

MALEWA CLEAN WATER PROJECT

Background

World Water Crisis:

- Here in America, we may not have to worry whether our water is contaminated with dangerous bacteria, but in other parts of the world, this is not taken for granted.
 - "Each year more than five million people die from waterborne disease"
 - "84 percent of water-related deaths are in children ages 0-14."
 - "98 percent of water-related deaths occur in the developing world."
 - "At any given time, half of the world's hospital beds are occupied by patients suffering from a water related disease."

Kenya:

- "Over half of Kenyans live below the poverty line"
- "Only 61 percent of the population has any access to safe water sources"



Map of Africa
Kenya Circled



Map of Kenya
Gilgii circled

Malewa:

- We are focusing on establishing a business selling purified water in the slums of Gilgii - a town in the region of Malewa.
 - People in the slums spend about fifth of their income on water from a local tap, or walk long distances to get less clean water from the local river.
 - The wages in Malewa peak at around 12,000 sh a month. Many are unemployed or work unskilled labor for only 5,000 sh a month.
 - The children in Malewa are very interested in learning to better themselves.
 - The Ngechu School and Kimbo School specifically offered to work with us to implement a safe water plan.



Malewa River- source of H₂O for 2000 person community



Water tank in slums

IHSAN:

- The Industry's Humanitarian Support Alliance, IHSAN, is a non-government organization (NGO) which works to "increase the availability of safe drinking water, adequate sanitation, hygiene, and related education".
- We have been in contact with IHSAN to design and implement our clean water plan in Malewa, Kenya.
 - Field Researcher
 - We had a field researcher from IHSAN go to Malewa to collect the data we used in designing the implementation plan



(above) school girls carrying water jugs
(left) Purifying water

Schools

- Students at schools will purify the water as part of their gym class or afterschool.
- To allow the student to use the BWM, the BWM must be part of a water education plan.
- 30min/day - 4 days a week they will purify water.



Girls carrying water en route from Malewa River into Gilgii town

Distance

- The distance between the schools and the slums poses a considerable challenge
 - 2-4 km away.
- An initial investment is needed via micro-financing to bridge the distance
 - Taxi - 500 sh
 - Invest in carts



Making Project a Reality

Micro Loans

- In order to start this project we will have to make initial investments which will be paid for by micro loans
- Kiva
 - Lends money to entrepreneurs in developing countries
 - Empowers the countries to lift themselves out of poverty
- Optimnow.org
 - Part of Opportunity International (a non-profit organization)
 - Provides those that live in chronic poverty with the opportunity to change their lives
- Opportunity.org
 - Creates jobs, start small businesses, and strengthen communities among the poor
 - Their method is to work through indigenous partner organizations
- Unitus.com
 - An international non-profit organization that wants to reduce global poverty
 - Seeks out and partners with young, high-potential microfinance institutions
- Sba.gov
 - Created in 1953, to strengthen the economy of our nation
 - Helps Americans start, build, and grow businesses

Field Workers

- Malewa Trust
 - Malewa Trust, an NGO in Kenya, has offered to help us implement the device
 - The trust wants to create a plan for an environmental education, sustainable land management, and conservation of biodiversity in the Malewa area
- Schools
 - Mawaka (primary), Kimbo (primary), and Ngechu (secondary)
 - The students will be purifying the water as part of an education program
 - Help deliver the water to the slums
 - Interning with IHSAN
 - The team wants to intern with IHSAN in Kenya (as well as the members from our partnering team- Roche- who are doing work with soap in Kenya)
- Implement the BWM ourselves

Better Water Maker (BWM)

- We use the BWM to purify the water in the business.
- Invented by Bob Bechtold
- Hand Crank Powers UV light which kills bacteria in water
- Limited to One water crank at schools
- Purifies a gallon/minute



reservoir at Kimbo School.

Obtain water

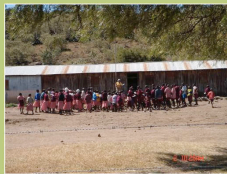
- We obtain water to purify from the following water sources
 - City collection points
 - City Check Point
 - Buy
 - Places by the schools
 - Rainwater harvesting system
 - Mawaka and Kimbo have reservoirs
 - Nearby Rivers

- Business supplies
 - Water, storage containers, etc.

Profit

Schools

- Enhancing the education in the participating schools by reinvesting the profits in
 - Books
 - Uniforms
 - Projects in the school
 - Refurbishing
 - Academic projects



Kimbo School

Goals

- Distribute Clean Water
- Enhance Water Education Program
- Bring in money

Project Introduction

- We're establishing a micro business in a third world country to distribute clean water in the slums.
- We will use schools in Malewa to run our business

Impact

- By expanding the project to other schools throughout Kenya we would ultimately take steps toward.
 - Ending the clean water crisis in Kenya
 - Enhance the awareness of water health throughout Kenya

Distribute

Storage

- We needed to find a safe, economical, and sustainable solution to water storage.
- Jerry Cans
 - Invest in large container for transporting
 - Pour into existing Jerry cans
- Eventually, we will provide newer and more sanitary containers to be entered into the mix.



Families lining up for water at the only water collection point in Malewa, Kenya

Distribution

- We will sell and distribute the clean water in the slums.
- There is one water tap in these slums which prices water at:
 - 20L - 5 sh
 - Larger Bucket- 10 sh
- We will cut costs and waste by offering a 1 sh discount to those who bring their old containers to fill the water instead of getting a new one.

Micro Loans

- Paying back the micro-loan which funded the initial start up cost