**RESOURCE POOLING THROUGH EXECUTING AGENCIES TO MAXIMIZE EFFECTIVENESS, SCALE AND SUSTAINABILITY OF WASH INTERVENTIONS**

A CASE STUDY OF THE INTEGRATED PROGRAMME TO IMPROVE THE LIVING CONDITIONS IN GULU AND SMALL TOWNS EN-ROUTE IN THE NILE CATCHMENT (IPILC) – JOINTLY FUNDED BY KfW, IDA-WB AND GoU

BY

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF DIPLOMA IN WATER SANITATION AND HYGIENE TO THE AFRICA INSTITUTE FOR PROJECT MANAGEMENT STUDIES**

**JANUARY 2020**

**Draft 2**

**DECLARATION**

**Declaration by the Student**

This research project is my original work and has not been presented to any other examination body. No part of this research should be reproduced without my consent or that of the Africa Institute for Project Management Studies.

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**DEDICATION**

I dedicate this research project to my family and colleagues.

**ACKNOWLEDGEMENT**

I acknowledge the entire Project Team for the IPILC phase 1A and 1B for their diligence in conceptualizing, funding, supervising and executing this project to realize the goal to provide sustainable WASH infrastructure and behavior change. It has formed the case study for my research. I acknowledge their direct contribution especially in sharing data from feasibility studies to monitoring and evaluation.

**ABSTRACT**

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**LIST OF ABBREVIATIONS**

**CSBAG** CIVIL SOCIETY BUDGET ADVOCACY GROUP

**GDP** GROSS DOMESTIC PRODUCT

**GoU** GOVERNMENT OF UGANDA

**IPILC** INTEGRATED PROGRAMME TO IMPROVE THE LIVING CONDITIONS IN GULU AND SMALL TOWNS EN-ROUTE IN THE NILE CATCHMENT (IPILC)

**KfW** THE GERMAN DEVELOPMENT BANK

**JMP** JOINT MONITORING PROGRAMME

**MoFPED** MINISTRY OF FINANCE, PLANNING & ECONOMIC DEVELOPMENT

**NWSC** NATIONAL WATER AND SEWERAGE COMPANY- UGANDA

**OECD** ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

**SDG** SUSTAINABLE DEVELOPMENT GOAL

**WASH** WATER, SANITATION & HYGIENE

**WB** WORLD BANK

# CHAPTER ONE; INTRODUCTION

## Overview

The reality is that we live in a world of finite resources, while the competing needs to ensure satisfactory living conditions for the world’s population are in every sense infinite. This reality is particularly critical in Africa, which suffers unique challenges in comparison to the developed nations. These challenges require massive capital infusions to counter them. Our resources are however scarce and misappropriated in most cases. One of the biggest such challenges facing Africa is the actualization of SDG 6. The following is brief look in to the challenges of accessing adequate funds as well as targeted channeling of the funds to achieve the maximum impact through integrated WASH programmes.

## Background Information

In 2015, world leaders converged at the United Nations and made commitments to achieve 17 Sustainable Development Goals (SDG’S) by 2030. This was done to alleviate human suffering due to poverty, inequality as well as to conserve the Environment. SDG 6 in particular aims to ensure availability and sustainable management of water and sanitation for all. Access to water and sanitation undoubtedly is a key pillar for development towards health, equity, education for all and gender mainstreaming. Equitable access to WASH is therefore complimentary to the other SDG’s. Specific indicators to monitor actualization of SDG 6 exist. They cover all areas from provision of WASH facilities to behaviour change.

According to Africa Policy Review 2018, Africa faces disproportionate challenges in the access to clean water and sanitation services. As of 2018, about 340 million and 508 million people lacked access to clean water and improved sanitation respectively (APR, 2018). This is due to widespread water-based challenges including water shortage, pollution, degradation of water sources, flooding and poor water resource management. These challenges are compounded by climate change, rural-urban migration and conflicts. It is projected that more than 50% of population growth up to 2050 shall occur in Africa. This shows how much more desperate the situation shall be if no measures are set in place to mitigate the lack of access to WASH facilities.

Studies have shown a strong correlation between WASH and sustainable development especially for Africa. Africa loses approximately 5% of its annual GDP due to lack of access to WASH facilities and 5% to 25% to droughts and floods depending on extent of natural disasters. Lack of access to WASH facilities more adversely affects girls and women. It has proven to be an obstacle to their empowerment and security. All these extenuating factors led to the adoption of the Common African Position (CAP); which originated from an African Union agenda, Agenda 2063, which aims to create an Africa that Africans deserve by 2063. The CAP is closely linked with the SDG’s.

While there has been renewed focus on the implementation of WASH programmes as suggested by the increase in Official Development Assistance (ODA) disbursements by 2017, resources are still not sufficient to attain SDG 6 especially in Africa by 2030. The African Development Bank estimates that Africa needs 11 billion dollars per year to achieve SDG 6. This is beside the shortage of capacity and weak institutions as well as fickle leadership that does not honour its commitments towards achieving SDG 6. The N’gor Declaration on Water and Sanitation developed by Africa’s Water Ministers among other issues, seeks to commit African countries to develop national strategies to achieve SDG 6; and to prioritize the implementation of water projects under the Programme for Infrastructure Development in Africa (PIDA). The declaration further seeks to push for appropriate national spending targets for high quality investments in water and sanitation. The focus on quality of investments stresses the reality that funding is limited, and that what is available should be focused towards the most productive investments in WASH.

There is a serious need to explore implementation of new and innovative financing mechanisms by governments, private sector as well as development organizations. If these mechanisms are further supported by ODA, there could be greater steps taken towards redressing the inequality in access to WASH facilities. This study explores one such innovative financing models. It also gives empirical proof of the positive effects of pooling funds through well-constituted executing agencies to execute integrated and holistic WASH programmes in securing the public health of a population post-emergency.

## Problem Statement

Africa faces a myriad of challenges while it has limited financial capacity to tackle all of the challenges effectively. One major challenge is the attainment of SDG 6 by 2030 to be able to ensure equitable access to safe water and improved sanitation. The need for WASH facilities is even direr in post-emergency settings. Emergencies in Africa are diverse and range from natural catastrophes to prolonged armed conflicts leading to displacement of millions of Africans. The damage to lives is often irreparable. However, one significant way to alleviate human suffering in the immediate aftermath is to initiate integrated WASH programmes to improve the access to safe drinking water and access to sanitation. This can significantly reduce the disease burden on the population if the initiatives are holistic and encompass all facets of WASH. A reduced disease burden means that families can allocate more time to productive activities such as work and going to school. This is especially significant for girls and women who bear the biggest brunt for lack of access to improved WASH services. Augmentation of WASH infrastructure with sustained hygiene, sanitation and health promotion to be able to foster behaviour change is key for the effectiveness of WASH programmes.

Pooling of resources to ensure that holistic programmes can be executed in the aftermath of emergencies is the surest way to secure the public health of recovering communities post emergencies. Studies have shown that provision of clean water combined with improved sanitation and hygiene is the only effective method in reducing the disease burden due to lack of access to safe water and improved hygiene and sanitation. While many organizations are involved in the WASH sector in Africa, there is limited coordination or even sharing of information among the organizations. The result is that whereas funding is undoubtedly limited, a lot of money is spent implementing similar small projects that could be redundant. This is not ideal, as the effect on the community is limited because disease spread occurs over large geographical areas. There is need for more efforts to ensure better cooperation between organizations involved in conceptualizing, funding and implementing WASH programmes, to ensure that the little available resources are channelled in to the highest quality projects that yield maximum impact on the target communities.

The African Ministers’ Council on Water (AMCOW) recognizes the scale of insufficiency of adequate financial capacity at present to ensure equitable access to improved WASH services as per SDG 6. They are actively pushing for innovative approaches for financing WASH infrastructure by governments, private sector and development partners. Among their recommendations are the establishment of water banks based on domestic resource mobilization such as pension funds and insurance companies. Also the establishment of Water/WASH Financing Facilities as a mechanism for domestic resource mobilization with characteristics of pooled investment projects; developing good governance frameworks and opportunity for blending private and public capital; and special taxes such as the use of 1% of taxes for WASH. It is only through such innovative financing that Africa shall be able to fund the realization of SDG 6.

Well presented

## Research Objectives

### General Objective

This study endeavours to further advocate for exploration of more innovative means to fund WASH programmes in Africa. It seeks to encourage the strengthening of institutional capacity within African governments for water resource management as a tool to attract investment in the sector both internally and externally; for investment in holistic WASH interventions that are sustainable. It also empirically shows the impact of pooling of funds to do large scale and meaningful holistic WASH interventions on improving the public health of the population. It does so through a case study of Gulu Town and its environs in northern Uganda.

### Specific Objectives

1. To evaluate whether strengthened human capacity and project execution record for water resource management improves the attractiveness of executing agencies such as NWSC Uganda to funding agencies.
2. To evaluate the willingness of funding agencies to cooperate and pool funds for holistic WASH programmes such as IPILC through joint funding agreements with the executing agency.
3. To evaluate the significance of holistic WASH programmes on the behaviour change and hence public health of a population post emergency through tracking of standard indicators for SDG 6.

## Research Hypotheses

1. Strengthening the capacity of executing agencies such as NWSC Uganda has no effect on their attractiveness to funding agencies.
2. Funding agencies are not willing to cooperate in jointly funding WASH projects.
3. Execution of holistic WASH programmes has no significance on the public health of a population post emergency.

## Justification of Study

Studies and experience have shown that to achieve the greatest health benefits, improvements in hygiene should be made concurrently with improvements in the water supply and sanitation services to a community. These should also be integrated with other interventions such as improved nutrition and increasing average incomes. This requires significant financing.

This study is useful to all actors involved in WASH programming. More particularly, the study targets funding agencies, non-governmental actors in WASH and governmental executing agencies in WASH sector. Through a case study and empirical data, this study seeks to:

1. Advocate for the creation of a centralized database with baseline data for WASH indicators for the respective governance zones of a country. The database should be continuously updated to establish the changes in risky hygiene behaviours in the various regions. This would then be a good guide to all WASH actors seeking to design WASH programmes as it would indicate the most urgent risky behaviours that need to be addressed and the capital investment required to establish improved WASH facilities. This data should ideally be public and easily accessible such as on websites of Ministries of Health or Water and Sanitation.
2. Improve cooperation amongst WASH actors in pooling of resources to jointly initiate and implement holistic WASH programmes guided by actionable and up-to-date data above.
3. Encourage governmental agencies to improve their human resource capacity for water resource management and to develop a record of accomplishment of WASH programmes that will improve their attractiveness to funding agencies.
4. Encourage executing agencies to be resourceful in revenue collection to allow them to be able to solely fund some WASH programmes or to secure loans based on their ability to raise revenue internally. This is in line with finding creative modes of raising funds for WASH interventions.

## Scope and Limitation

This study shall be spatially limited to Gulu town and its environs in northern Uganda. The population in study (approximately 221 440) shall also be limited geographically to Gulu town and its environs. The case study chosen focuses on this area and population.

Due to cost and time constraints and in order to be able to collect sufficient data on behaviour change, the study shall have to rely on data collected via a KfW initiative to conduct a survey and create a baseline database for continuous monitoring and evaluation of indicators for improved WASH compliance of the population. The survey was carried out in November 2019. The data has not yet been processed. Due to the volume of the data, slightly more time shall be necessary to extract relevant statistics.

Finally, as humans are naturally dynamic, several external factors influence their behaviours. As the case study project is a phased project, behaviour change shall continue to be realized as the WASH services are progressively improved through the project. All these affects the absoluteness of data for behaviour change.

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# LITERATURE REVIEW

## Introduction

Access to improved WASH facilities is still inequitable in developing countries. The missing link in the design and implementation of WASH interventions that yield effectiveness, sustainability and scale is adequate and correct information. This chapter explores that as well as the trends in investment in capacity building of governmental bodies involved in the WASH sector and how this better equips them to manage a country’s water resources as well as improving their attractiveness to receive funding for WASH programmes. The focus shall be on the success of such activities in Uganda’s NWSC. Further, it shall explore steps taken in fostering information sharing about WASH in Countries as well as willingness of different funding agencies to pool funds towards holistic WASH programmes.

## Access to WASH

The importance of WASH to human development and well-being cannot be overstated. Sadly, despite decades of concerted investments in WASH programmes and over 20 years after the of the ‘International Decade for Drinking Water Supply and Sanitation’, over one third of the world’s population- and more than half of the rural poor- still do not have access to adequate WASH facilities (JMP,2012). Multilateral, bilateral and NGO money has continuously been invested in the WASH sector yet the access to WASH facilities still falls below the targets of SDG 6, most especially in Africa.

## Effectiveness of WASH Interventions

Invariably, the nature and scope of various WASH interventions are diverse which makes comparison of effectiveness difficult. For instance, some programmes tend to focus on reducing the unit cost of accessing potable water to households while others simply try to reduce the distance people have to travel to access the water. Consequently, in assessing effectiveness of programmes, it can only be done against their specific objectives (Taylor, 2013).

Scale and sustainability are linked. The scale of an intervention firstly considers the estimation of the population that benefit from an intervention over the project timeline. This includes the service life of the intervention. Secondly, scale considers the degree to which improvements in public health can be attributed to an intervention (Taylor, 2013). These two considerations make it difficult to evaluate the scale or reach of an intervention over time. This study shall only rely quantifiable data such as toilets provided or amount of water supplied to help analyze the scale of the case study project. It should however be noted that this would tend underestimate the actual scale of the project under review.

Aggregately, interventions to improve water quality are seen as more effective than those that aim to improve water supply in reducing childhood morbidity from diarrhea (Waddington et al., 2009). The study assumed that populations inevitably have access, in one form or another, to a water source as humans can only survive a matter of days without water. Some studies however argue that the most effective strategy overall in reducing deaths from diarrheal diseases is the improvement of access to adequate hygiene and sanitation facilities combined with robust hygiene and health promotion (Taylor, 2013). As previously stated, these studies further show that potential WASH interventions are very situationally specific.

Concerning water quality improvement interventions, far greater improvements were realized where measures focused on ensuring cleanliness at point of use of the water rather than at the source. This was attributed to the reduced risk of recontamination (Taylor, 2013). Studies also reveal variable results on the effectiveness of improved handwashing on the reduction of diarrheal diseases ranging from 30% to 50%. This is again testament that effectiveness of interventions should be programme specific dependent on the objectives.

Technical data such as these are significant in the design of programmes in this field than in programmes that focus solely on economic and social development. However, human behavior varies greatly with geography, based on economic, socio-political and cultural factors. This variance in human behavior greatly influences their uptake of WASH interventions and thus greatly influences effectiveness of such interventions (Waddington et al, 2009). A review of papers by Taylor reveals that no attempt has so far been made to systematically evaluate the impact of WASH interventions on people’s lives in any integrated way citing the unfeasibility and ethical dilemmas that such a study would present. The paper however simply sought to amplify the importance of context and objectives based assessment of effectiveness of WASH interventions during WASH programming.

Institutional development is a core activity in WASH programmes. The assessment of the effectiveness of institutional development is equally difficult. One of the ore contentious issues in this area is the privatization of the water sector. Studies show variable results especially in developing countries where private sector involvement has been increased with some countries realizing improved water supply and quality. The challenger, however, is that the impact of privatization on the poorest in society is not easily quantifiable. In addition, access to water for the rural poor tends to reduce due to little incentive for the private sector to provide services to the marginalized communities (Taylor, 2013).

Taylor 2013, deduced that systematic reviews of WASH interventions are comparative and tend to be a useful guide as to the range and combination of interventions that is more effective in influencing the target community. The question that still lingers is the degree to which these reviews and their lessons are considered by WASH programmers to avoid selection of ineffective programmes. The need to understand the contexts within which WASH programmes take place and to match the demand with supply is even greater as the world tries to bridge the gap in access to adequate WASH facilities in line with SDG 6, while struggling with inadequate funding. Behavior change must be fostered through comprehensive, targeted and sustained hygiene promotion campaigns to ensure people change their old risky habits. This would in the least ensure maximum uptake of already implemented interventions by the target communities thus alleviating the disease burden associated with lack of equitable access to acceptable WASH facilities.

## Sustainability and Scale of Interventions

‘Ensuring sustainability over time and diffusion across populations is of fundamental importance if the benefits of water, sanitation and hygiene interventions are to be maintained when intervention activities come to an end’ (Waddington et al. 2009).

Sustainability is however difficult to quantify. There is scarce data at the institutional level or public record of the effectiveness of WASH programmes after their implementation. There is limited funding for studies that evaluate the programme costs in relation to their impacts after implementation. Consequently, researchers have devised other measures of sustainability base on cost-effectiveness; such as the Disability Adjusted Life Years (DALYs). This means that for instance, if a WASH intervention prevents the death of one child from fecal-oral diseases, the effect is equivalent to 30 DALYs. Interventions which have the smallest unit cost in relation to DALYs are therefore more cost-effective in the long term granted the intervention has no chance of failing or being reversed over time (Rosen and Vincent, 1999).

Where WASH interventions are delivered directly by a development organization to beneficiaries, a great number of informal studies show that there is normally a reduction in the extent and effectiveness of the intervention over time. Engineers without Borders (Canada) recognized the unsustainability of several hardware related interventions in developing countries and in 2008. They took the extraordinary step of publishing details of their interventions that had not been as effective as foreseen in their now annual *Failure Report.* The reports do not detail the reasons for failure but in the least, they do shed light on failed interventions. Such information is usually hidden (Taylor, 2013).

There is an obvious lack of incentive for aid agencies, NGO employees and other WASH actors to be truthful in their self-assessment of their interventions. Their self-interests are normally misaligned with publicizing failures. There is a systematic bias in the data selection for academic publications and subsequent systematic reviews (Taylor, 2013).

Nevertheless, hygiene promotion is arguably one of the most sustainable forms of directly delivered intervention as it results in behavior change amongst the target population if effectively done. Studies have however shown that hygiene promotion should be reinforced say every five years to avoid erosion of gains made due to the population progressively forgetting the incentives of behavior change (Caimcross and Valdmanis, 2006;785). Caimcross and Shordt (2004) conducted a comprehensive study in eight countries over nine years in which they found that behavioral change was broadly sustained amongst the target group with expected cultural variances.

Taylor (2013), summarized that based on the limited data available on sustainability of WASH interventions, the interventions have low sustainability. The reasons for this are undocumented. This raises fears that existing WASH interventions could be replicated without regard for their effectiveness or sustainability. This is counterproductive to the quest to achieve SDG 6 and amounts to wastage of resources.

This study therefore seeks to bridge the divide between WASH programming and actionable data for use in programming by encouraging the creation of centralized open-source databases containing statistics on WASH interventions as well as their impacts.

## Approaches in WASH Programming

Taylor (2013) attempted to identify the key features of WASH interventions. This was driven by the obvious need to move beyond technical analyses of WASH programmes and the relative merits of their interventions; towards an analysis of the overall approach, the programmes take in determining what interventions to implement and in which to implement them. This means that the intervention activity must be based on a deep understanding of the problem and population dynamic. He summarized the three main types of approaches in to three categories as follows;

|  |  |  |  |
| --- | --- | --- | --- |
| **Approach** | **Direct Delivery** | **Knowledge and Skills Transfer** | **Systemic Change** |
| **Diagnosis of Problem** | Inadequate physical resources (hardware, infrastructure, facilities) | Inadequate knowledge and skills among WASH practitioners and consumers | Multiple constraints on the effective functioning of the WASH system i.e. information, knowledge, rules, services etc. |
| **Strategy for Intervention** | Delivery of physical resources | Technical assistance to improve knowledge and skills | Interventions to address key constraints, facilitating change to improve the broader systems in which they exist |

**Direct Delivery Approach**

Such programmes are designed to give things and infrastructure to people. These things include soaps and toilet facilities. These programmes are more likely to provide hardware based on analyses for the most effective mode of intervention for a given situation. They can address problems in the short term.

**Knowledge and Skills Transfer Approach**

These are programmes designed t effect behavior change through direct input of training or education of target at-risk groups. The change realized is foreseen to last beyond the lifespan of the programme. Sustainability of such behavior change suffers from the influence of culture on the individual and a lack of incentive to disseminate or even carry on such practices beyond their family and over time. Preventive measures are inherently more difficult to sell than curative ones. Secondly, the transfer of skills is normally not comprehensive as such any innovations quickly disappear after the programme is concluded (Taylor, 2013).

**Systemic Change Approach**

This approach is the most complex and analyses not just the problem, but the many underlying causes of the problem within the broader system in which the problem arose. It focuses on identifying specific and situation specific causes of problems, which exacerbate the original big problem and seeks to address those root causes. Operationally, direct involvement in development programmes is kept at a minimum. Where involvement is unavoidable, it is done in partnership with local institutions with clear exit strategies once the beneficiaries are adequately incentivized to take over the programmes over time. The expected results of this approach are long term. This is only possible where there exist institutions with adequate capacity to absorb such external stimuli to foster and champion change (Taylor, 2013).

## Status of Water and Sanitation in Uganda

In terms of improving access to WASH services, the GoU has made considerable progress. National coverage of access to the least basic services increased from 30 to 38% (JMP, 2017). However, the disparity in access to piped water is clear with 48% in urban area, 33% in small towns and 9% in rural areas. Most of the population of Uganda lives in rural areas and rely on community point sources (UNICEF, 2019). People have to travel long distances to access the water while the demand far exceeds the supply in the northern and eastern regions of the Country (MWE, 2018).

Currently only 19% of Ugandans have access to basic sanitation facilities according to the Joint Monitoring Programme (2017). The annual sector performance report also shows that less than 7% of the population in large towns and negligible portion in small towns have sewerage coverage (MWE, 2018).

## National Strategies for Water and Sanitation Improvement- Uganda

In Uganda, the development goals of water and environment sectors are detailed in the second National Development Plan (2015-2020). The WASH targets in this plan are as follows:

**• Rural water:** increase coverage to 79 per cent and ensure that each village has access to a clean and safe water source – *2018 government figures report that 70 per cent of the rural population had access to improved drinking water sources and just 66 per cent of villages had access to sources of safe water supply*

**• Urban water:** increase urban coverage to 95 per cent overall and to 100 per cent in areas supplied by the NWSC – *2018 government figures report that 77 per cent of the urban population had access to improved water sources.*

**• Urban sanitation:** increase sewerage coverage to 30 per cent in towns with over 15,000 inhabitants – *2018 government estimates suggest that 26 per cent of the urban population had access to safely managed sanitation; however, a figure is not given for access to sewerage.*

In addition, Uganda Vision 2040 sets the target that 100 per cent of the population should have access to safe piped water by 2040. There is however no targeted financing strategy for sanitation. Funding to sanitation is spread between centralized capital-intensive projects and earmarked government funding to districts. Nevertheless, there is a coherent strategy to address critical gaps despite the continued reliance on external support to finance rural sanitation behaviour change programmes (such as the urban sanitation fund) and to support large infrastructure development (UNICEF, 2019).

## Institutional Structures in the Water and Sanitation Sector-Uganda

Over the last few decades, the Government of Uganda (GoU) has built a detailed and comprehensive legal and Institutional framework to support improved water supply, sanitation and water resources management. The roles and responsibilities of water and sanitation stakeholders are well defined. The Ministry of Water and Environment (MWE) is responsible for determining priorities, setting policies and standards for water development, and regulating water resource activities and water and sanitation services. Within the MWE, the Directorate of Water Development is responsible for providing overall technical oversight for planning, implementation and supervision of the delivery of urban and rural water and sanitation services across the country, including water for production (UNICEF, 2019).

The organogram below summarizes the institutional arrangements in the Water and Sanitation sector in Uganda. The red highlights indicate the units most relevant to basic water and sanitation service provision (UNICEF, 2019).

|  |
| --- |
|  |

*Source*: Adapted from Annex 3 of Uganda’s Sector Performance Report, 2018

## Project Executing Agencies (PEA) Attributes

The PEA is the lead agency accountable for executing projects. They are normally therefore the recipients of funding and should ideally have the following characteristics;

1. It must be a relevant national authority; usually under the water or environment ministry concerning WASH projects.
2. It must have established practices and guidelines related to large project management, planning, and monitoring and knowledge management.
3. It must have the capacity to recruit, oversee and house a Project Management Unit, which is responsible for the day-to-day management and coordination of project activities during execution.
4. It should have the capacity and appropriate systems, controls, policies and procedures to financially manage grants, loans and revenues.
5. It should demonstrate good standing with relevant stakeholder’s and potential executing partners

One entity that is vital in the execution of large-scale projects in Water and Sanitation in Uganda is the National Water and Sewerage Corporation (NWSC).

## National Water and Sewerage Corporation (NWSC) - Uganda

The National Water and Sewerage Corporation (NWSC) is a public utility company 100% owned by the Government of Uganda. The Corporation was established in 1972 under Decree No: 34. At its inception in 1972, the Corporation operated in three (3) major towns of Kampala, Jinja and Entebbe. The NWSC Statute revised these laws in 1995 and later on, the statute was incorporated in the Laws of Uganda as CAP 317 (Laws of Uganda 2000). The primary aim of this was to revise the objectives, powers and structure of NWSC to enable the corporation operate and provide water & sewerage services in areas entrusted to it on a sound commercial and viable basis.

### Credit Worthiness of NWSC- Uganda

The financial health of the NWSC is atypical of utilities in the region. One important and consequential signal marker of this strength is the recent decision by the Global ratings agency in South Africa to upgrade NWSC credit rating from A to AA status.

NWSC achieved this rating based on; the last five years of good financial performance, increased operating margins, support from the Government, absence of debt, good management and compliance. The summary of the rating report noted that NWSC benefits from an efficient and sustainable tariff mechanism, which has allowed average tariffs to escalate at a sufficient rate to cover the rising unit production costs of water. This represents a key rating strength.

This rating upgrade is potentially significant for future financing of urban water and sanitation. In the context of diminishing donor financing, and increased strains on MoFPED borrowing capacity due to rising debt/GDP ratio, the NWSC needs to access more and different sources of financing to meet the country’s goals for water and sanitation service delivery. This credit rating suggests that NWSC is in a financial and operational position to tap the Ugandan domestic capital debt market, and means that this debt could be taken on at surmountable rates. This would require willingness at the NWSC to take on increasing risk of debt repayments and to accept the need to pay the cost of capital on the investment finance provided. Although this may be financially viable for NWSC and desirable for the Treasury, it would require NWSC management to forgo the current benefits received from development partner and government grants (UNICEF, 2019).

This again is testament that NWSC-Uganda is a model utility and PEA and other utilities in the Continent should benchmark themselves against them. This also affirms this study’s hypothesis on strong executing agencies being more attractive to funding agencies to bridge the gap in financing in the WASH sector.

## Recent Trends in WASH Financing in Uganda-2017/18

UNICEF (2019) reported that in the year 2017/18 an estimated US$274.6 million was spent on various aspects of the provision of water and sanitation services through government taxes, donor transfers, and household contributions. Figure 20 provides a disaggregated overview of these expenditures and gives insights into the sources of this expenditure, how it was channeled, and how it was distributed between WASH sub-sectors. Their analysis showed that:

1. In absolute terms government expenditure appears evenly balanced between investment in urban and rural water and sanitation
2. On-budget development partner expenditure in skewed towards urban water and sanitation, but most off- budget expenditure are likely to be rural focused. This indicates that overall absolute expenditure is likely quite well balanced between rural and urban water and sanitation
3. Household expenditure on water and sanitation services is by far the largest contributor to overall sector financing. The vast majority of this comes through water and sanitation tariffs paid to NWSC for services in cities and selected towns. In addition, estimates also suggest that household spending on sanitation also makes up a considerable proportion of overall sector expenditure on basic water and sanitation.

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Source: UNICEF, 2019

Their report acknowledged the danger that parts of WASH service delivery which are not revenue generating or are expected to be of low commercial viability suffered under-investment by key sector actors. Furthermore, at the current rate of funding for the WASH sector, it is apparent that it shall be impossible for Uganda to attain SDG 6 within the timelines. They estimated that the sector investment plan requires an annual investment of US$935 million per year in WASH to attain SDG 6 by 2030. However, with reduced level of service to simply universal access to improved/basic services, the figure drops to US$278 million per year. This is sadly the same scenario for most African Countries.

## Factors Affecting WASH Financing (Uganda)

Generally, most countries in Africa face similar challenges in funding of WASH initiatives. Uganda is not an exception, and the key obstacles are as shortly described below (CSBAG, 2017).

1. Rapid population growth and Urbanization- The growth in population has put pressure on the available water and sanitation infrastructure. However, funding for the sector has not grown at the same rate, leading to challenges of promoting WASH. For instance, the population of Uganda in 2014 was 34,634,650 people. The population is expected to reach 53,496,000 people by 2025 according to the National Population and Housing Census (NPHC) 2014. Rapid urbanization is characteristic of most African countries. This is also resulting in the sprouting of many unplanned settlements without proper access to water and sanitation facilities. In Uganda, the percentage of the population living in urban areas increased from 4% to 16.1% between 1960 and 2015 (CSBAG, 2017).
2. Ageing Infrastructure- According to a study by CSBAG (2017), ageing and sometimes malfunctioning infrastructure is a hindrance to forward WASH financing. The water infrastructure’s functionality rate was reported at 86% by the Ministry of Water and Environment as at June 2016, having reduced from 88% in June 2015. In rural areas, out of the estimated 109,000 water point sources, 16,350 were providing water as expected. Operation and maintenance (O&M) of rural and urban water facilities is one of the key challenges of water supply in Uganda, since the available funds are allocated to water production. In urban areas covered by the NWSC, O&M is carried out using internally generated revenues from water charges. Another major challenge is the insurgencies in some parts of the country, especially in the northern Uganda districts. The provision of water sources is a problem in those areas because the old sources either were destroyed or are non-functional.
3. Climate Change- This is a global problem but with challenges to African countries especially concerning realization of SDG 6. Several countries are experience erratic and unpredictable weather. Rain patterns have changed causing varied and uneven distribution of water resources. The normal production of some water supply facilities has also been affected. This implies designs initially with service lives of up to 25 years could be rendered obsolete sooner necessitating alternative solutions be found. These costs are also a hindrance as such funding would be put in to other WASH programmes to serve other areas. In addition, the frequency and veracity of floods greatly affects the livelihoods of the affected and their sanitation systems.
4. Limited national budgetary allocations- Many African countries, including Uganda, do not allocate adequate financing towards WASH. While the challenge of inadequate resources cannot be ignored, it is clear that many African governments are not investing adequately in WASH improvement, and especially sanitation. More must be done.

## Alternative WASH Financing Mechanisms

Given the scale of the financing needs, especially for sanitation, no single approach will fill the financing gap in Africa and Uganda in particular. A varied sector financing strategy is needed employing market financing to fund revenue generating/cost-saving projects and allocating donor funding and contributions to address the sector needs where cost recovery is more difficult. A number of options exist to fill the financing gap in the water and sanitation sector (UNICEF, 2019).

### Public Private Partnerships (PPP)

A PPP is a contractual agreement involving the private sector in the delivery of public services. This is based on a partnership approach, where the responsibility for the delivery of services is shared between the public and private sector both of which bring their complementary skills to the enterprise. PPP is a mechanism recognized by governments including that of Uganda. Guidelines are developed for local governments as well (CSBAG, 2017). The figure below represents the PPP WASH Financing Mechanism.

PPP WASH Financing Mechanism.

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*Source*: CSBAG, 2017

### Tariff and Repayable Financing Mechanisms

Tariff and repayable financing involves the mobilization of financing from a variety of sources. These include reducing costs (via efficiency gains or the choice of cheaper service options), increasing the basic sources of finance that can fill the financing gap, i.e. tariffs, taxes and transfers (“3Ts”) and mobilizing repayable finance (including loans, bonds and equity either from the market, or from public sources) in order to bridge the financing gap.

Defining how these various sources of finance can be combined is determined by projected future cash flows from a combination of the 3Ts, and using the revenue stream as the basis for attracting repayable sources of finance (loans, bonds and equity). In the context of developing countries and Uganda, tariff alone is not sufficient to cover all costs. Repayable finance therefore is required for initial investment, and to complement revenues from tariffs at least for a transaction period.

The OECD developed the notion of the “3Ts” in 2009. It has become a common way of approaching deliberations of the financing of water services, with particular reference to water supply and sanitation. In reference to water financing, the “3Ts” concept is based on a cash flow made up of Tariffs, Taxes (subsidies) and Transfers (from aid or philanthropy). This cash flow covers the recurrent costs of water and helps to finance that part of its capital investment, which is funded from repayable sources – loans, bonds and equity.

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*Source:* OCED, 2015

### Venture Capital

Venture capital is a type of private equity, a form of financing that is provided by firms or funds to early-stage projects deemed to have high growth potential, or which have demonstrated high growth (in terms of number of employees, annual revenue, or both). Venture capital firms or funds invest in these early-stage companies in exchange for equity and ownership stake in the companies they invest in. Venture capitalists take on the risk of financing risky start-ups in the hope that some of the firms they support will become successful.

Venture capital is likely to become increasingly important in financing technological innovation in WASH. The high risk associated with newer technologies may reduce financing options for innovative water management, sanitation and hygiene technology projects. The risk profiles of projects vary according to their technology and its stage of development, which determines the type of financing which is most appropriate. Venture capital is generally suited for unproven and untested technologies (CSBAG, 2017). See below the Venture Capital Funding Mechanism structure.

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*Source*: CSBAG, 2017

# METHODOLOGY

## Philosophical Paradigm

This study can be founded in the ‘Rational Choice Theory’ and particularly its application in behavioral economics. The theory postulates that individuals use rational calculations to make rational choices and achieve outcomes that are aligned with their own personal objectives and self-interests. The assumptions of the theory are that all actors involved are rational and that they make choices based on rational choices based on rational calculations and rationally available information. Using this theory is expected to result in outcomes that provide people with the greatest benefit and satisfaction given choices available. As such, individuals are expected to minimize losses by actively maximizing their advantage in any situation.

The theory is applicable to this study as it explores the means to maximize effectiveness, scale and sustainability (benefits) of WASH programmes. It seeks to show that these benefits could be realized by ensuring the bridging of the information gap for WASH actors to enable them to pool adequate resources to be able to make targeted investments based on valid and accurate information and thereafter yield the best outcomes in improving the public health of the target populace.

## Study Design

The study adopted an analytical observational design because it attempted to infer the relationship between effectiveness, scale and sustainability of WASH interventions with the ability of PEAs to pool funding for large-scale interventions while also exploring the role of information in WASH programming. Secondly, the study relied heavily on secondary data due to the scale of data required to determine the state of WASH financing in Uganda and Gulu town, which are the case studies.

### Study Site

The study site is the Republic of Uganda as concerns the general WASH financing landscape; and the IPILC project in Gulu town (northern Uganda) and its environs for a case study of large-scale WASH interventions.

### Research Approach

The study utilized both quantitative and qualitative data obtained from review of records to test the hypotheses.

### Research Method

To achieve the objectives of the study, the financing landscape of WASH initiatives in Uganda as a case study of the financing scene in sub-Saharan Africa was obtained from records of economic and financial surveys conducted primarily by CSBAG for Water Aid, and UNICEF in their country specific WASH financing assessment. Equally, the effectiveness, scale and sustainability of large-scale WASH interventions was assessed through a case study of the IPILC project in Gulu and its environs.

### Data Needs, Types and Sources

The data required for the study was mainly obtained from secondary data. This included population data as well as fiscal data detailing the budgetary allocations towards WASH sector financing from the GoU, donors and revenue raised through PEAs. The key sources were the reports by CSBAG (2017) and UNICEF (2019) detailing the situation of WASH financing in Uganda. Other information was obtained from the reports of the IPILC project focusing on Gulu and its environs and detailing the situation of WASH in the region as well as interventions proposed and implemented through the programme.