



water for people
UGANDA everyone | forever

DECENTRALISED FAECAL SLUDGE TREATMENT (DEFAST): FROM RESEARCH TO MARKET

My waste my mint project

OSBERT ATWIJUKYE
WATER FOR PEOPLE-UGANDA

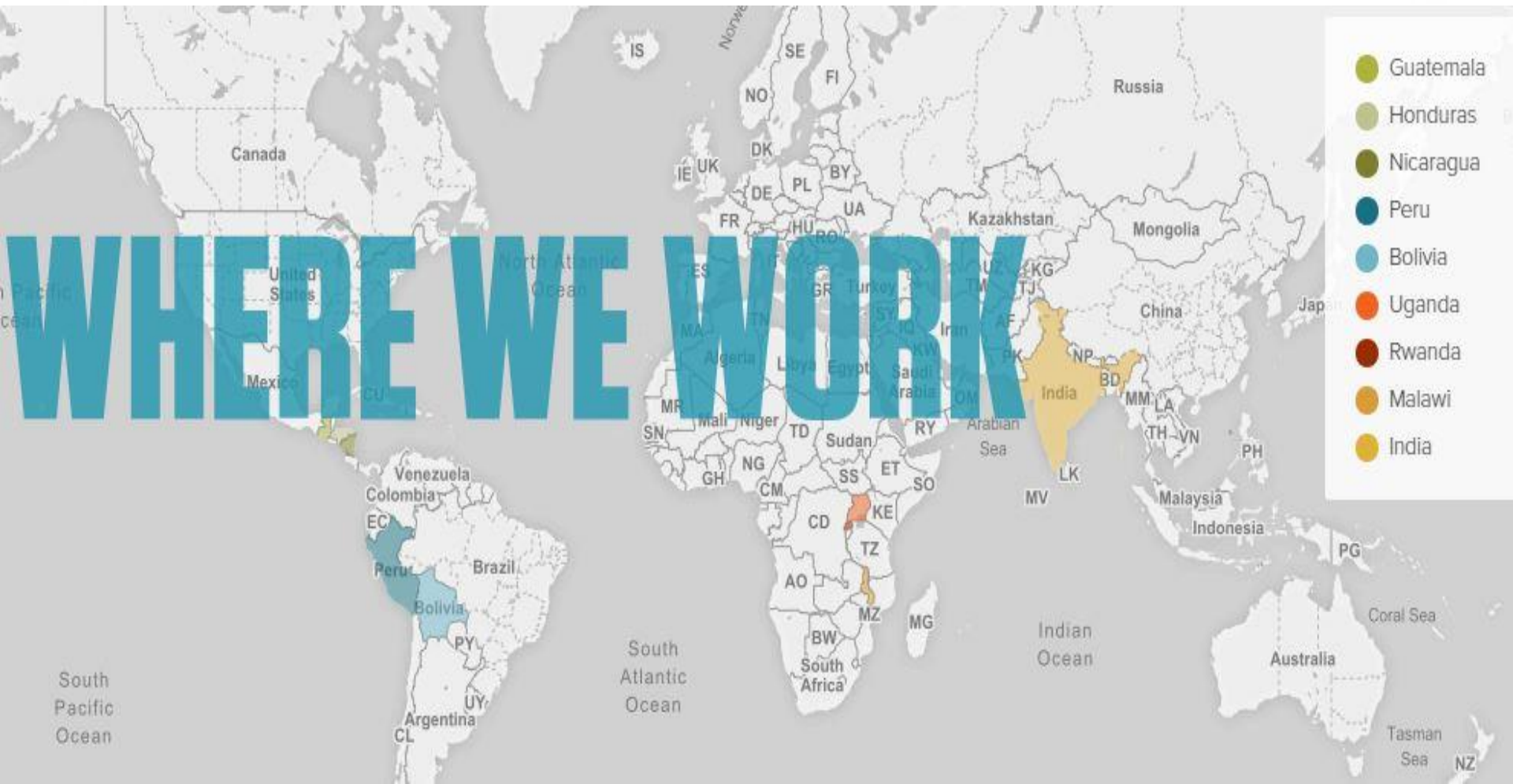
21/02/2017

FSM4



WATER FOR PEOPLE: ORGANIZATION OVERVIEW

Water For People is a next-generation international water and sanitation nonprofit that believes that investments made in water supply today must lead to lasting and transformative change both today and in the future. Water For People is unique in its emphasis on innovative programming, long-term support, and constant impact monitoring, which have set us apart as an ambitious water agency in a particularly crowded water community.





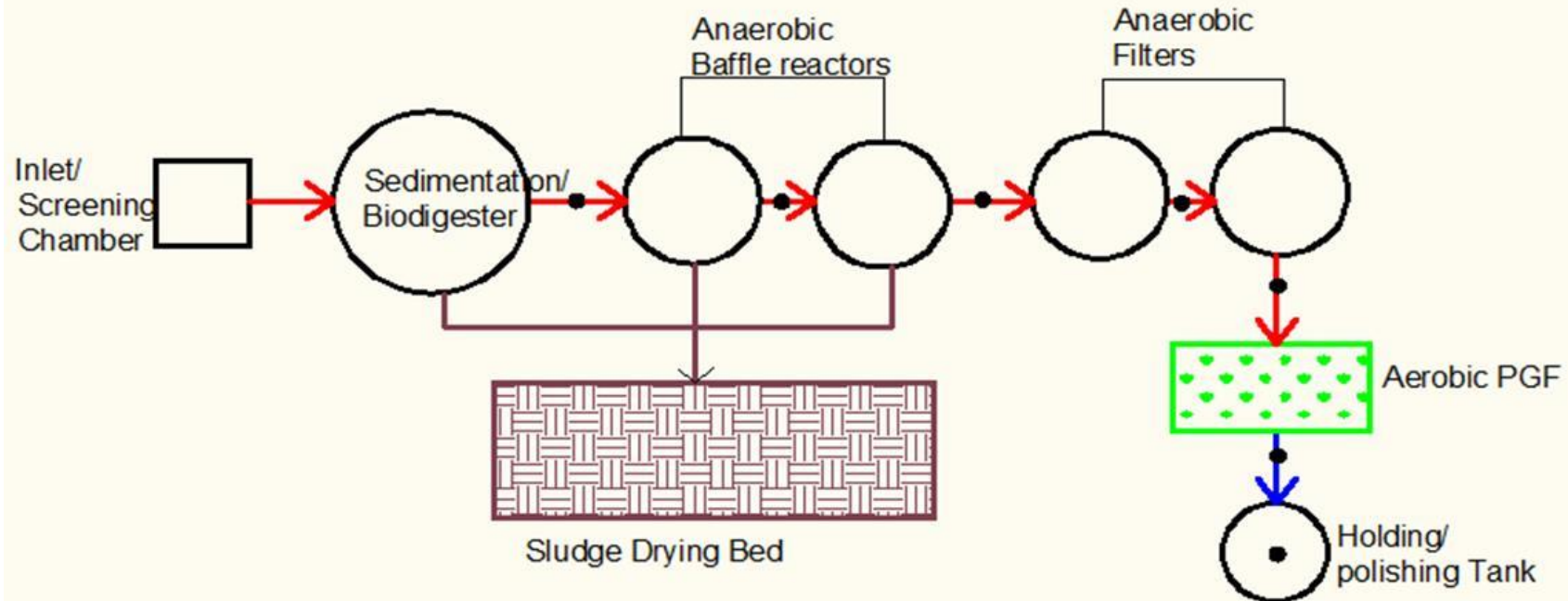
OUTLINE

1. Define DEFAST
2. DEFAST research pilot plant
3. My Waste My Mint project- Market pilot
 - ❖ Objectives
 - ❖ Approach
 - ❖ Achievements
 - ❖ Constraints / opportunities
 - ❖ Way Forward

DEFAST –DEFINITION & SCHEMATIC LAYOUT



DEFAST- Decentralised Faecal sludge treatment.
Designed and tested by Water For People- Sanihub with support of WRC, BORDA, Makerere University, University of Kwazulu, NWSC, KCCA.



● sampling nodes. Samples are corrected monthly to check system performance

DEFAST PILOT PLANT RESEARCH IN KAMPALA 2014



- Inlet tank made of steel - 1000l
- Biodigester (2000l), ABR and 500L each tank, all made out of plastic tanks and interconnected with HDPE Pipes.
- PGF(3X2m) planted with papyrus as dominant plant
- Drying bed 2.4x 2.2m



WHY DEFAST

- 2.7 billion (1/3rd world population) urban dwellers use OSS
- Over **90%** of Ugandans use OSS and most growing towns are 100% non sewerred. Urbanization rate at 5.43%
- Very few decentralized plants and **long distances**
- **High costs** of constructing and maintaining decentralized treatment plants
- Promoting **small pit emptying businesses** especially using a gulper.
- Demonstrating appropriate **reuse** of faecal sludge-energy, Feeds. Hence **sustainable FSM** water for people



MY WASTE MY MINT (MWMM) PROJECT

Was a follow up from previous gulping business introduced in Kitgum district 2014.

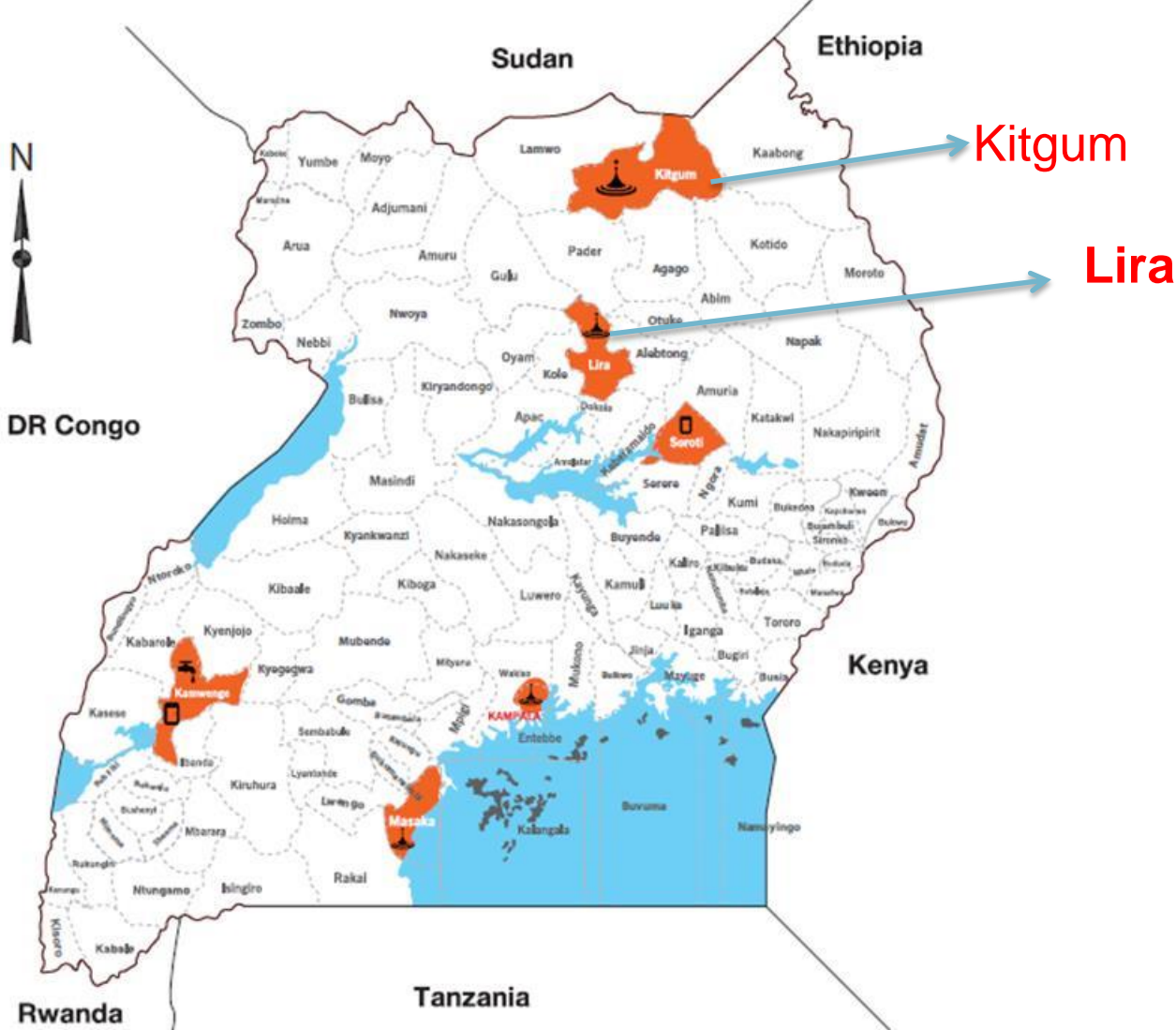


Kitgum before the plant



Kitgum after plant

PROJECT LOCATION



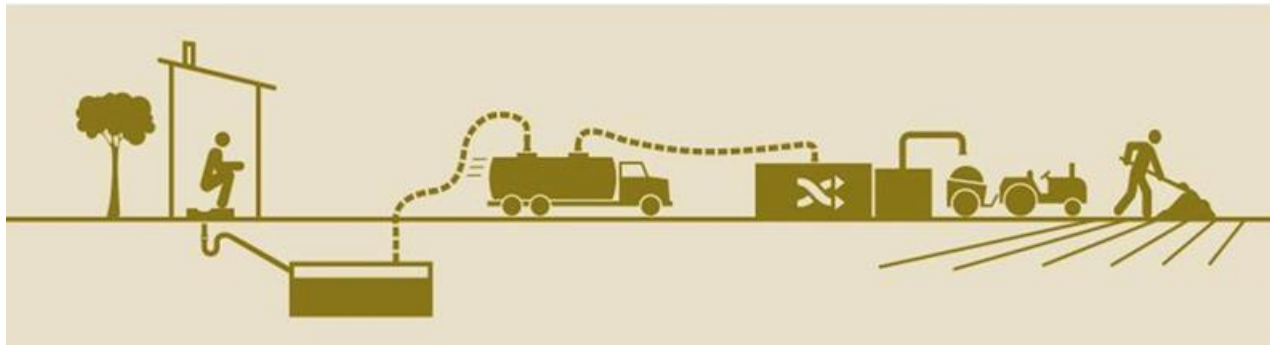


MWMM CT'D

Objectives were to;

- Introduce more business opportunities under FSM chain
- Provide alternative source of energy around Lira town targeting its agro processing industries
- Create a northern Uganda sanitation technology transfer center.

But following a step wise quick learning process...!!





OUR APPROACH

- RMA- Rapid market assessment
- Recruitment of local Business development services
- Partnership with authorities
- Constructing the DEFAST
- Recruitment and training of 'entrepreneurs'
- Providing start up kit
- Monitoring and improvements.





RECRUITMENT PROCESS OF ENTREPRENEURS



Theoretical training;

- Procedures
- Health and safety risks
- Marketing
- Business registration
- Team work dynamics



Practical training ;

- Preparing the kit
- Emptying
- Troubleshooting
- Cleaning



BRIQUETTING TRAINING



Practical Training on ;

- Carbonisation
- Blending
- Extruding
- Drying and Storage





CURRENT REVENUE SOURCES IN PROJECT

Gulping/ Pit emptying

- Each 180l barrel is emptied for UGX 20,000- 25000/= (7USD)
- Currently using a 4 barrel capacity tricycle





SOURCE OF REVENUE CT'D

Briquettes

- In **Kampala**, 76% of the population use charcoal as their main source of fuel for cooking, (GVEP 2012).
- A bag of charcoal is about 20 USD and for use in **poultry brooding** keeps a burner for approximately 48 hrs.
- 20 USD buy 47 honey comb briquettes will burn for 280hrs.



water for people



RESULTS AFTER 6 MONTHS OF MONITORING

Gulping

- A total of 5471 people had benefited from pit emptying – Gulping
- Total revenue= 2111 USD

Briquettes

- A total of 1657 kg sold @ 700UGX = 322 USD
- Total expenses in maintaining DEFAST (cleaning, security, repairs, allowances, fuel) 222USD



OTHER ACHIEVEMENTS

- The business is registered and recognized in the district and the region
- Communities pay for services and products
- Disrupted other sector players to think of decentralized systems
- Attracted influential partnerships





CONSTRAINTS / OPPORTUNITIES

- Still facing a challenge of affordable secondary transport systems.
- Regular breakdown of extruder briquette machine.
- Internal conflicts among entrepreneur groups
- Some of the youths identified are just operators and not entrepreneurs.
- Inadequate capital to invest




MOVING FORWARD - AS DRAWN FROM LESSONS

- Due diligence of all entrepreneurs
- Improving transport
- Recruiting entrepreneurs with capacity to invest
- Mobilizing to roll out business model in different areas.
- Interest plastic manufacturers to make specific tanks for DEFAST
- Increase sensitization and marketing promotions as for other products



CONCLUSION

Its hard to make money out of FS treatment without reuse, but its hurts when you see the money but the entrepreneurs cant figure it easily.



There must be a reason why some people can afford to live well. They must have worked for it. I only feel angry when I see waste. When I see people throwing away things that we could use.

(Mother Teresa)

izquotes.com

ACKNOWLEDGEMENT



Co Authors: C. Nimanya, B. Achiro, S.Sugden, P. Ogwang, G. Mumbo, B.Odyek

TUESDAY SEPTEMBER 20 2016

Kole residents turn human waste into money



THANK YOU

<https://sanihubwaterforpeople.wordpress.com/>

ugasanihub@waterforpeople.org

