SPOUTS of Water: Company Profile

2018

The Problem: Unclean drinking water has major negative health, economic, and social ramifications for Uganda

Over 50% of Uganda's 38M population drinks untreated water and another **44% boil water daily** in order to sanitize it, creating numerous issues:

1. **Health:** #2 killer of children under 5 in Uganda (exceeds Malaria and AIDS)
2. **Productivity:** $170M USD loss in annual productivity
3. **Livelihood:** 85% of time treating water spent by women & children
4. **Environment:** 360M tons CO_2 from boiling water annually

These trends can only be reversed through widespread behavior change and adoption of a sustainable water treatment option.

The product: Competing water treatment solutions are not sustainable

Breakdown of water treatment solutions in Uganda:

- 4% purify
- 44% boil (17M)
- 53% don't treat water (20M)

	Effective	Convenient	Cheap	Sustainable
Chlorine tablets	O	X	O	X
Imported filters	O	X	X	X
Bottled water	O	O	X	X
Boiling	O	X	X	X
No treatment	X	O	O	X
SPOUTS' unique local production enables a sustainable solution — Purifaaya CERAMIC WATER FILTER	O	O	O	O

Source: Uganda Bureau of Statistics (UBOS) and ICF International Inc. 2012

The Solution: SPOUTS produces the Purifaaya filter line – the only locally made water filters in Uganda

The Purifaaya

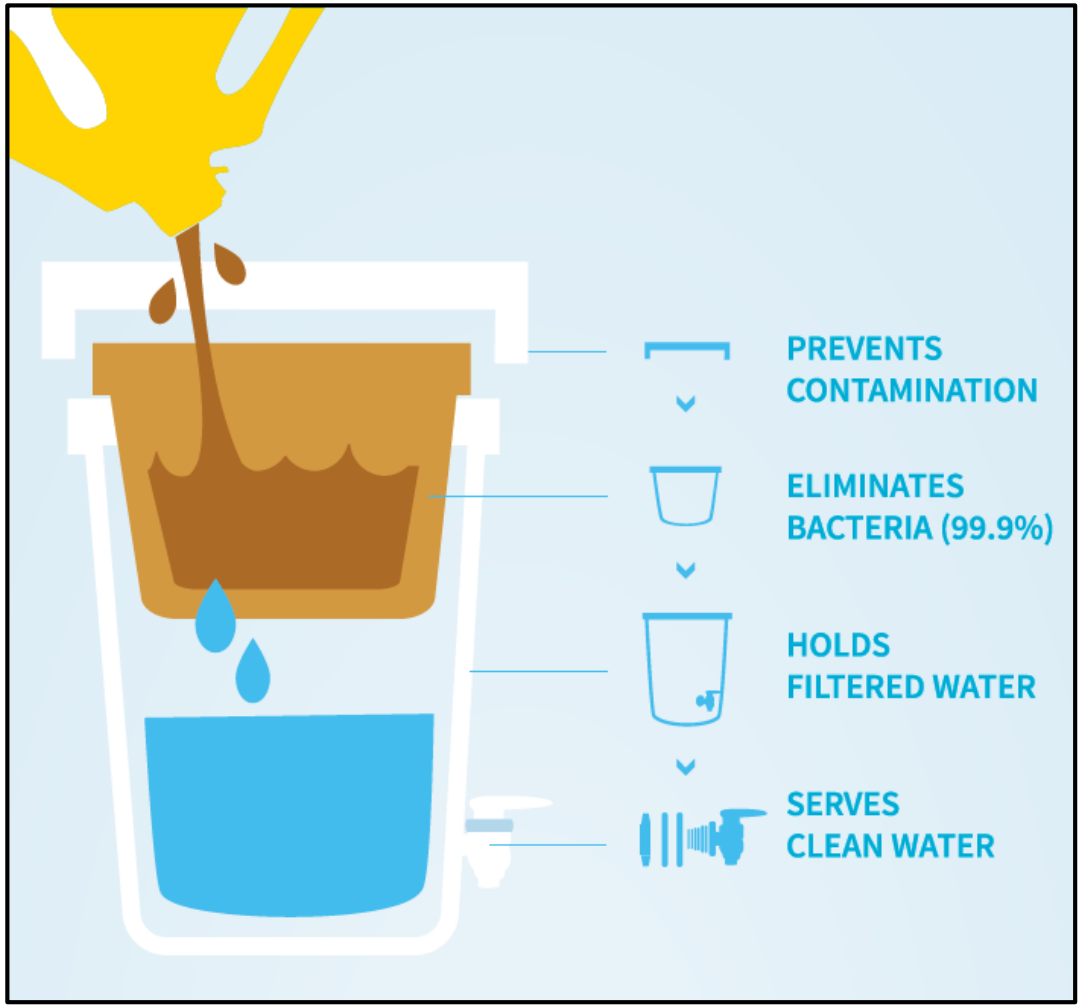
20 liter capacity
Best for households

The Purifaaya XL

65 liter capacity (includes a stand)
Best for schools and offices

The Solution: The Purifaaya is an effective and locally produced solution

The Purifaaya ceramic water filter effectively eliminates 99.9% of bacteria…



Anatomy of the Purifaaya

…and is produced in our factory right outside of Kampala

SPOUTS factory in Nakawuka, Uganda

One of 20 factory workers helping produce the ceramic water filters

The Solution: By locally manufacturing ceramic filters, SPOUTS provides a sustainable solution to Uganda's needs

Effective	Convenient	Cheap	Sustainable
Proven 99.9% effective by the Uganda Ministry of Water and Environment	*Designed with the "consumer-in-mind" to ensure low maintenance and enjoyable taste*	*Only filter produced in Uganda from locally sourced materials to guarantee affordability*	*Integrated into local economy to create staying power*

Ceramic filter before firing

Family enjoying Purifaaya water

Local production worker making ceramic filters

Savings Group learning about Purifaaya

- Microscopic holes in the filer remove bacteria from water
- Silver nitrate coating ensures water stays pure

- Filter lasts for 2+ years and requires low maintenance (simple cleaning every ~2 weeks)
- Semi-translucent bucket allows easy monitoring of water level and prevents recontamination

- 99% of raw materials are sourced from Uganda
- Local production limits transportation costs and stimulates the economy

- Over 80% of commercial sales sold through Direct to Consumer program, in which we offer financing plans for customers and sell to savings groups
- ~90% of our staff are Ugandan, with strong representation among management team

Our manufacturing process: Fostering economic growth and manufacturing industry in-country

The Purifaaya is the only locally produced water filter in the Ugandan market, made with local clay and plastic in a factory an hour outside Kampala

Raw materials of yellow clay, black clay, sawdust, and grog (broken potter used as filler) are ground into a fine powder and mixed together.

Water is added to the clay mixture and SPOUTS workers knead the soft clay into blocks to be pressed into filters.

Pressed filters receive touch-ups to smooth imperfections and are fired in the kilns. After firing, filters dry for 4-6 weeks.

Each filter is tested for safety, painted with silver nitrate, and then assembled with locally made plastic buckets to complete the filter.

Our factory employees over 25 local Ugandans, providing them steady wages, health and life insurance, and jobs training programs

History: SPOUTS has built the foundation for a strong business over time

"Drinking" water collected by a child in Western Uganda

- 2012 – Original factory is opened to pilot production of filters
- 2014 – Kathy and John finalize design for ceramic filter
- 2015 – First commercial sales are made

Purifaaya on sale at local microfinance institution (FINCA)

Inception *(2010 – 2014)*

- 2010 – Kathy Ku interns in Uganda and is struck by the lack of access to safe water
- 2011 – Kathy teams up with fellow Harvard student John Kye to start SPOUTS of Water

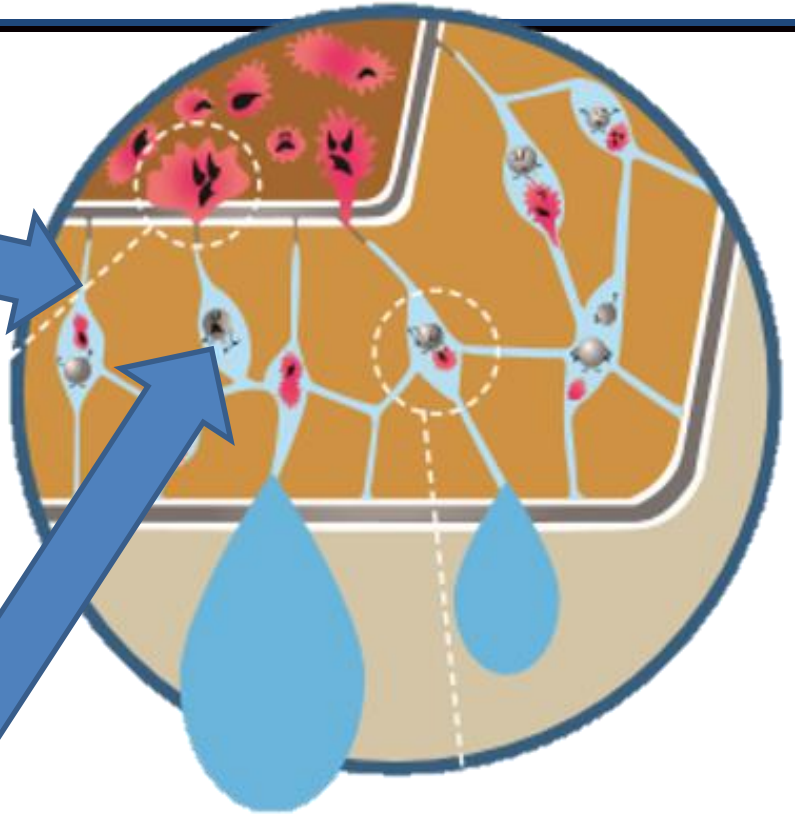
Pilot *(2015)*

Original factory

Fundamentals *(2016 – 2018+)*

- New factory opened in April 2017, with an annual capacity of ~100K filters
- Offering of financing program for customers that enables greater affordability
- Manufacturing process streamlined to reduce costs and enable ~40% gross margin

Physical Filtration and Chemical Disinfection



Purifaaya works in two ways: Physical Filtration and Chemical Disinfection. The tiny pores in the clay trap all germs and disease-causing bacteria, while the thin layer of silver nitrate kills any remaining germs within the clay (the water below is natural and contains no harmful chemicals)

Filter Specifications

- Filtration rate: average of 3-4 liters per hour
- Life span: 2-3 year guarantee
  - After three years, it remains safe but filtration becomes slower
- Pathogens removed: Bacteria and protozoa
- E. coli reduction: >99.99%
- Turbidity (cloudiness of the water) reduction: >94%
- Container capacity:
- Household Purifaaya: 20L
  - Clay filter holds 10 liters
  - Safe storage capacity at the bottom of bucket: 10 liters

Maintenance

- Every two weeks the Purifaaya should be cleaned as follows:
  - Take a clean cloth and wipe the inside of the clay to clear out any dirt- do NOT use soap
  - Take the clay portion out of the plastic, and wash the plastic bucket, tap, and cover with water AND soap (just like a normal dish)
- In addition to regular cleaning, water should be poured into the filter for continuous filtration and to ensure that there will always be enough safe water in the bottom of the bucket

Trust and Quality Assurance

Form A

Republic of Uganda

MINISTRY OF WATER & ENVIRONMENT
NATIONAL REFERENCE WATER QUALITY LABORATORY - ENTEBBE
Certificate of Analysis

CLIENT NAME: SPOUTS OF WATER LTD

PRODUCT: CERAMIC WATER FILTER

CLIENT ADDRESS: BUSIRO BLOCK 376, PLOT 895 WAKISO

ANALYSIS COMPLETION DATE: 12/5/2015

SAMPLE TYPE: TREATED WATER

Parameters	% removal	Test Results	US 201:2008 Drinking water Standard class 1
Total Coliforms (CFU/100mls)	99.99	<1	Not Detected
E.coli (CFU/100mls)	99.99	<1	Not Detected
Turbidity (NTU)	46.30	1.96	5
pH (Units)	6.9	7.6	5.5-8.5
Colour (PtCo)	88.00	3.00	15
Conductivity (µS/cm)	39	208	1500
Flow rate (L/hr)	-	1.8	NS

LABARATORY MANAGER

Checked:
Laboratory Manager
Date:

Directorate of Water Resources Management Department
P.O Box 19, Entebbe
Tel: 041-321342
Fax: 041-321368

PRINCIPAL ANALYST LABORATORIES

Issued
Principal Analyst
Date: 10 JUN 2015

NATIONAL WATER QUALITY REFERENCE LABORATORY – ENTEBBE

Sign:

Trust and Quality Assurance

NATIONAL WATER QUALITY REFERENCE LABORATORY

PERFORMANCE ASSESSMENT OF THE CERAMIC WATER FILTER

The Filtered water samples test results show microbiological characteristic that meet the required drinking water standard. The filter can effectively remove problematic constituents of microbiological nature in the water to up to 99.99% removal as shown in *table 1*.

5.0 Conclusion

The treated water from the ceramic water filter is efficient and effective to produce water that meets the recommended standard of water for human consumption.

6.0 Recommendations

- The company should think of increasing the size of the filtration unit for large communities such as schools etc.
- Regularly carry out cleaning and maintenance of the ceramic water filter to avoid clogging as instructed every after 14 days.

PRINCIPAL ANALYST
LABORATORIES
★ 09 JUL 2015 ★
NATIONAL WATER QUALITY
REFERENCE LABORATORY – ENTEBBE

Issued by
Principal Water Analyst .....

Our impact to date: Below is our impact to date, with significant growth ongoing in 2018

25,000+
filters sold

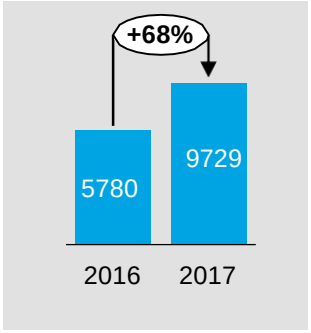
9,335
commercial sales

14,081
aid installations

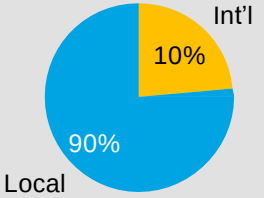
200+
partners

75,000+ tons
CO_2 reduction

40+
local staff



Equivalent to the exhaust from driving over 70M kilometers



*SPOUTS is on track to experience **over 50% YoY growth in 2018***

Strong value to customer service, with **high customer satisfaction ratings**

Presence in over 300+ **schools and institutions**

***Over half of on-the-ground leadership roles** filled by local staff*

Source: Internal Sales Data as of August 31, 2018, Ignosi Purifaaya impact assessment, WHO Image Source: The Noun Project

Thank you for your interest in SPOUTS of Water!