and to estimate the impact of the use of the water filter. Normally, we should be able to provide safe water for several years to a poor family for as little as a one-time cost of 70 USD per family

6. Each filter when made available is able to generate 25 person days towards the benefit of the village from the family receiving the filter. This generates tremendous resources in the village
APPENDIX

Water filters in Ecuador in a disaster situation: http://www.youtube.com/watch?v=YVOjg_K7PFI
Innovative use of water filters in Ecuador: http://www.youtube.com/watch?v=JkcHSZD2cKg

Filters in Ecuador: http://www.youtube.com/watch?v=JkcHSZD2cKg

Use of the filters in Uganda: http://www.youtube.com/watch?v=bcxk3DvT8ig

Filters in Uganda: http://www.youtube.com/watch?v=heVlyBuGliE


- Highest Filtration Rates Available- At 0.1 micron absolute, it is impossible for any bacteria, protozoa or cysts to pass through the filter and at 0.02 micron absolute, it is impossible for bacteria, protozoa and cysts to pass through the purifier.
- The Sawyer water filter is marketed by the Sawyer company which is a support partner of MAP International.