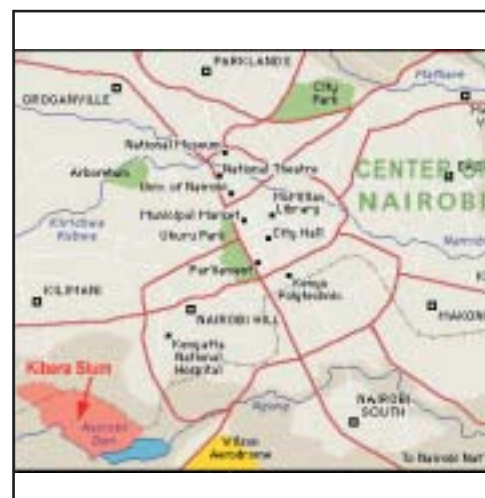


SODIS - WATER QUALITY IMPROVEMENT AT HOUSEHOLD LEVEL

A CASE EXAMPLE FROM THE KIBERA SLUM, NAIROBI, KENYA

SUMMARY

Since March 2004, the Kenya Water for Health Organization (KWAHO) is implementing a Solar Water Disinfection (SODIS) project in Kibera, an urban slum of Nairobi. This effective and inexpensive method is applied to enhance community access to safe drinking quality water at household level. Water scarcity and poor sanitation in the slum are common. SODIS enriches KWAHO's project on water and sanitation in the area. Its current phase targets 20,000 families (100,000 persons as direct beneficiaries) of the total population of Kibera estimated at 500,000. The project now has reached 6000 households and 2 schools (31,000 persons). SODIS has reached a high level of acceptance in the community. Families benefit from reduced incidence of waterborne diseases and therewith reduced medical expenses.



THE CONTEXT

The project covers the three villages of Makina, Kambi Muru and Kisumu Ndogo, with 180,000 inhabitants in of the Kibera slum south-west of Nairobi.

Water Supply and Quality

The water supply is unreliable with frequent water shortages. The available water sources unsafe for drinking, are:

1. Water supplied by the Nairobi City Council once a week. The few storage facilities in the estate are owned by community groups and water vendors. Shortages are caused by rationing and bursting pipes, resulting in high water costs.
2. The only borehole, supplies water for free, however demand is too high.
3. Water vendors "kiosks" supply unsafe water from unknown sources.
4. Nairobi River, a highly polluted water source.

Health Situation

Health issues are of serious concern due to the lack of basic sanitation facilities and practices, i.e. disposal of waste and faeces in open areas and drains, lack of adequate water quality, lack of public health facilities and lacking hygiene practices.

Various waterborne diseases are rampant. Children below five are very affected by diarrhoea and mortality is high.

Political Aspects

Kibera is a politically volatile area. The Nubian community working on the railway line was settled here after World War II by the British Colonial Government. They were followed by "illegal" local squatters. Until recently, the Government of Kenya did not invest in these areas due to their illegal status of the settlements. Also landlords do not equip the

rented houses with proper water and sanitation facilities since land ownership is temporary.

Following the Water Sector reforms, policy changes will improve access to water and even the water quality provided. The water supply for Kibera of controlled by the commercial Nairobi Water Company. It is expected that this will improve water distribution in Kibera.

Social Aspects

Kibera's multi-ethnic community - has migrated to the city in search of income. The growing demand for the limited water and other resources generates competition and causes conflicts over water use in the village, creating considerable social risks for the poor. Insecurity in the area is high due to general poverty.



Fig. 1: Queuing for water in front of a pipe

THE PROJECT

The Project Objectives

The main goal of the project is to reach sustainable improvement of the health situation of disadvantaged people in Kibera by breaking the faecal-oral transmission cycle and thereby reducing waterborne diseases. Project objectives are to promote and disseminate SODIS to user communities as an alternative water treatment option to improve water quality and assess the health benefits.

Implementation Strategy

Trained promoters use social marketing strategies to address the issues of self pride, shame, privacy, convenience in sanitation issues as well as information about SODIS.

Tools used

- Participatory community needs assessment
- Mobilisation and awareness raising on problems related to water and sanitation
- Community group meetings to train in hygiene practices and SODIS use
- Household level training
- Participatory workshops and seminars in the community and schools
- Short dramas
- Door-to-door distribution and sale of PET bottles
- Collaboration with government departments, local leaders, churches, health officials and health clinics
- SODIS project targets women, as they generally are responsible for water and sanitation.



Fig. 2: Water tanks and pit latrines next to a natural run off filled with waste and crossed by a water pipe



Fig. 3: Man fetching water from a burst pipe

- Four schools were identified for SODIS training as pupils are receptive to new ideas, and thereby good promoters of behaviour change.

The current project, which is limited to one year, started in March 2004 and ends in March 2005. The project, which is likely to continue as the need and demand for SODIS is very high, is financed by the SOLAQUA Foundation



Fig. 4: Promoter Georg introducing SODIS to Afya (Community Health Youth Group)

ACHIEVEMENTS AND FACTORS OF SUCCESS

Participation at Household Level

Regular door-to-door visits by the promoters to user families has enhanced the participation at household level and created a cordial relationship between promoter and users. This process ensured KWAHO that SODIS is practiced regularly and correctly.

Water Quality and Health Improvements

By combining SODIS and proper hygiene practices, user families have improved their drinking water quality. The 6,000 user families report health improvements and savings on medication. Some savings are spent on additional fruits and vegetables further improving the health.

Awareness Building

By intensive mobilisation and sensitisation on hygiene and sanitation, many households have changed their habits: They drink SODIS water, wash their hands with soap and keep their private environment clean.



Fig. 5: SODIS user exposes the bottles to the sun

Case Story

My name is Laila, I am 33 years old and I am from the Kibera Makina village. I am married and have four children. I was puzzled and surprised when I was approached by Paul in April of this year, telling me about the SODIS water treatment method. I did not believe that a plastic bottle, when exposed to the sun, could treat the water. However, after a clear and continuous explanation by him, I decided to buy two bottles to try the method. To my amazement when I drank that water that evening it tasted nice and everybody in my family liked it. Since then, I have been using SODIS consistently and I bought a total of ten bottles for SODIS.

I have gained a lot since I began using SODIS; I can now afford to drink treated water consistently which I never used to. This is because SODIS is cheap; the health of my family has improved a great deal; as there is no case of diarrhoea like before. I am saving on medication and fuel. I can now buy my children more food and some fruits.

I love SODIS and nobody can convince me against it. I always talk to my neighbours about SODIS.

I thank KWAHO for introducing SODIS to me!



Fig. 6: Promoter Georg at a follow-up visit in a user's house

THE CHALLENGES

Constraints

- Due to frequent migration of people from one village to another in search of better livelihoods or evictions by landlords, always new persons, who need be sensitized and trained, come into the project area.
- Competing water treatment options confuse the residents.
- The availability and planned collections of PET bottles from hotels and restaurants is not a common practice yet as residents are not yet aware of this possible income generating activity for community groups.

Lessons learnt

- The success of the social marketing and the intended behaviour change are dependent on the community based agents.
- Promoters must have the necessary social skills (personality, leadership, marketing and communication skills).
- Promoters must be committed and driven to change the situation of the community.
- The availability and accessibility of PET bottles is absolutely important for sustainability of SODIS practice.
- There is a great need to raise awareness on the connection between water quality and health.
- To achieve the best possible health impact, households should apply SODIS together with appropriate hygiene and sanitation practices.
- Partnerships with government agencies, donors and CBOs are crucial for the success of the project.

REFERENCES & PARTNERS

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Fig. 7: The consumption of SODIS-treated water has improved the health of users



Fig. 8: Promoter Paul on a door-to-door campaign, raising awareness on hygiene and SODIS