

A strategy to eliminate water-borne
disease in Lower Nyakach, Kenya
with

Friends of the Old (FOTO)
a community-based organization

Funded by
International Water and Health Alliances
Davis, California

KATITO-FOTO
project



VISION 2005 - 2008



KEY	

KEY	
	District boundaries
	Local boundaries
	S/S
	Road
	Watering points
	River

Access route to sondu kisi

**INTERNATIONAL WATER
&
HEALTH ALLIANCES**



Solar Cookers Int'l's Sunny Solutions Project 2003-2008, Nyakach, Kenya



Friends of the Old (FOTO) office



FRIENDS OF THE OLD (FOTO) PROJECT

IMPROVING LIVES OF THE OLD AND ORPHANS

MAKING: SOLAR COOKERS, FIRELESS COOKERS,
WATER TESTING AND WASH PROGRAM.

MOBILE LIBRARY TO SCHOOLS.



Friends of the Old staff and board, July, 2013



FRIENDS OF THE OLD



Reading glasses sorted to distribute





**THANK YOU
IWHA
DONORS**



FOTO staff receives bicycles for transport within their locations, March, 2013



People gather for reading glasses distribution Khobodo West Location, July 16, 2013



Entertainment by FOTO staff



Boxes of reading glasses to distribute



Recipients of glasses distribution

416 pairs distributed



Bob & Mary Beth Metcalf with Khobodo West leaders



Water testing with a
Portable Microbiology Laboratory
leads to treating drinking water with
chlorine solution and solar pasteurization

WATER TESTINGS

IN LOWER NYAKACH.



SAFE WATER PACKAGE DISTRIBUTION TO THE OLD.





50 Drinking water sources tested by FOTO staff July, 2012





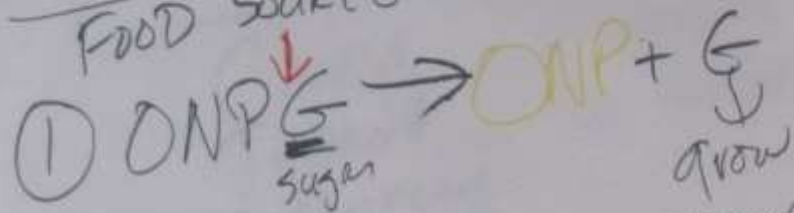


② How To Test w
 Look for INDICATOR of
 fecal contamination

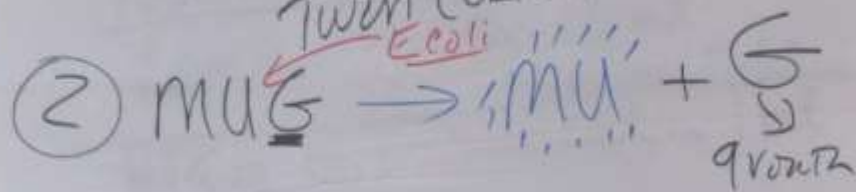
- 1) Always be present u
 numbers in human
 feces
- 2) Doesn't grow in the e
- 3) Survive in water at l-
 as Typhoid, Cholera
 b/
- 4) Easy to detect

Colibert Test

FOOD SOURCES

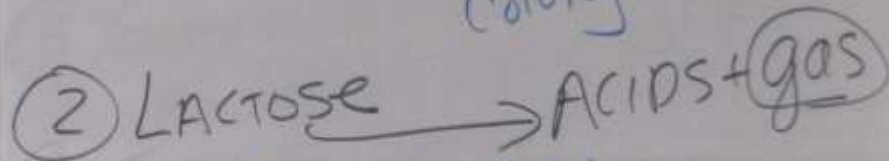
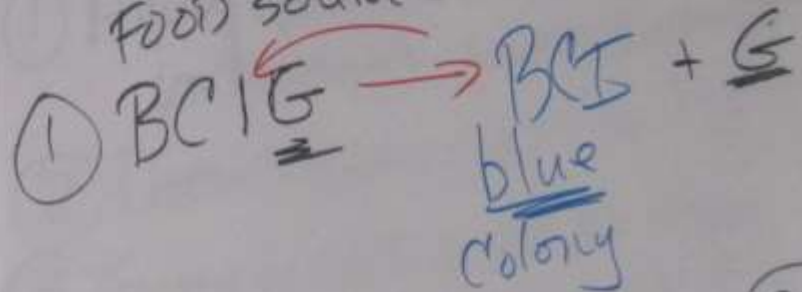


Ecoli + bact from environment
TURN COLIBERT Yellow



Perrifilm

FOOD SOURCE



Ecoli = BLUE + gas
BACT from ENVIRONMENT
red +/- gas





EMILIA OCHIENG

MILUCENT OCHRENG

Barcode and text at the bottom of the page.



JANE ODONGO

NAME
ANGELA ODONGO

NAME
ODONGO



JANE ODONGO



14 DAY
Return
Policy

ÉNAL

惠譽全球，
愛您個性世界。

LEARN801010 R3A





#19 Okn

#20 Okn

#38 Okn

#49 WG

#18 Okn

#28 Okn

37 Hast

#49 Okn

#48 Okn

#9 Okn

#17 Okn

#27 Okn

#37 Okn

#47 Okn

#8 Hast

#16 Okn

#26 Okn

#36 Okn

Okn

#7 Okn

#15 Okn

#35 WG

#12 Okn

WG

#14 Okn

#23 Okn

#34 Okn

#42

WG

#13 Okn

#20

#33 Okn

#42

Okn

#11 Okn 2nd

#20 Okn

#22 Okn

#40 Okn

#1 Okn

#31 Okn

#40 Okn

#10 Oh



OMONDO RIVER
NYALUNYA

#28 Oh



RIVER MIRIU
KANDARIA WEST

#39 Oh



AWACH RIVER
NORTH EAST

3M EC 2013-12 KB 3M EC

#1 Oh



ASAWO RIVER
PAP ANDITI

3M EC 2013-12 KB 3M EC

#4 Oh



ATOYIENGO STREAM
NORTH NYAKACH

3M EC 2013-12 KB 3M EC

#5 Oh



RIVER - AWACH
NORTH NYAKACH

#48

0km



DIONGO DAM
PAD ONDITI
MUG +

#45

0km



POND WATER
West Kabodho
MUG +

#44

0km



POND-KADUDI
Aspra West
MUG +

#43

0km



POND WATER
NORTH EAST
MUG +

#41

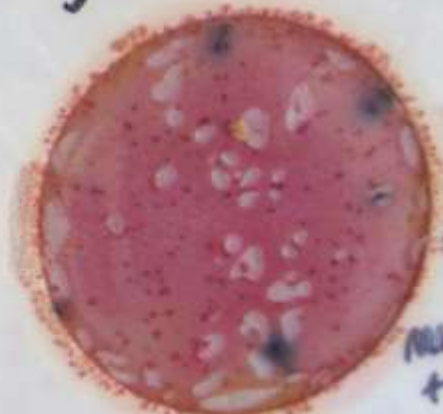
0km



POND WATER
Kalmel PANSHU
MUG +

#38

0km



POND WATER-KOLIEGO
NORTH EAST
MUG +

#36

Oln



POND WATER
KOMIGA, ASAWO

MUG
+

#33

Oln



POND WATER
NORTH NYAKACH

MUG
+

#31

Oln



POND WATER
KANDERE, Kabodho West

MUG
+

#27

Oln

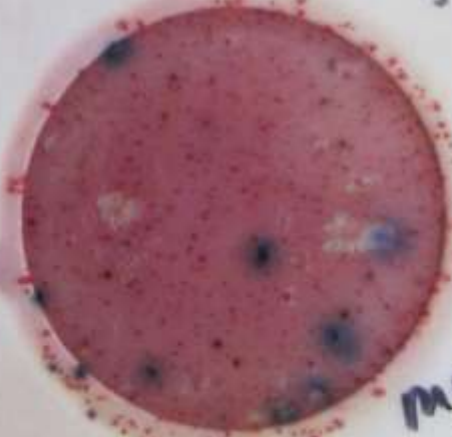


POND WATER
KALANGO-RANGUL

MUG
+

#21

Oln

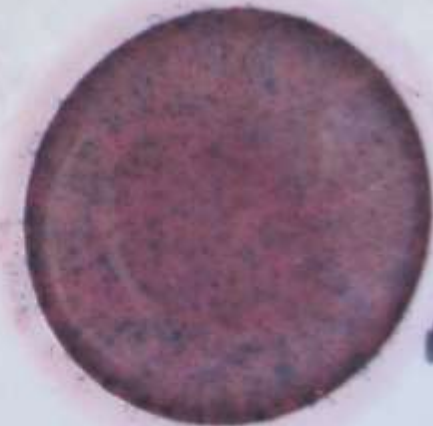


POND-KONGORO
RANGUL

MUG
+

#19

Oln



POND WATER-Kogoda
Ango West

MUG
+







Safe Water Package for Victoria Awino, age 70



Pasteurizing water in a Cookit



Pasteurizing drinking water



WAPI wax melted, water safe to drink



Petrifilm results from Lower Nyakach drinking water sources, January, 2012



Left: Kambuya Borehole, Central Nyakach location.
Risk Level: Very high disease risk
Approximately 100 households use the source.
Right: Ogwedhi River, Central Nyakach location.
Risk level: very high disease risk
Approximately 130 households use this source.

1.2% sodium hypochlorite
1 bottle (150 ml) treats 1,000 liters of water



Ceramic safe storage container, 20 liter jerry can to collect and treat water



WaterGuard, 3 drops per liter



EC 2013-12 KB

3M

EC 2013-1

#4

Ohv



Atoyiengo Stream
North Nyakach

EC 2013-12 KB

3M

EC 2013-

4

WG



WaterGuard distribution









Over 2 months, 9,600 families receive WaterGuard, ~40,000 people benefit



Identical products, 1.2% sodium hypochlorite, Aquaguard costs less. Starting August, 2013, 7,200 bottles of Aquaguard will be distributed monthly



Aquaguard boxes August, 2013, for community health workers to distribute in each location



Katito Health Centre, Central Location Lower Nyakach, 2012

	January	July	November
Families provided			
With WaterGuard	0	400	800
Disease cases:			
Clinical malaria	256	196	319
Diarrhoea	145	46	30
Typhoid Fever	18	13	0

“The people have since time immemorial believed that water was blessed from the beginning and cannot cause any diseases, but through the education and by showing them the results of the tested waters and telling them the dangers of the germs on the body, they are beginning to change their drinking habits. Looking back, many people agree that the many stomach related diseases they have suffered in the past have been a result of the bad river or pond water they have been drinking.”

**March, 2013, report by Dinah Chienjo,
FOTO Project Director**

Talk to be given at IWA Development Congress, Nairobi, October, 2013

**“The goal is zero: a strategy to eliminate water-borne disease in
Lower Nyakach, Kenya”**

Presented by:

Robert Metcalf, Professor Emeritus, California State University, Sacramento

&

Dinah Chienjo, Project Director, Friends of the Old, Nyakach, Kenya

Assembling for reading glasses Kandaria West location, July, 2012



Seats of honor



Entertainment from orphaned girls school



Cholera poem presenter



CHOLERA! CHOLERA! CHOLERA!

Cholera! Cholera! Where did you come from?

You came bouncing like a monster! My mother was heavy, a month later, she died. Father died, followed by our new born baby.

Cholera! Cholera! Where did you come from?

Everywhere you go. You hear sad songs, the strong and the mighty are dying, dying and dying! Many lie in the grave covered with the soil, never to walk again.

Cholera! Cholera! Where did you come from?

I am left alone, no one to help me. I resemble a ball in the field, kicked by the players.

Cholera! Cholera! Where did you come from?

Please my brothers and sisters, Cholera is a very dangerous and deadly disease. Eat safe food, drink safe water. It is better to prevent than to cure. Never let anything deter you until you deter it.

Cholera! Cholera! Where did you come from?

Thanks to Mary and Bob for the WaterGuard, solar cookers, reading glasses, safe water packages and hybrid seeds. We now eat safe food, and drink safe water.

Cholera! Cholera! Nowhere to be seen.

Pleasure,
Thank you!

The Portable Microbiology Laboratory could have tested all water sources in Haiti when cholera started, October, 2010





3rd IWA Development
Congress & Exhibition



Join Us in Nairobi

The International Water Association is pleased to announce that the 3rd IWA Development Congress and Exhibition will be held in Nairobi, the capital city of Kenya.

The overarching goal of the IWA Development Congress series is to identify, showcase and debate practical experiences and examples of service provision in developing countries that 'work', and critically, 'work at large scale'. The Congress in Nairobi is therefore explicitly solutions focused, and provides a unique opportunity to signpost best practices, applied research and enabling



14 - 17 October 2013
Nairobi, Kenya

Organisers



International
Water Association





INT'L WATER AND HEALTH ALLIANCES

The Portable Microbiology Lab

Water Testing



Test for E. coli in 3 easy steps

Step 1 - Incubate

Sample
in 24 hours

Step 2

Incubate at 37°C for 18 hours

Step 2

Read the color change



The Portable Microbiology Lab

Enabling
Water Testing
at Point-of-Use



Test for E. coli in 3 easy steps

Step 1 - Inoculate

Inoculate
Aerobic
Respirometry



Step 2

Incubate with
Lock Heat
for 18 Hours



Step 3

Readily 15 min
Read & Done



COOPERATION

UGANDA

ES
National Water & Sewerage Corporation



USAID
FROM THE AMERICAN PEOPLE

SUNASA
Sustainable Water Solutions



Empower Program Book
FOR THE DEVELOPMENT OF
COMMUNITIES & ENTERPRISES
CONTRIBUTING TO THE
WATER AND SEWERAGE



Test Results with Teachers
Sogom Primary School
Myrica, Kenya

Technical
assistance



WATER AND SEWERAGE



3rd IWA Development
Congress & Exhibition

CATALYSING URBAN WATER TRANSITIONS

14 - 17 October 2013 • NAIROBI, KENYA

COMMUNITY ENGAGEMENT AND LEARNING FOR IMPROVED SERVICE PROVISION

Chair: Jacqueline Thomas, Australia

Introduction from the Chair Jacqueline Thomas, Australia

Community Managed Project for Rural and Small Towns Water Supply and Sanitation Services Delivery: Case of Benishangul Gumuz, Ethiopia Beshah Behailu, Ethiopia

Transition through Capacity Building Susmita Sinha, India

Community Learning Centers for the implementation and development of sustainable sanitation technologies in Chile Guillermo Saavedra, Chile

Grassroots Initiative to Solve the Safe Water Crisis Shamin Arfeen, Bangladesh

The Goal is Zero: A Strategy to Eliminate Water-borne Disease in Lower Nyakach, Kenya Robert Metcalf and Dinah Chienjo, US

Summary from Chair



IWA 3rd IWA Development
Congress & Exhibition
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IWA The International Water Association
3rd IWA Development Congress & Exhibition