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The TRANSFORM: Utilities Sanitation Challenge Water and Sanitation services for formerly war-torn towns in northern Uganda

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The TRANSFORM: Utilities Sanitation Challenge

Water and Sanitation services for formerly war-torn towns in northern Uganda

Brian Otim

April 2020

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Abbreviations

DWSCC:	District Water and Sanitation Coordination Committee
Govts:	Governments
JMP:	Joint Monitoring Programme
LRA:	Lord's Resistance Army
NWSC:	National Water & Sewerage Corporation
O&M:	Operations and Maintenance
Prog. Bldg & Civil Eng Contr. Ltd:	Progressive Building and Civil Engineering Contractors Limited
SDG:	Sustainable Development Goal
SSA:	sub-Saharan Africa
VIP:	Ventilated Improved Pit-latrine
WASH:	Water, Sanitation & Hygiene

Chapter One: Introduction

1.1 Background

Many households in northern Uganda lack access to improved water supply and sanitation services (on-and-off grid) owing to the massive destruction of the water infrastructure during the protracted war involving government and the LRA rebels for over a decade making them prone to water-borne diseases. In addition the local authorities i.e. urban and town councils don't fully have the resources to manage wastes i.e. liquid and solid given the limited logistical support they get from the central government for them to implement fully-fledged on-site sanitation services. This has therefore resulted into the clogging of storm water drainage systems since it is where the wastes are deposited by the public leading to eventual pollution of the nearby water catchment areas. Furthermore due to the lack of sensitization on waste management by the concerned stakeholders, a lion's proportion of the filth is channeled into sewers resulting into high treatment costs of the discharges at waste and water treatment plants respectively.

Figure 1.1: Dried-up borehole due to wetland encroachment

This coupled with poor physical planning by the local authorities has as well resulted into informal settlements without access for the waste management teams and consequently untidy waste disposal by the public leading to water-borne disease outbreaks. In addition, the national environmental regulation body in Uganda is riddled with corruption tendencies leading to degradation of wetlands as people are given the green light to settle in water

catchment areas (Figure 1.1) as well as the establishment of ground water sources e.g. boreholes downstream of pit latrines and out of the permissible distances within urban centers which eventually pollutes the water.

1.2 Objectives

The project's main objectives include:-

- Capacity development for urban WASH to the municipalities in northern Uganda
- Capacity development for rural WASH to the districts in northern Uganda

1.2.1 Partners

The project will majorly consist of these three partners:-

- NWSC- *Planning, Design, Implementation and Management*
- Prog. Bldg & Civil Eng Contr. Ltd- *Consultant, and Monitoring & Evaluation*
- Municipal Councils and District Local Govts- *Urban & Rural WASH co-implementers*

1.3 Problem Statement

The vast majority of the homesteads in northern Uganda lack access to the basic on-site sanitation facilities i.e. pit latrines, consequently this has resulted into open defecation tendencies by the community which has led into the pollution of nearby surface water and groundwater sources since the faeces are washed downstream by surface runoff.

Figure 1.2: Open defecation in Kitgum town

This is coupled with poor waste management by not only the overwhelmed local government systems but also at household-level. Furthermore the basic principles of hygiene implementation is way below-par due to lack of training by the concerned stakeholders.

Figure 1.3: Scattered waste in Kitgum town

1.4 Scope

This will involve urban WASH i.e. the construction of public sanitary facilities-toilets, capacity development of public health teams, and bolstering of the waste management chains in the municipal towns. Furthermore there will be the implementation of rural WASH with particular attention to household on-site sanitation as well as communal water-user management, water source protection, and rehabilitation of existing borehole sources in the districts of northern Uganda.

Figure 1.4: Unprotected shallow well in Kitgum town

Chapter Two: Literature Review

2.1 Introduction

This chapter gives a brief discussion on the previous works carried out by different researchers and scholars on information pertinent to WASH.

2.2 Sanitation in sub-Saharan Africa

Sanitation basically is the provision of facilities and services for the safe disposal of human urine and faeces and poor sanitation is believed to be the leading cause of some 280,000 deaths (Maji solutions, 2018). Sanitation in sub-Saharan Africa can be represented using the sanitation ladder; at the bottom are those that lack any kind of sanitation facility and normally practice open defecation, in the middle are those with access to improved latrines-comprising SanPlat, VIP latrines and basic pits with slabs, and at the top are those with access to water-borne facilities i.e. flush toilets (Morella et al, 2008). According to Munamati et al, 2017, in SSA, the pit latrine with slab is the most prevalent technology (21%) while the composting toilet has the least coverage (0.6%). Basing on multiple regressions, results show positive significant relationships between the following; income and flush toilets connected to sewer (p = 0.000), urban population and flush toilets connected to septic tanks (p = 0.000), development assistance and pit latrine with slab (p = 0.035) and a negative relationship between population and flush toilets connected to pit latrines (p = 0.030)

Figure 2.1: Sub-standard pit latrine in Kampala City

The population of SSA is 1 billion, of which around 63% live in rural areas with the worst proportion of people without access to drinking water and sanitation in the world and with only 28% with access to the basic facilities of sanitation. The 2017 JMP report put the number of people practising open defecation in SSA at 22.9% in 2015 and 31.9% in 2000 respectively. This implies that around 9% of people had moved away from open defection in nearly 15 years with around 10% in rural areas (Sengupta et al, 2018). According to Ulrich et al, 2016, access to sanitation facilities is quite low in low-and-middle income countries owing to the fact that mere setting up a VIP latrine costs over USD 500 which is the equivalent of a household annual income of a slum dweller as this was the case in Uganda's capital Kampala. The provision of adequate sanitation is still a challenge and the situation is worse in developing countries. Well managed improved sanitation protects the environment and improves livelihoods which results into socio-economic development and poverty eradication. Worldwide access to improved sanitation stands at 64% with the lowest coverage of 41% in urban areas of sub-Saharan Africa. In SSA, quite a number of technologies are currently in use, each of varying affordability, suitability, adaptability and user satisfaction, and these include septic tanks, aqua privies, biogas latrines, composting or dehydrating toilets and pit latrines. Even though septic tanks have high construction costs, space limitations, lack of water and blockages that result from use of bulk materials for anal cleansing, in SSA their usage stands at only 5 % of the total population (Nakagiri et al, 2016).

Chapter Three: Methodology

3.1 Introduction

This chapter gives a detailed description of the implementation of WASH in the urban and rural contexts respectively.

3.2 Urban WASH

Waste management

The local urban authorities in northern Uganda i.e. municipal councils don't fully have the capacity to carry out the management of wastes-liquid & solid, and this is majorly attributed to the lack of logistical support for the holistic running of the waste management-chain in the delivery of WASH services. However this implementation gap will be contained through offering WASH capacity development trainings to the public health wings in selected municipal councils, and offering resources to bolster the already incapacitated waste management chains.

WASH facilities

Owing to the exponential rural-urban migration coupled with refugee influxes to major municipal towns in northern Uganda from neighbouring countries e.g. Sudan, the existing public sanitary facilities i.e. toilets have been outstretched due to poor management systems. Therefore a number of expert themed capacity development trainings on management systems will be conducted together with the design and construction of new public sanitary facilities in-tandem with the rehabilitation of existing ones.

3.3 Rural WASH

Household sanitation

Though the implementation of WASH in the urban towns is still below-par, credit has to be given to urban authorities for the existent public health wings and management systems. However this can't be mirrored by the district departments of WASH who deal with the provision of water & sanitation services to the rural poor owing to an immense geographical coverage, dilapidated local governance structures due to the LRA war, and limited budget constraints. In consultation with the DWSCC and employing the community led total

sanitation model, numerous basic rural household WASH communal meetings and trainings will be conducted in selected sub-counties in the districts of northern Uganda focusing on on-site sanitation.

Community water

Unlike in the urban settings where there exists piped water supply services by NWSC which greatly represents a positive step in the achievement of the SDG 6 and Uganda's vision 2040, the rural communities are left behind grappling with water-borne diseases arising from open defecation tendencies leading to pollution of nearby surface water points. In addition the communally owned water user points often breakdown owing to the lack of funds for O&M due to the weakened local management systems at sub-county levels. Again, in consultation with the DWSCC and employing the community based management model, numerous stakeholder capacity development trainings on water user management and source protection will be conducted. Furthermore a few selected dilapidated communal water sources i.e. boreholes will be rehabilitated and the establishment of new ones depending on the budget.

References

1. Maji solutions, September 27th 2018, https://maji-solutions.com/sanitation-in-sub-saharan-africa/

2. Elvira Morella, Vivien Foster & Sudeshna Ghosh Banerjee, 2008, *Climbing the Ladder: The State of Sanitation in Sub-Saharan Africa*, The World Bank, Washington DC.

3. Muchaneta Munamati, Innocent Nhapi & Shepherd N. Misi (2017), *Types and distribution of improved sanitation technologies in sub-Saharan Africa*, https://doi.org/10.2166/washdev.2017.123.

4. Susmita Sengupta, Rashmi Verma & Samya Kazmi, 2018, *Bottom to the Fore: Rural sanitation in Sub-Saharan Africa*, Centre for Science and Environment, New Delhi.

5. Lukas Ulrich, Prit Salian, Caroline Saul, Stefan Jüstrich & Christoph Lüthi, 2016, *Assessing the Costs of on-Site Sanitation Facilities*, Eawag, Dübendorf.

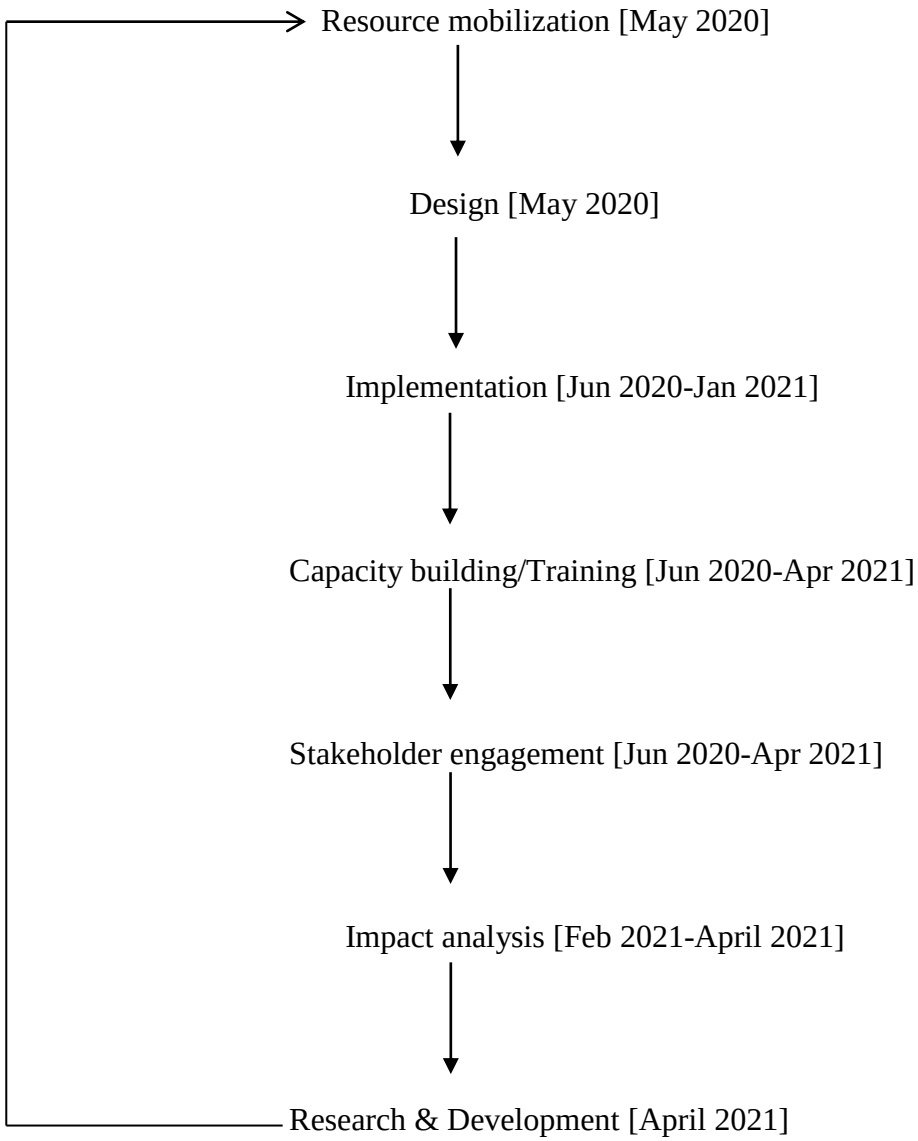
6. Anne Nakagiri1, Charles B. Niwagaba, Philip M. Nyenje, Robinah N. Kulabako, John B. Tumuhairwe & Frank Kansiime (2016), *Are pit latrines in urban areas of Sub-Saharan Africa performing? A review of usage, filling, insects and odour nuisances*, DOI 10.1186/s12889-016-2772-z.

7. Ministry of Water & Environment, 2017, *Water & Environment Sector Performance Report*, https://www.mwe.go.ug/library/sector-performance-report-2017.

Appendices

Appendix 1: Timeline

This project is expected to be completed in a year's time keeping all other factors constant from May 2020-April 2021.



Appendix 2: Budget

Item	Details	Cost (£)	Total (£)
Personnel			
Lead Applicant	Overall project overseer	5,000	
WASH Engineers, District Water Officers, District Health Officers, Municipal Public Health Officers, Municipal Water Officers	Project design, Implementation, Capacity building/Training, and Stakeholder engagements	15,000	
Monitoring & Evaluation Officers, Research & Development Officer, Assistant Accountant, Water Quality Officers, Village Health Teams	Project impact analysis, Field data analysis & Technical reports, Cost containment, Water quality testing, and WASH dissemination	5,000	
Total Personnel			**25,000**
WASH Infrastructure & Services			
Urban WASH	Waste management chains (generation, collection, transportation, treatment & disposal), Construction & Rehabilitation of public sanitary facilities (toilets, VIP-latrines, etc), and WASH Capacity building/Training	120,000	
Rural WASH	Household on-site sanitation sensations (pit-latrines, rubbish pit, drying racks, etc), Construction & Rehabilitation of water sources e.g. boreholes, and WASH Capacity building/Training	85,000	
Total WASH Infrastructure & Services		**205,000**	

Data Collection			
Primary			
Project Impact Analysis	Questionnaire/Interviews of beneficiaries, Village Health Teams, and/or Local leaders, etc	3,000	
Secondary			
Project field excursions	Water quality teams, Joint implementers, etc	2,000	
Total Data Collection			**5,000**
Equipment (including software)	Computers, Cameras, Lab-related, Internet	5,000	
Total Equipment			**5,000**
Other Costs (overheads, dissemination)	Stakeholder engagements, Stationery, Media coverage e.g. radio talk-shows, Workshops, Field lodgings, Research & Transport -related expenses, and on-site WASH i.e. hand-washing facilities, etc	10,000	
Total Other Costs			**10,000**
Total Project Cost			**250,000**

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