

WATER, SANITATION & HYGIENE

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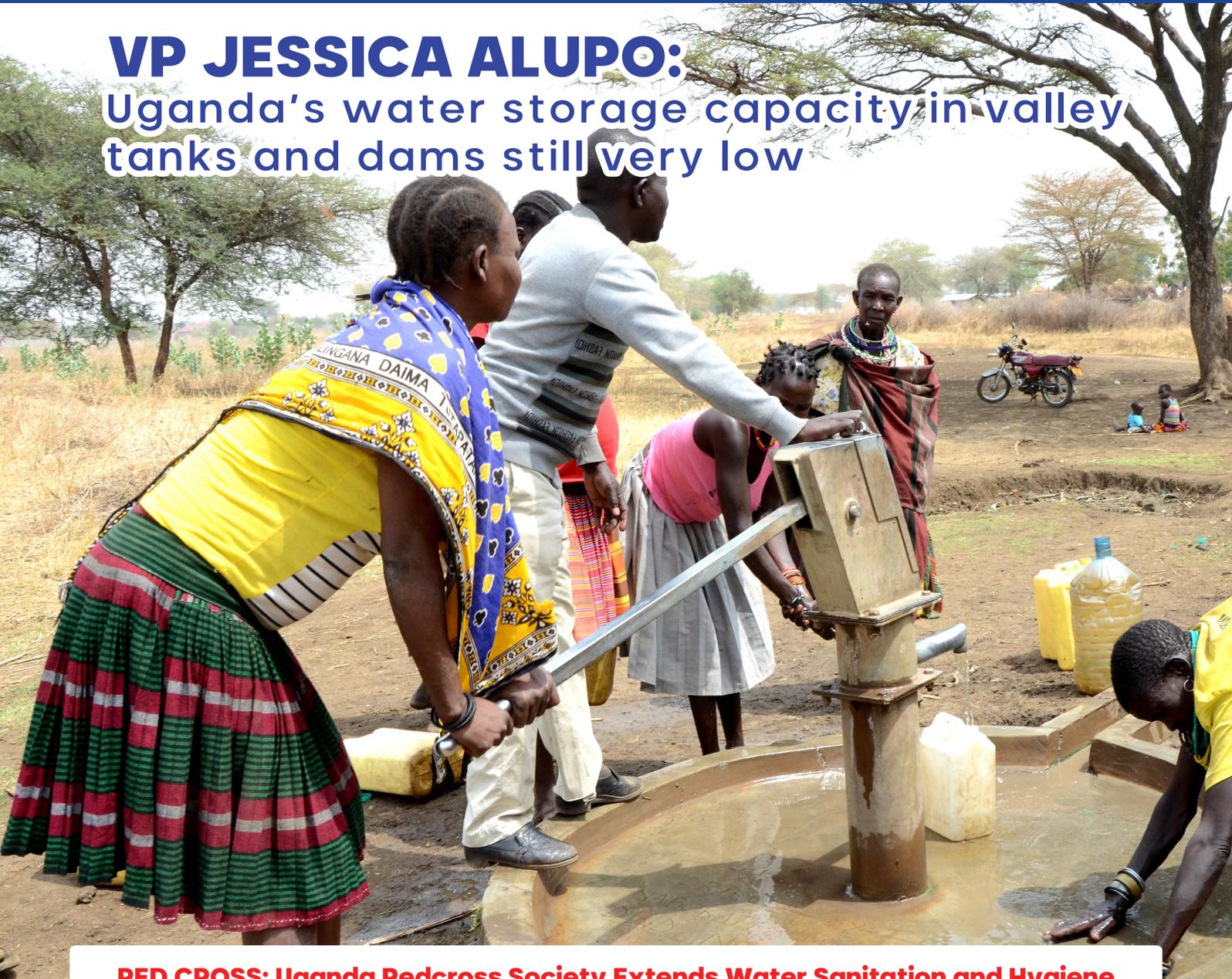
JOURNAL

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## VP JESSICA ALUPO:

Uganda's water storage capacity in valley tanks and dams still very low



**RED CROSS: Uganda Redcross Society Extends Water Sanitation and Hygiene Services to the Refugees and host communities**

PAG Clean Water Initiative in Karamoja Restores hopes in Rural Communities

Women, children suffer after prolonged drought wreaks havoc in northern Uganda

» Plan International makes strong strides in uplifting Sanitation and Hygiene in Uganda

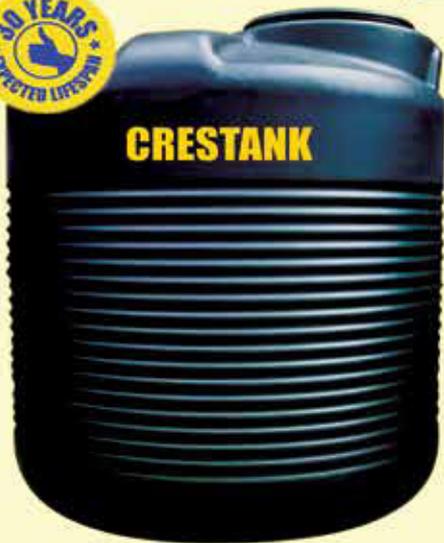
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**COVER PHOTO:**  
Women pumping water at a water point in Moroto courtesy of PAG

## Publisher

**Uganda WASH Promotion Initiative Under HAI AGENCY (U)**  
JK Building Apex Building, Ntinda  
P.O Box 24413, Kampala  
Tel: +256 772232117  
Email: copolot123@gmail.com  
Twitter: @washjournal  
Facebook: The washjournalmagazine

In partnership with:



**Ministry of Water and Environment**  
Plot 21/28 Portbell Road, Luzira  
P.O Box 20026 Kampala, Uganda  
Tel: +256 414 505942  
Email: mwe@mwe.go.ug  
Website: www.mwe.go.ug

**Coordinator: WASH Journal**  
Charles Opolot  
copolot123@gmail.com  
haiagencyuganda@gmail.com

**WASH Sector Advisor:**  
Joseph Ojulong

**Consulting Editor:**  
John Tugume

**Head of Programs and Administration:**  
Robert Maganda

**Director of Operation/Partnership:**  
Christopher Amony

**Operation Assistant**  
Tracy Ipiya

**Legal:**  
Alex Bagada

**Editors Board:**  
Charles Opolot  
Joseph Ojulong  
Cate Namalyo  
Mike Ssegawa  
John Tugume

**Distribution:**  
Moses Okiring

**Outreach & Partnerships Manager:**  
Charles Okiria  
Washjournal94@gmail.com

**Account Assistant:**  
Sharifah Bint Hakim

**Editorial Contributors:**

Samuel Andrew Kiiza-Plan International  
Robert Ariaka  
Bill Oketch  
Wilson Asiiimwe  
Nantambi  
Uganda Red Cross  
International Aid Services (IAS)  
Water, Sanitation and Hygiene Research and Advocacy Institute (WARI)

**Design/Layout:**  
Samurai Designz UG  
F: Samurai Designz UG  
IG: SamuraiDesignz\_UG  
Phone: +256 705 962 580

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VICE PRESIDENT ALUPO JESSICA

## UGANDA'S WATER STORAGE CAPACITY IN VALLEY TANKS AND DAMS STILL VERY LOW – VP ALUPO

The Vice President, Jessica Alupo has said that Uganda's water storage capacity in valley tanks and dams stands very low.

VP Alupo was recently addressing a water week when she said a lot needs to be done to improve the situation if the country is to be water-secure.

“Uganda's water storage capacity in valley tanks and dams is just 42 million cubic meters translating into less than 1 cubic meter per person. A lot therefore needs to be done to improve this situation if the country is to be water secure and achieve middle income status,” Alupo said.

### Below are excerpts from her speech:

Water, therefore, must be available in adequate quantities and corresponding quality at the right time and right place in order to contribute to the achievement of the development goal of increased household incomes and improved quality of life of the population. Ladies and gentlemen, access to safe water and sanitation is a human right.

Currently access to safe water in rural and urban areas stands at 69% and 71% respectively while access to basic sanitation in rural and urban areas is at 78% and 89% respectively.

Low access to water supply and sanitation services has brought inequality in service delivery. Rising costs of investments and technologies amidst increasing population and economic demands for water have contributed to low access.

This situation needs to be improved and the NRM government has committed to having a safe water source per village during this term office. Ladies and gentlemen, while Uganda is still recognized as the Pearl of Africa with very good scenery, there is an ever increasing threat to its natural resources base especially forests and wetlands.

For example, the forest cover has declined from 24% of Uganda's total land area in 1990 to 12.4% currently. This is majorly attributed 5

to biomass fuel cooking/combustion with other auxiliary drivers such as expansion of agricultural land, sporadic urbanization, and income poverty, industrialization and inadequate incentives for private plantation forests. About 90% of Ugandans use fire wood and charcoal for cooking.

Other challenges include encroachment, illegal harvesting and titling. Similarly, the national wetlands coverage as a percentage of the total land area declined from 15.6% in 1994 to 8.9% currently. It is estimated that Uganda loses 846 km<sup>2</sup> of its wetlands annually. The major causes of wetland degradation are poor farming practices, unplanned urbanization and settlements, excessive water abstraction, poverty, poor intra and inter sector coordination with regards to continued issuance of land titles in wetlands, sand mining and industrialization with some of the demarcated business/industrial parks located in wetlands.

The NRM government in its manifesto made commitments to plant 40million trees per year, translating into 200 million trees over a 5- year period from 2021 to 2026, and thereby increasing the country's natural resource base particularly in form of forests and trees. I am happy to note that the Government of Uganda through the Ministry of Water and Environment in collaboration with 6 Development Partners and the Private Sector has innovatively crafted the implementation of this commitment

through a nationwide tree planting drive dubbed “Running Out Of Trees, (ROOTs)- 40million Trees Per Year” depicting one tree for every Ugandan climaxing in an annual national day for mass tree planting.

Relatedly, the NRM Manifesto further commits government to protect and preserve the country's ecosystems with a view of utilizing these resources for nature-based tourism, environment and climate mitigation and sustainable use by communities neighboring protected areas. Ladies and gentlemen, well-managed wetlands, river banks and forests make communities resilient to extreme weather events and disasters such as floods, prolonged drought and incidences of water scarcity. You are all aware that Uganda has also over the last three years been experiencing flooding in several parts of the country resulting in serious impacts on property, infrastructure and people's lives.

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Currently access to safe water in rural and urban areas stands at **69%** and **71%** respectively while access to basic sanitation in rural and urban areas is at **78%** and **89%** respectively.

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Vice president Alupo Jessica touring the exhibition stalls during the world water week 2022



Plastic materials have become the most dominant waste in the country both on land and in the water bodies. More than 600 tons of plastic is disposed of each day.

This is due to the increased settlements and developments in flood plains, poor agricultural practices and deforestation. These have made the soils loose and steep slopes bare and allowed water to move very fast to valleys immediately after rains.

The above factors have all combined to further worsen the flooding problem. Government is currently implementing measures to manage the perennial occurrence of floods in and around the country. These include among others protection of water catchments and the general environment; regular maintenance of water bodies and rivers so that they perform their water storage and conveyance function; construction of water reservoirs, demarcation and protection of lake shores, river banks and wetlands to limit encroachment by settlements, agricultural activities and other development; and strengthening of enforcement of the water and environmental laws at all levels.

Plastic materials have become the most dominant waste in the country both on land and in the water bodies. More than 600 tons of plastic is disposed of each day. The country has a large number of inland fresh water bodies which are being suffocated by plastic litter.

This is in addition to the pollution caused on land, in the drainage systems, in towns, damp sites and parks. The country thus recognizes the threat and dangers posed by waste and particularly plastic litter and associated pollution and I am happy to note that a number of measures have been put in place to address the problem among which are:

**a) The review of environment law (the National Environment Act No. 5 2019) in which all plastic carrier bags under 30 microns are banned.**

**b) Imposition of producer extended responsibility as part of polluter pays principle to ensure that producers of all materials with potential to pollute have the duty to follow the management of their product through its life cycle.**

**d) Imposing a mandatory condition to all plastic manufacturers to establish recycling plants and ensure that they follow their plastic material and bring it back for recycling.**

**e) Specific emphasis on nationwide multi sectoral multimedia critical environmental literacy campaigns to empower citizens to follow the right waste management hierarchy. I wish therefore to call upon all Ugandans to support all efforts of Government to address the problem of plastic pollution.**

Water and environment resources don't recognize administrative boundaries. These resources are shared with other countries, by various local governments and by various people. Thus, their rational and equitable development and management is key to the growth of the country. The varying uses of water are interlinked and require sustainable exploitation and management to ensure that there is adequate water of the right quality and quantity for both production and domestic use even during the dry seasons.

Thus, considering that water and environment resources are at the core of sustainable development

and are critical for socioeconomic development, healthy ecosystems and for human survival these resources will be critical in the achievement of the NDP3 goal and targets. There is no doubt that water and environment resources will be key in the implementation of the Parish Development Model that was launched last month by his Excellency the President.

I am therefore happy to note that the theme of the fifth Uganda Water and Environment week is "Water and Environment for Peace and Sustainable Socio-Economic Transformation of Uganda".

This is a befitting theme for the fifth Uganda Water and Environment Week more so at the time when the country is just recovering from challenges caused by COVID 19, rising water levels, flooding, and job loss. I, therefore request all the participants of the fifth Uganda Water and Environment Week to critically discuss how water and environment can be sustainably developed and managed for peace and sustainable socio-economic transformation of Uganda.

This is key in transforming the country through inclusive growth, employment and wealth creation in line with NDP 3 goal. I, therefore have no doubt that the outcomes of this fifth Uganda Water and Environment Week will make significant contributions to enabling Uganda achieve the National Development Plan (NDP) III goal and targets.

Finally, as I conclude, I wish to recognize the various organizations and Development Partners that have continued to support the Ministry of Water and Environment to deliver water and environment services to the people of Uganda.

On behalf of the Government of Uganda, I wish to thank you for this support and request you to continue providing such support so that this critical sector of government can perform its key functions of sustainable development and management of water and environment resources for the benefit of Ugandans.



MINISTRY OF WATER AND ENVIRONMENT

# POLICY STRATEGIES TO AUGMENT GROUNDWATER THROUGH RAINWATER HARVESTING

## Introduction

- Water supply in Uganda—both surface and groundwater—is rainwater-based.
- More than 75 per cent of the population live in rural areas and depend, to a large extent, on groundwater reserves.
- Uganda currently has sufficient groundwater reserves except in a few areas in the northeast and southwest. The high rate of urbanization, loss of waterbodies and variability of rainfall have raised questions about the efficiency of natural recharge of groundwater in the country.
- To make the source sustainable, Uganda needs policies that focus on groundwater recharge through technological interventions that are community centric.
- Strong communication strategies should be formulated to make communities aware of water conservation.

Uganda, a landlocked country, occupies 241,550.7 km<sup>2</sup> of land (see Map 1: Districts of Uganda). The country is endowed with abundant water sources.

Open water and swamps constitute 41,743.2 km<sup>2</sup> of area. In other words, about 16 per cent of the total land area comprises wetlands and open water. Uganda receives annual water supply of 66,000 million cubic metres (MCM) in the form of rain and inflows.

Since direct rainfall is the most important source for water resources in Uganda, understanding the spatial and temporal variability of rainfall is paramount when assessing water availability. As in any other country, water availability in Uganda determines the local water resources, land-use potential and population distribution.

Uneven geographical distribution of rainfall, along with pressures from rapid population growth, increased urbanization, industrialization and environmental degradation, are a big challenge to the sustainable development of the country's freshwater resources. As of June 2010, Uganda's mid-year population was estimated at 31.8 million. Of this, 14.8 percent (4.7 million) lived in urban areas and 85.2 percent (27 million) in rural areas.

According to the 2019 Joint Monitoring Progress Report published by the United Nations Children's Fund (UNICEF) and World Health Organization (WHO), however, 77 percent of Uganda's population lived in rural areas. The rate of annual growth of population is 3.4 percent and as among the highest in the world. This high rate of increase in population poses a major challenge in increasing safe-water coverage.



The largest supply of water for rural Uganda comes from spring water, followed by boreholes and shallow wells with hand pumps. Groundwater reserves are hence the main source of supply for rural areas. Gravity-flow Water, surface water and stored rainwater also supply to villages and small towns that are categorised as rural.

The increase in demand for water supply in Uganda as a result of population growth as well as agricultural and industrial expansion has triggered unplanned groundwater development and use in many parts of the country. This has put future yield and sustainability of groundwater abstraction in some parts into question, especially in the north-eastern and south-western parts, where natural recharge of groundwater is low compared to the rest of the country.

There are reports of poor-quality groundwater mainly due to inadequate sanitation facilities—in many areas high nitrate and bacteriological contamination of groundwater have been reported. High fluoride and iron and manganese above permissible limits have also been found in the groundwater due to natural reasons, impacting public health and the economy of Uganda.

It has been noted that there has been a reduction in the area and quantity of water in waterbodies, the big recharge bodies in the country, thereby reducing the chances of natural groundwater recharge. The recharge of the groundwater improves both quality and quantity of the reserve. Rural areas need to implement groundwater recharge structures efficiently as more than 90 per cent of the rural water schemes are groundwater dependant.

### The way forward

Wherever the quality of groundwater is affected by the poor quality of sanitation, insanitary toilets should be converted to sanitary ones and black and grey water should be treated.

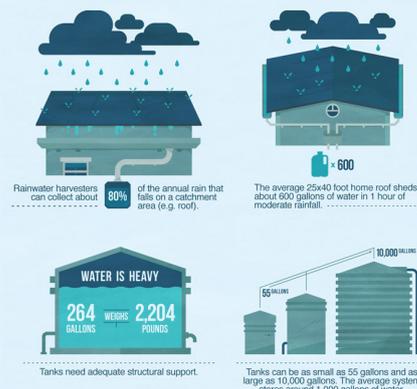
Strong communication strategies should be designed to make households and the communities aware about water conservation. Communities should be involved in such projects from the planning to the implementation stage. Traditional and small water-harvesting systems should be promoted. Reuse of treated wastewater for non-potable purposes should also be focused on.

Uganda has no dearth of groundwater reserves except in a few dry patches in the north-west and south-eastern parts. In view of the growing demand for water, high

rate of urbanization that is hindering natural recharge of groundwater, loss of waterbodies and, most importantly, variation in rainfall trends due to climate change, the big question is whether groundwater sources will be sustainable.

There are several water policies and strategies in Uganda with regard to groundwater reserves. But we need policies to protect the sponges (waterbodies) not only to recharge the groundwater but also to protect areas from flash floods. The policies should focus on technological interventions to recharge groundwater to make the sources of groundwater—spring water, borewells and shallow wells—sustainable for the future.

### Rain Check: Harvesting Facts and Figures





Boats docking at a landing site on Lake Victoria

## Management of water sources in Uganda: Overview

- Water sources include large lakes, wetlands, rivers, surface runoff and groundwater.
- There are eight drainage sub-basins, whose yield is significant.
- Uganda has a highest rate of urbanization in Africa. Demand for water is thus ever-increasing.
- Due to increase in water demand, supply from the water utilities had to increase by 51 per cent in just eight years between 2002–03 and 2010–11. 49 percent of this demand is for households.
- Over 75 per cent of domestic areas are rural and depend on borewells, shallow wells and spring water sourced from groundwater.
- A decline of wetland coverage in the country by almost 2 percent in the last decade mainly in the Lake Victoria and Kyoga drainage basins, where major groundwater reserves can be found, has led to low groundwater recharge potential.
- In spite of enormous water resources, a few areas of the country face long dry spells mainly due to temporal and spatial variability of rainfall.

Water resources in Uganda comprise large lakes, including Lakes Victoria, Kyoga, Albert, George and Edward; wetlands and rivers such as the Nile River, Katonga, Semliki and Malaba; rainfall; surface water runoff and groundwater.

All of Uganda's water resources are part of the Nile. Uganda is a downstream riparian to Burundi, Democratic Republic of Congo (DRC), Kenya, Tanzania and Rwanda and an upstream riparian to South Sudan, Sudan and Egypt.

Several issues and challenges surround Uganda's water resources, aggravated by factors such as climate change, variability of rainfall and population growth.

Uganda's current water management practices may not be robust enough to cope with these challenges, which impact water resources and increase requirements for water use. With a rapidly growing population and improving living standards, the pressure on its water resources is increasing and per capita availability of water resources falling.

Further, spatial and temporal variability in precipitation often result into floods, landslides and droughts. Climate change is expected to impact rainfall and water availability.

The Department of Water Resources Management of Uganda has divided surfacewater resources into eight main drainage sub-basins. The sub-basins include Lake Victoria, Lake Kyoga, River Kafu, Lake Edward, Lake Albert, River Aswa, Albert Nile and Kidepo Valley. Their yield, though small compared to the total flow from the Nile, dominates the water resources potential within Uganda. Major waterbodies include Lakes Victoria, Kyoga, Albert, George, Edward and another 149 smaller lakes, all of which cover an area of 38,500 km<sup>2</sup>.

The most prominent hydrological feature in Uganda is Lake Victoria, the second largest freshwater lake in the world, with an area of 69,000 km<sup>2</sup>. The river Nile is the only outflow from the lake. Because of warping of the landscape, many of the perennial streams of the plateau are clogged with swamps. About 10 per cent of the country is covered by swamps (wetlands), of which one-third is permanently inundated. In the south and west of the country, swamps form an extensive lowgradient drainage system in steep V-shaped valley bottoms with a permanent wetland core and relatively narrow seasonal wetland edges. In the north, swamps comprise mainly broad floodplains. In the east they exist as a network of small, vegetated valley bottoms in a slightly undulating landscape.

The wetlands, another significant water source, and groundwater recharge bodies in the country show two broad distributions of wetland ecosystems in Uganda:

- The natural lakes and lacustrine swamps found around major lakes and,
- The riverine and floodplain wetlands associated with the major river systems in Uganda.

The wetlands covered about 29,000 km<sup>2</sup>, or 13 per cent of the total area of the country in the late 1990s. By 2008, the figure fell to 10.9 per cent.<sup>6</sup> According to a 2014 study,<sup>7</sup> this decline was generally observed around the Lake Victoria and Kyoga drainage basins, where high groundwater resources can be observed (see Table 1: Average groundwater resource in the major basins in Chapter 3).

According to a 2011 Ministry of Water and Environment performance report of the water and environment sector in Uganda, the decline in groundwater is largely attributed to encroachment for expansion of urban centres, settlements, industrial development and extension of agricultural land. Except for Sango Bay, the bulk of Uganda's wetlands lack legal protection. Despite Uganda's significant water resources, their spatial and temporal variability often renders many parts of the country water-stressed for long periods during the year.

The Directorate of Water Development (DWD) and National Water and Sewerage Corporation (NWSC) has been tasked with ensuring that water is available to Ugandans.

Available information from NWSC shows that there has been a steady increase in total water production from 46.7 million m<sup>3</sup>/year in 2000–01 to 72.14 million m<sup>3</sup>/year in 2009–10. A comparison of water requirement with available renewable freshwater showed that Uganda had the capacity to utilize only 1 per cent of its current renewable freshwater. Of the total water withdrawal, domestic water supply accounted for about 51 per cent, agriculture 41 per cent and industry 8 per cent.

Uganda has one of the fastest-growing populations—3.2 per cent annually—in Africa. Consequently, according to NWSC annual reports, total revenue water—water supply that is metered and charged—increased from 31,151,380 MCM/year in 2002–03 to 47,027,817 MCM/year by June 2010. Much of the total water produced was supplied to domestic consumers (48.9 per cent) and industrial and commercial enterprises (25.4 per cent). The major water source exploited was groundwater extracted from protected springs, deep boreholes and shallow wells.

**72.14 MILLION  
M<sup>3</sup>/YEAR IN 2009–10**



**46.7 MILLION  
M<sup>3</sup>/YEAR IN 2000–01**

**Increase in total water production**

## Status of water supply in rural Uganda: Role of groundwater

- More than 90 percent of the rural water supply is through groundwater.
- Districts around the Victoria Nile and Kyoga basins have the most groundwater reserves. The Kidepo basin has the least.
- Around 1,200 tube wells and 900 shallow wells are constructed annually in Uganda.
- Natural groundwater recharge is low in areas where rainfall is low—the northeast and south-west of the country.
- This may not currently be a limiting factor for groundwater. Government reports, however, indicate that this issue may grow in the near future.
- Government's own assessment shows that there may be groundwater decline in localized areas due to climate change, changes in land use—especially deforestation, unsustainable water withdrawals due to unplanned urbanization and poor catchment management—prolonged droughts and reduced rainfall in catchments.



Children fetching water at the well

Groundwater is the primary source of freshwater for drinking and irrigation around the world. It supplies 75 per cent of all safe sources of drinking water in Africa. In Uganda, for example, 61 per cent of the country's water is from groundwater sources accessed from springs and boreholes around Lake Victoria and south-western Uganda. Several studies have assessed groundwater occurrence in Uganda from different perspectives, mostly at the catchment scale.

These assessment studies have been the basis for planning for water resources in the country. The Victoria Nile River and Kyoga basin have sustainable groundwater (see Table 1: Average groundwater resource in the major basins)—more than 36 mm/year—while the Kidepo River has the least amount of sustainable groundwater, equivalent to 6.3 mm/year.

Groundwater is the major source of water supply in rural Uganda, including in semiarid and arid areas. It is generally found in weathered or fractured basement rocks and has a yield of 0.5–80 m<sup>3</sup> per hour. There has been groundwater use since the 1930s through the construction of deep boreholes, shallow wells and protected springs.

On average, **1,200 tubewells** and **900 shallow wells** are constructed annually in Uganda. Approximately 40,000 deep boreholes, **16,000 shallow wells** and **30,000 protected springs** have been constructed in the country mainly for rural domestic water supply. Boreholes and shallow wells are normally installed with handpumps.

Uganda receives fairly high rainfall except in parts of north-eastern and southwestern regions

Natural groundwater recharge in Uganda is also quite high except in areas that receive low rainfall compared to current volumes of groundwater abstraction—water removed from aquifers without considering return flows or leakage—and will not be a limiting factor in groundwater development for a few years. There is, however, a need to carry out more detailed recharge and water balance studies in the country to ensure that groundwater development is carried out in a sustainable manner.

**Table 1: Average groundwater resource in the major basins**

River/lake basin	Annual groundwater resource (mm/year)	Annual groundwater resource (million cubic meters [MCM]/year)
Lake Edward	20.3	362
Lake Victoria	24.7	813
Lake Albert	23.7	353
Victoria Nile	39.9	1110
Lake Kyoga	36.1	1946
Albert Nile	24.4	500
Aswa	17.3	478
Kidepo	6.3	20
Miscellaneous	15.0	85

Source: Ministry of Water and Environment, 2013. National Water Resource Assessment Report.

The Government of Uganda started an assessment of groundwater in 1996 to fully understand the nature, extent and reliability of the country's groundwater resources. The study provided information on the distribution and behaviour of aquifers, groundwater recharge, aquifer vulnerability to pollution and impact of motorized abstraction on groundwater resources. A conceptual model of groundwater dynamics has also been developed.

Reports in early 2000 about groundwater assessments in three catchments namely Ruizi, Wamala and Victoria concluded that groundwater resources were declining. According to a report of the monitoring and assessment department of the Directorate of Water Resources Management (DWRM), the causes of decline include global warming, changes in land use, especially deforestation, unsustainable water withdrawals, poor catchment management, prolonged droughts, reduced rainfall in the catchment.

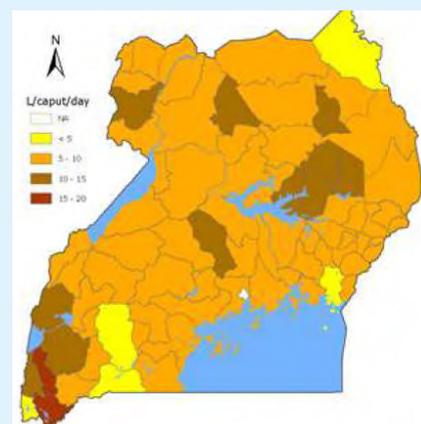
According to the 2013 government report, in 2009 the demand in some parts of south-east Uganda was very high. These areas coincided with those showing low recharge (see Map 4: Estimated groundwater demand per district in 2009). Data from the latest assessment report suggests that by 2030, demand for domestic water in rural areas and small towns can safely be met by groundwater in most of the country where the utilization rate is less than 15 percent (see Map 5: Sustainable rates per district of groundwater utilization projected to 2030).

Exceptions include Wakiso, which is undergoing rapid urbanization in the vicinity of Kampala, as well as the Kampala–Entebbe corridor. It is, however, likely that by 2030 these newly urbanized areas will be supplied by the Directorate of Water Resources Management with water from Lake Victoria in which case the use of groundwater will be substantially lower than suggested by this study.

The demand for groundwater should not increase in Jinja since water pumped from Lake Victoria is an obvious alternative source or in Mbale where gravity-based systems from Mount Elgon could be used. Utilization rates are expected to be high in Ibanda (30 percent of the groundwater by 2030), a small district with a high population density and unfavourable geomorphological conditions, and in a cluster of districts in south-western Uganda, where groundwater utilization rates of around 20–25 per cent are projected. Although these districts do not currently face acute water shortages, some sub-counties may experience them in the future.

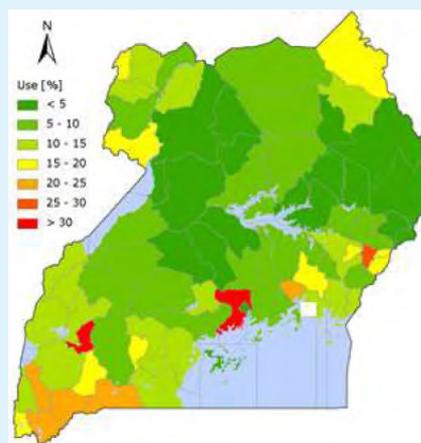
The 2013 report also added that the estimated renewable groundwater resource exceeded the projected demand for domestic water but shortages may arise at the local scale, particularly for areas with high population density.

Map 4: Estimated groundwater demand per district in 2009



Source: Ministry of Water and Environment, 2013. National Water Resource Assessment Report.

Map 5: Sustainable rates per district of groundwater utilization projected to 2030 (expressed as the proportion [%] of available resources)



Source: Ministry of Water and Environment, 2013. National Water Resource Assessment Report.

**The demand for groundwater should not increase in Jinja since water pumped from Lake Victoria is an obvious alternative source**



## Challenges due to poor quality, scarcity of groundwater

- Uganda's groundwater reserves are fairly good except for localized areas in the north-east and south-west. But the reserve will fall in the near future because of the reduction in natural groundwater recharge.
- The quality of groundwater is a major concern.
- Groundwater is contaminated due to natural mineralization and anthropogenic causes.
- To protect groundwater from bacteriological contamination, poor management of faecal sludge due to faulty toilet design has to be tackled by the country on a war footing.
- Natural mineralization causes high concentrations of iron, manganese and fluoride in groundwater.
- High mineralization of groundwater may cause health hazards, damage plumbing systems and even make the water non-potable.
- Several policies and strategies in Uganda deal with the threat of quantity and quality of the groundwater and protection of water sources.
- Implementation of these policies and strategies needs a mix of engineering solutions, capacity building and behaviour change of stakeholders.

The scarcity of the groundwater is confined around the north-east and southwest of Uganda due to which the communities here use surface water. As per the Joint Monitoring Progress Report of 2019, use of surface water is only 3.80 percent of total water consumption.

According to the reports, 16 communities can currently manage with available groundwater resources but reserves may soon fall due to variability of rainfall, degradation of the catchment, deforestation and urbanization.

Due to both natural and anthropogenic causes, the country faces the challenges of poor quality of groundwater.

Important existing policies, strategies and actions related to groundwater include Acts such as the Water Act, Cap 152, the Environment Act, and policies and strategies such as the Water Policy and the Framework and Guidelines for Water Source Protection.



*Groundwater is contaminated due to natural mineralization and anthropogenic causes.*

## Health and socio-economic impact

Uganda is divided into 14 sub-regions with regard to monitoring health services. Sanitation is a category in all 14 sub-regions. Poor sanitation conditions in Uganda adversely impact the quality of groundwater, economic growth and human development. The high burden of sanitation-related diseases is especially common in Uganda as most of the population has limited access to protected water sources and adequate sanitation facilities.

The Government has estimated that around 64 percent of the rural population has access to safe water. Despite this, many rural areas rely on contaminated water sources and are supplied water from contaminated groundwater, streams, spring wells, ponds and lakes.

The deterioration in the quality of both surface and underground water is to a large extent because of inadequate sanitation facilities. An Ecological Christian Organisation in Bugiri Town Council publication showed that faulty pit latrines can contaminate groundwater and spring water. High levels of faecal streptococcus—up to 2,200 colony forming unit (cfu)/100 ml in bore well water and 1,350 cfu/100 ml in spring water—were observed as against a permissible limit of 0 cfu/100 ml as per World Health Organization.

Cases of waterborne diseases in 2018–19 showed that malaria was the leading cause of illness for all ages, accounting for 12.5 per cent, and diarrhoea contributed to 1.6 percent of all OPD attendances. It is noteworthy that around 0.8 million children under the age of five were reported for diarrhoea in 2018–19 (see Table 2: Cases of diarrhoea and malaria in OPD attendance in 2018–19).

Analysis of cases of diarrhoea in the country for 2000–16 shows, however, that the number of cases declined over sixteen years (see Figure 1: Cases of diarrhoea reported in Uganda in 2000–16) although the number of cases remained fairly high during this period.

An assessment of diarrhoea in 2011–16 shows an alarming 11,030 cases. The highest number of cases were 6,226 in 2012 and the lowest were 229 in 2011 (see Figure 1: Cases of diarrhoea reported in Uganda in 2000–16). Around 33 percent of the districts, which accounted for 40 percent of the population of the country, were affected in every study year at least once.

**Table 2: Cases of diarrhoea and malaria in OPD attendance in 2018–19**

	Cases under five years of age	Cases of five years of age and above	Percentage contribution to total
Diarrhoea	796,752	560,670	1.6
Malaria	2,647,223	7,836,189	12.5
Others (including diarrhoea and malaria)	9,501,554	74,653,778	100

Source: Sushmita Sengupta and Srithi Anand, 2020, Uganda: Improving the State of Sanitation, Centre for Science and Environment, New Delhi

Contamination of groundwater in Uganda occurs also because of natural mineralization due to which the groundwater shows high concentrations of iron, manganese and/or chloride. The concentration of iron in groundwater is often high and above the WHO guideline of 0.3 mg/l for drinking water. The presence of iron is determined by the mineral composition of the aquifer and the extent to which minerals containing iron are dissolved in the water. Elevated iron content does not have serious health implications but may give the water an unpleasant taste and cause discolouration of clothes and utensils.

Manganese rarely occurs at concentrations >1 mg/l, but its presence can cause an unpleasant taste and damage laundry and plumbing fixtures. High fluoride concentrations are characteristic of volcanic settings, and the problem is enhanced by the relatively high solubility of most fluoride minerals. Local variations can be considerable and significant variations in fluoride content can occur in boreholes within short distance of each other. Fluoride concentrations in drinking water in excess of 2 mg/l may cause discolouration and mottling of teeth (dental fluorosis), while long exposure to high concentrations (6–8 mg/l) can lead to skeletal fluorosis. Chloride content of up to several thousand mg/l are found in some locations—concentrations in excess of 500–700 mg/l make the water undrinkable as well as unsuitable for irrigation.

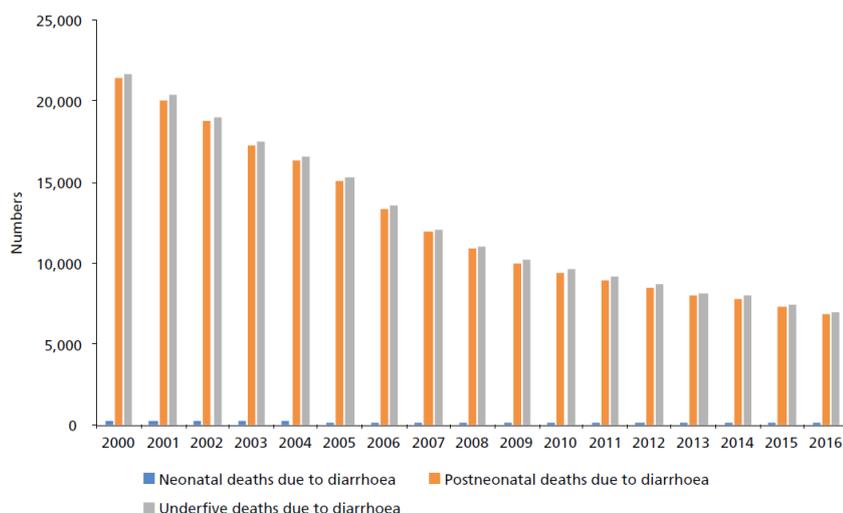
The exact cause of such high chloride levels is unknown but it might reflect low infiltration and high evapotranspiration rates, leading to the formation of brines. Geological factors, such as volcanic rocks with high chloride content or saline soils, may also have some influence.

The latest Ministry of Water and Environment groundwater quality report of 2013/21 shows that total coliform exceeded the WHO limit in 66 percent of the samples (see Table 3: Groundwater quality information—frequency with which groundwater exceeds WHO standards). While WHO recommends nil coliform in groundwater, Uganda allows the presence of some coliform (10 units)—the proportion of samples that exceeded the WHO criteria was fairly high.

Groundwater that is turbid and shows high concentrations of iron is fairly common in most districts in Uganda (see Table 4: Groundwater quality in some districts where parameters exceed WHO standards).

“  
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DRINKING WATER.”

**Figure 1: Cases of diarrhoea reported in Uganda in 2000–16**



Source: Sushmita Sengupta and Srithi Anand, 2020, Uganda: Improving the State of Sanitation, Centre for Science and Environment, New Delhi.

**Table 3: Groundwater quality information—frequency with which groundwater exceeds WHO standards**

Parameters	Number of sources studied	Proportion that exceeds WHO criteria (%)	Proportion that exceeds maximum limit allowed by the country (%)
Total hardness	2,683	3	1
Total iron	1,524	38	7
Manganese	2,505	6	0
Turbidity	2,604	45	18
TDS	2,513	2	1
Fluoride	2,235	6	1
Nitrate	2,403	18	No criteria mentioned
Total coliforms (borewells)	171	38	28
Total coliforms (wells)	73	66	60

Source: Ministry of Water and Environment, 2013. National Water Resource Assessment Report.

**Table 4: Groundwater quality in some districts where parameters exceed WHO standards**

S. no.	District	Parameters exceeding WHO limits
1	Bugina	F, Mn, NO <sub>3</sub> , pH, TDS, TH, Fe
2.	Busia	F, Mn, NO <sub>3</sub> , pH, TDS, TH, Fe
3.	Iganga	F, Mn, NO <sub>3</sub> , pH, TDS, TH, Fe, Turb
4.	Isingoro	Fe, Turb
5.	Jinja	Mn, NO <sub>3</sub> , TH, Turb
6.	Kalim	TDS, TH
7.	Kanuli	Mn, Fe, Turb
8.	Kapchorwa	NO <sub>3</sub>
9.	Kibaale	pH, Fe, Turb
10.	Kiruhura	Fe
11.	Kyenjojo	Fe, Turb
12.	Manafwa	F
13.	Masaka	pH, Fe, Turb
14.	Mayuge	F, Mn, NO <sub>3</sub> , TDS, TH, Fe
15.	Mbale	F, Mn, NO <sub>3</sub> , TH, Fe, Turb
16.	Mbarara	pH, TH, Fe
17.	Mityana	Ph, Fe, Turb
18.	Mubende	TH, Fe, Turb
19.	Mukono	NO <sub>3</sub> , TH, Fe, Turb
20.	Namutumba	TDS, TH
21.	Pallisa	F, Mn, NO <sub>3</sub> , pH, TDS, TH, Fe
22.	Rakai	pH, Fe, Turb
23.	Sironko	F, Mn, NO <sub>3</sub> , TDS, Turb
24.	Tororo	F, Mn, NO <sub>3</sub> , pH, TH, Fe
25.	Wakiso	Turb

Note: F = Fluoride, Fe = Iron, Mn = Manganese, NO<sub>3</sub> = Nitrate, TH = Total hardness, Turb = Turbidity, TDS = Total dissolved solids

Source: Ministry of Water and Environment, 2013. National Water Resource Assessment Report.

Control measures such as reducing deforestation and improvement of sanitation facilities were suggested to improve groundwater quantity and quality

## State of groundwater in rural areas: Existing policies, strategies and actions

The main regulations under the Water Act that cover groundwater protection are the Water Resources Regulations (1998) and the Waste Discharge Regulations (1998). Similarly, the main regulations under the Environment Act that mention protection of groundwater sources are the Environmental Impact Assessment Regulations (1998), the National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations (1999), and the National Environment (Waste Management) Regulation (1999).

The Directorate of Water Development (DWD) and the Directorate of Water Resources Management (DWRM) under the Ministry of Water and Environment (MWE) are mandated to develop and manage water resources in the country.

DWD is responsible for water development and water service regulation in urban areas. DWRM is responsible for implementing national water laws, policies, plans and regulations; monitoring water quality and quantity; and management of transboundary water resources.

In 2013, MWE also published in two volumes Guidelines for Protecting Water Sources for Piped Water Supply Systems, which examines threats to groundwater quantity and quality. Control measures such as reducing deforestation and improvement of sanitation facilities were suggested to improve groundwater quantity and quality. The guidelines look into catchment protection as well.

Water Source Protection Guidelines were developed as part of a wider programme of operationalizing Integrated Water Resource Management (IWRM) throughout Uganda. The aim was to reduce degradation of surface and groundwater resources that impacts the health and livelihoods of millions of Ugandans, damages the economy and biodiversity of the country as a whole and creates risk of conflict with neighbouring countries that share transboundary water resources.

Since the non-governmental organizations (NGOs), community-based organizations (CBOs) and faith-based organizations (FBOs) play an important role as implementers for water supply, they need to prepare plans for the protection of water sources, mainly groundwater. They are also expected to implement the plans.

Delivering effective source protection is a complex process that in many cases requires a mix of engineering solutions, training and behaviour change. To do this successfully, stakeholders in the catchment are likely to need external support in terms of access to funding, training, and technical advice on issues such as sanitation improvement, improved agricultural skills and practices. This support may come from mandated government institutions, international development partners and NGOs.

# WORLD WATER WEEK 2022 PICTORIAL





One of the facilities constructed by plan international

# PLAN INTERNATIONAL MAKES STRONG STRIDES IN UPLIFTING SANITATION AND HYGIENE IN UGANDA

## Introduction

**P**lan International strives to advance children's rights and equality for girls all over the world. We recognize the power and potential of every single child. But this is often suppressed by poverty, violence, exclusion and discrimination.

As an independent development and humanitarian organization, we work alongside children, young people, our supporters and partners to tackle the root causes of the challenges facing girls and all vulnerable children. We support children's rights from birth until adulthood, and enable them to prepare for and respond to crises and adversity.

We drive changes in practice and policy at local, national and global levels using outreach, experience and knowledge. For over 75 years we have been building powerful partnerships for children, and we are active in over 70 countries.



Children fetching water at the borehole

## Achievements 2021

In a bid to realize the country strategy ambitions under WASH programming, with support from Plan International Netherlands and the Foreign Affairs Ministry of Netherlands, Plan International has continued to address the Knowledge, Attitude and Practices (KAPs) affecting hygiene and sanitation in the communities & schools.

During the period under review, 77 villages out of the 96 supported with CLTS interventions realised Open Defecation Free (ODF) status with accelerated basic sanitation.



*Also, about **1,475** young people (**885 girls, 590 boys**) were trained and equipped with life skills on development of hygienic re-useable sanitary pads in a bid to increase menstrual health management awareness and knowledge levels. 201 teachers (90 males, 111 female) were empowered and continue to support girls to manage menstruation with dignity and privacy.*

In 2021, despite the closure of schools, communities and schools were supported to access affordable, sustainable menstrual products and liquid soap. Effective mobilising was realised through the existing social structures: Village Health Teams (VHT), Parent Teachers Associations (PTA) and the Teachers Forum (TF).

About 37 school health clubs were trained on appropriate Menstrual Health & Hygiene (MHH), including making of pads and liquid soap. Boys were intentionally involved to act as champions of change in challenging the existing stereotypes, social and cultural norms affecting girls in realization of their potentials.

In order to improve access to climate-resilient latrine options in the target schools, 16 gender and disability friendly latrines were constructed at 14 schools in Kamuli, Buyende and Nebbi. The adopted latrine design is



protected from flooding and lined to enable it to be emptied. Additionally, all latrines adequately respond to the unique needs of girls and pupils with disability. To enable effective hand hygiene in light of COVID-19, at least 42 hand washing facilities were installed in schools.

To improve access to affordable MHH products, liquid soap and basic latrine options in the target communities, 45 potential WASH entrepreneurs were trained in the production of hygienic pads, liquid soap and paving of latrine floors (screeding) as well as marketing of the product and services. At least 36 WASH entrepreneurs are active in sanitation business based on the quantity of products sold as per the post training assessment report.

To improve access to water supply, 10 boreholes were installed with hand pumps in 10 schools. For sustainability, 10 inclusive water and sanitation committees were established and trained. These committees own the boreholes and are in charge of their operation and maintenance.

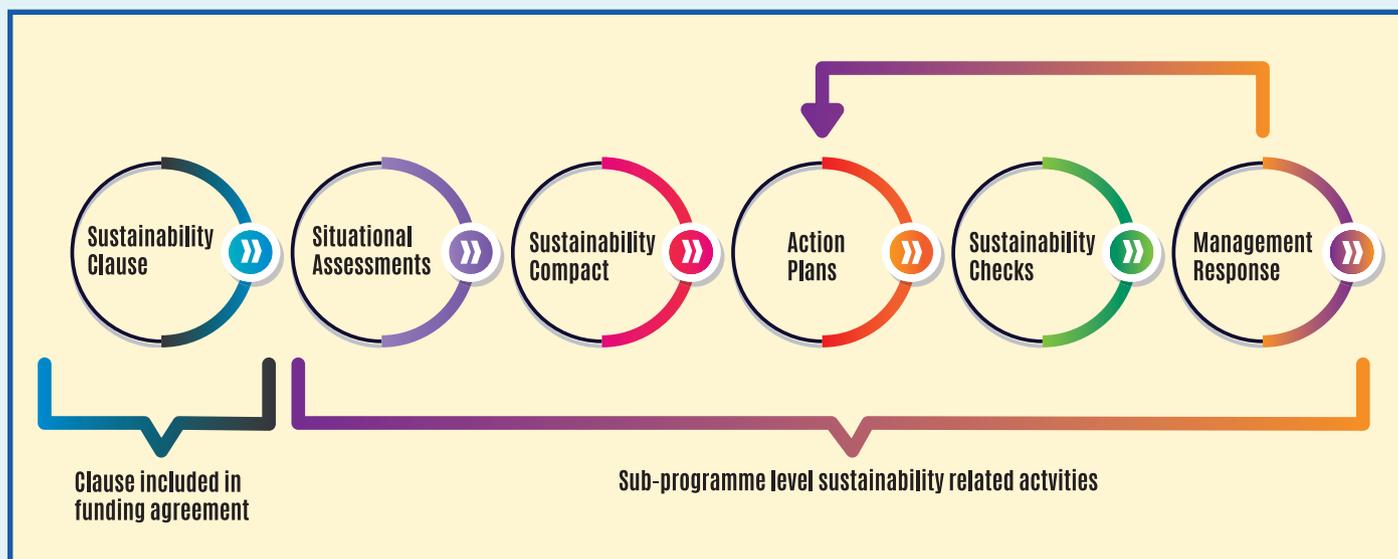
To strengthen governance and institutional frame work, 75 local government staff drawn from the three districts of Kamuli, Nebbi and Buyende as well as 35 CSOs under UWASNET were orientated on SDG6 indicators and reporting framework in partnership with Ministry of Water and Environment. Six people with disability advocacy networks were trained and established to continue the journey of demanding for realisation of their WASH rights at sub-county level.



**About 37 school health clubs were trained on appropriate Menstrual Health & Hygiene (MHH), including making of pads and liquid soap.**

## WASH SDG Program Systems Sustainability check

It is donor requirement, stipulated in a Sustainability Clause, that the WASH SDG Consortium (Plan & WAI) should carry out a mid-term review and a Sustainability Check half-way through the programme implementation phase. To this effect, the Memorandum of Understanding (MoU) was signed in August 2018. The Sustainability Checks are to report on service levels, functionality of services and sustainability indicators.



The study is conducted periodically to assess the sustainability of WASH facilities, services, and behaviours with a national, sub-national or programme-based scope.

The main purpose of a Sustainability Check is to determine the current sustainability of services, and to look at the conditions for future sustainability by:

- ✓ Assessing and analysing the current degree of sustainability of WASH facilities, and services including changes in behaviour and practices as well as newly created social norms.
- ✓ Assessing the conditions influencing the likelihood and level of future sustainability captured in a range of “system” indicators.
- ✓ Providing information on key sustainability challenges and providing recommendations on how actual sustainability can be improved to deliver more sustainable programme outcomes.

### Institutional sustainability

Institutional sustainability is measured through the following two principles and three sub-principles:

I.1 HR Capacity to plan for WASH

service delivery at the district level

- *Is there a comprehensive district / city WASH management plan in place that includes the costing of the full-service cycle (i.e. Provision of new services (capex) as well as the maintenance of existing services (capmanex, dsexp))?*

I.2: Capacity to monitor service quality and support service providers

- *Is the performance of service providers framed in signed contracts, service performance agreements (or other legal documents) clearly specifying the expected level of service to be provided?*
- *Is there an operational monitoring system in place to monitor the quality of sanitation service and hygiene practices (type, use of latrines, existence, type of hwws facility and use)?*

### Technical sustainability

Technical sustainability is measured through the following two principles and two sub-principles:

TI: Access to materials/spare parts

- *Are spare parts and materials available to repair latrines in case of collapse/ to upgrade and for soap provision?*

T2: HR availability/adequacy to carry out O&M

- *Are skills available to carry out maintenance when needed (pit latrine emptying)?*

### Financial sustainability

Financial sustainability is measured through the following three principles and three sub-principles:

F1: Financial resources to cover O&M costs

- *Does the household have sufficient resources to cover cost of o&m (repairs, pit emptying)?*

F2: Financial resource availability to cover capital maintenance

- *Does the household have sufficient resources to upgrade or rebuild its latrine (if applicable)?*

F3 3: Financial resource availability to provide direct support to service providers

- *Do the municipal administrations have sufficient resources (vehicles, fuel) to provide regular follow-up on sanitation and hygiene (post-ODF follow up)?*

## Social sustainability

Social sustainability is measured through the following two principles and two sub-principles:

S1: Social principle 1: Inclusive design of services

- *Are those services adequately designed to be inclusive at household level and in schools?*

S2: Social principle 2: Inclusive management of services

- *Are vulnerable groups represented in decision-making platforms when these exist (sanitation and hygiene committees)?*

## Environmental sustainability

Environmental sustainability is measured through the following two principles and two sub-principles:

E1: Environmental protection through appropriate design of services

- *Are sanitation facilities adequately sited and designed to ensure appropriate water resource protection (distance to water point and pit lining)?*

E2: Environmental protection through appropriate management

- *Are latrines adequately managed to ensure appropriate environmental protection (pit emptying and faecal sludge management)?*

## Summary of benchmark scores across the sustainability dimensions

Sustainability dimension	Principle	Kamuli	Buyende	Nebbi	% of "yes" responses
<b>SANITATION AND HYGIENE</b>					
<b>Institutional</b>	I.1 Capacity to plan	1	0	1	66%
	I.2.1 Capacity to monitor service quality-performance	0	1	0	33%
	I.2.2 Capacity to monitor service quality-monitoring systems	1	1	1	100%
<b>Technical</b>	T.1 Maintenance & equipment	1	1	1	100%
	T.2 Operating skills	0	0	0	0%
<b>Financial</b>	F.1 Household affordability	0	0	0	0%
	F.2 Capital maintenance	1	0	1	66%
	F.3 Support	1	0	0	33%
<b>Social</b>	S.1 Inclusive design of services	1	0	1	66%
	S.2 Voice	0	0	0	0%
<b>Environmental</b>	E.1 Ground water protection	0	0	1	33%
	E.2 Safely managed	0	0	0	0%

The sustainability check has shown that more work needs to be done in several of the sustainability dimensions. In particular financial, social and environmental sustainability may require more attention

## Recommendations

### Institutional sustainability

The three districts have WASH Management Plans in place. However, the budget allocated to WASH is generally not considered enough to finance CapManEx neither at the household nor institutional level. It is recommended that at the national level, the sub-programme, together with the local government, should lobby further on the need for a larger WASH budget for the three districts, and especially for Buyende, which scored the lowest of the three.

Using the WASH monthly monitoring data collected by the districts is highly pertinent to advocate this increase in the budget. WASH achievements and the new needs and challenges imposed by the COVID-19 pandemic for rebuilding and upgrading should be highlighted. Furthermore, advocating the inclusion of specific indicators that measure the level of maintenance of WASH facilities mainly at the (rural) household level, which struggle the most to maintain their facilities, might add evidence that supports these advocacy efforts.

Furthermore, it is suggested that the District WASH Management Plans support the formalisation of the sanitation and hygiene service providers to give a structure to those who are working on an as-needs basis; this can support the strengthening of the WASH market as well as the access of poorer households to WASH products for maintenance, repair and upgrade.

### Technical sustainability

Most of the households from the three districts have access to traditional pit latrines and basic handwashing facilities, which they operate and maintain on their own. Paying technicians to maintain facilities is not an option for many households from the three districts.

There are also challenges of accessing some hygiene products in villages where the demand is still low. Furthermore, pit emptying is only available in Kamuli and mainly for institutions as this is not a viable solution to addressing full pits for many households that have unimproved pit latrines which they decommission when full and yet they do not have enough funds to pay for the service.

It is recommended that the sub-programme helps to broaden a formalised WASH market so that more WASH products and services are made available. It is important to include community members – mainly from the most vulnerable groups who, also negatively affected by the COVID-19 pandemic, are facing limitations to access the WASH market – to become WASH technicians and entrepreneurs who can develop new skills and support expanding the supply of WASH products and services (and also their demand).

Having a formalised WASH market will also help the private sector seek funding opportunities, especially to focus further on moving households up the sanitation and hygiene ladders as the number of improved latrines and fully operational handwashing facilities remains low.

Together with the formalisation of the WASH sector, the sub-programme might also want to advocate at the local government level the District WASH Management Plan to include specific steps towards implementing a sanitation marketing approach that can incentivise the demand for WASH products once communities are triggered as well as the supply side by working more closely with service providers, entrepreneurs and the private sector.

**// Some households from the three districts cannot afford to rebuild and upgrade their sanitation and hygiene facilities**

### Financial sustainability

Financial sustainability is one of the biggest challenges across the three districts. The COVID-19 pandemic has reduced households' income and the possibility to afford O&M costs as well as access to hygiene products, which in some villages have become more expensive due to higher transport costs and low supply. In addition, some households from the three districts cannot afford to rebuild and upgrade their sanitation and hygiene facilities; and most of them cannot afford pit emptying services. Fostering the expansion of the local WASH market can support WASH products and services to be more accessible and affordable while it can also provide new job opportunities.

The sub-programme should focus on the most vulnerable groups (including women) who tend to be the ones who face the biggest challenges to access and improve their sanitation and hygiene facilities. There is the opportunity to include high turnover items such as cleaning products, as well as to leverage other initiatives within the programme, such as support to disabled people organisations (DPOs) and women's groups to manufacture different WASH products from slabs to reusable sanitary pads. Subsidising the prices of new WASH products and services can also support the most vulnerable households to access them. The sub-programme should ensure that there is a deep understanding of the WASH needs so that the private sector and new entrepreneurs are encouraged to respond; regularly monitoring WASH sales can help to broaden the types of products on offer.

Furthermore, it was reported that local government faces challenges of financing monthly monitoring activities. Synchronising these activities among national and local government, donors and NGOs can support the district government to carry out M&E processes on a regular basis

## Social sustainability

Social sustainability is another of the key challenges faced by the three districts. At the school level, it was reported that accessible toilets with MHH features are not being built because of low budgets.

There is a need to advocate further at the national and local level for an increase in the budget allocated to WASH in schools so that accessible features and MHH facilities are built and sustained in every school in Uganda.

Accurate disaggregated data on what is being spent on standard and accessible WASH facilities (and who are in charge of these expenditures) is needed for planning and lobbying to be successful. This can help transmit the message that schools can save funds if new toilets are initially built with these features rather than retrofitting them at a later stage. Partnering further with the Ministry of Education is key to achieving better WASH results at the school level.

Vulnerable groups are having limited opportunities to raise their concerns and actively participate in WASH decision-making. PWDs particularly tend to be highly stigmatised. The sub-programme should explore new approaches such as the 'Champions for Change' initiative, which focuses on co-opting influential people in the community to promote vulnerable groups' participation.

Developing women's capacities as agents of change at the community level (as entrepreneurs, service providers and WASH leaders, among many other roles) can empower them socially and economically, supporting them to raise their voices not only at the community but also at the family level. Targeting men and boys can balance roles at the household level and support women exploring other roles outside of the household. Additionally, the sub-programme can partner with persons with disabilities organisations to understand their WASH needs and also how to better engage them in WASH activities and the WASH market. Recruiting vulnerable groups to positions that increase their visibility and status in their communities, and ensuring meetings and events happen at times and in locations that facilitate their involvement can also increase their WASH participation at the community level. For this to happen, however, non-disabled and non-excluded groups should be made more aware of what vulnerable groups can achieve and have to offer to their families and communities.

## Environmental sustainability

Less than 5% of faecal sludge generated in the three districts is disposed of safely via pit emptying services. Most pit latrines are abandoned when they become full, and it is not known whether they are safely closed or covered.

Standards exist at the household level but they are followed in less than 80% of new pit latrines constructed (the benchmark level specified in the framework).

The sub-programme should foster the improvement of sanitation facilities by expanding the WASH market to take into account JMP levels and standards. Behaviour change communication that links the upgrade of sanitation facilities to taking care of the environment can be promoted to trigger communities further – especially amongst the younger generations who are more aware of environmental issues.

Technically and financially supporting the development of formalised pit emptying service providers is also needed so that households can access and maintain their improved facilities by having affordable and reliable services.

Additionally, working with local government on the enforcement of the sanitation standards (such as exploring community-led exclusion strategies or working with more targeted enforcement according to the sanitation and hygiene situation at the household level) is crucial for households to have toilets that align with the national standards.



An employee of plan International outside one of the standardised latrines



**LESS THAN 5% OF FAECAL SLUDGE GENERATED IN THE THREE DISTRICTS IS DISPOSED OF SAFELY VIA PIT EMPTYING SERVICES.**



## A STORY OF MARY DOREEN KANAYUWA A PUPIL WHO IS NOW AN EXPERT PEER MENTOR IN HER SCHOOL

**K**anayuwa Mary Doreen is 12 years old, in P.5 a pupil of Buguwa p/s, Balawoli parish, Balawoli Sub County. "I stay with my grandmother because my parents divorced and my father decided to marry another woman. It was not easy for me, especially when I started menstruating because my grandmother could not afford pads," she said.

"The only thing I did was to stay home. I lost hope in going to school because my friends would avoid me most times."

"Plan International Uganda trained 16 schools on menstrual health and hygiene and my school was among them. I cannot explain the happiness in me from the day I got to learn how to make my own pads," Kanayuwa Narrates. Plan International trained 28 of us on menstrual hygiene management and pad making (18 girls and 10 boys per school). This was a miracle to me that I am able to make my own pads and use.

"Since this, learning came at the right time," She narrates with soft smile, I went home and made 8 pads My grandmother, on seeing the nice pads I made, gave me a piece of kitenge for making more. I make sure I carry at least three pieces of pads in my school bag daily.

"Now here in my school, the senior woman teacher gives me the opportunity to demonstrate to other girls how to make pads during our monthly girls meetings. My friends who used to isolate me are now close to me. Even at home women come asking for pads and I have so far sold six, each at 1500UGX.

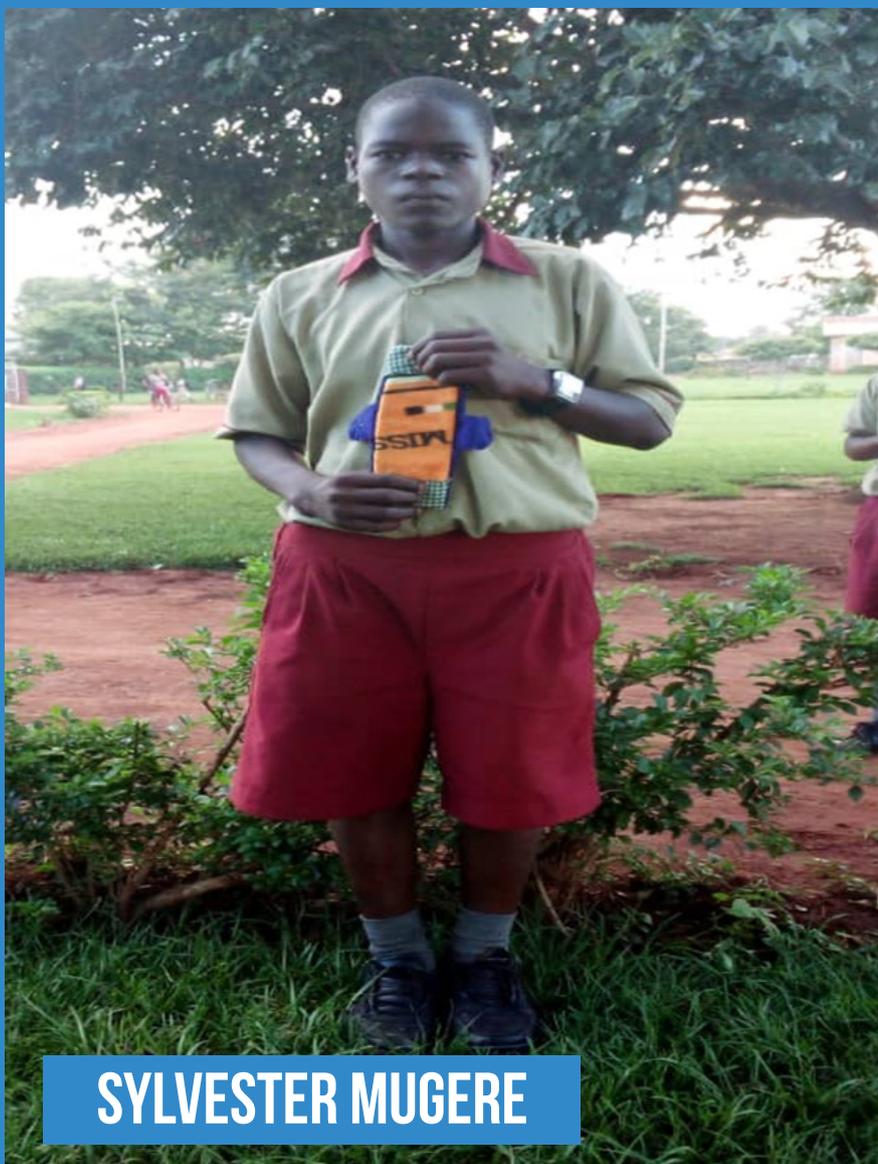
I am really thankful to Plan for this skills given to me and I have hope of continuing with school.

Doreen demonstrating how she makes her pad.



Some of other pupils trained on MHH from another school.

“ Women come asking for pads and i have so far sold six each at 1500UGX.



**SYLVESTER MUGERE**

“

We were taught about the theory of menstruation practices and its management, how to make pads, dress it on a knicker and rendering social support to the girls.

**A**nother success story was given by Sylvester Mugere a pupil at Balawoli Primary School Kamuli. Before he didn't know anything about MHM and from his story he said he would insult the girls and would tell fellow boys to insult and always chase away girls whom they knew had started periods because they believed they were smelling bad and looked at them as mature, not to be in school.

And how he got involved into the program, He was in church when he was told that he was needed at school for this project, He was interviewed by the senior woman teacher, and selected since he was quick at learning and understanding.

“We were taught about the theory of menstruation practices and its management, how to make pads, dress it on a knicker and render social support to the girls. Through this, boys no longer laugh at girls while in their periods, they have acquired knowledge about MHM and wet dreams as well.”

In the beginning Mugere used to find girls bleeding and thought they had wounds that never healed, he could even go beyond to show his other friends and they laugh at them. Later on, he was taught that girls start their menstruation at 9 years if they are fed well until 50 yrs. Mugere learnt that it was normal and stopped laughing at them.

The significance of choosing this change in particular is that he used to laugh a lot due to ignorance about changes in a girl but after learning he saw it was wrong. Instead, he started offering them help and advice to report to the senior teacher for more help.

# SUCCESS:

## Wakiso women protect Lake Victoria by turning garbage into cash



Women making briquettes at kavundira

**A**s the world marked the water week, women at Kavundira Landing Site in Nkumba parish, Wakiso district were busy fighting environmental degradation.

However, unlike other 'wars' against such pollution, these women are on a mission to kill two birds with one stone; ensure cleanliness but also turn the garbage into cash through making briquettes.

One such women who pride in protecting the environment and benefitting from the garbage is Prossy Nakibuule, a member of Nkumba Bukolwa Group.

Nakibuule says the narrative has always been that landing sites are smelly, dirty and prone to disease outbreak all the time.

**"But the narrative has now changed. We are able to turn garbage into something useful and profitable,"** Nakibuule said.

"Just walk around this place (Kavundira) and you will hardly find any garbage piled anywhere. People have woken up to the reality that nothing is useless on this landing site," she added.

Nakibuule's chest thumping is supported by Angela Misanya, a single mother of three, who can now count her benefits from the waste off the finger tips.

Ronald Kalema, the Mayor of Katabi Town Council, applauded the women for being at the forefront of fighting environmental degradation and using the opportunity to make some money.

"We would like to thank the women who are the drivers of this nation for embracing this project that was started by SOS Children's Villages," Kalema said.

"This has reduced the garbage in our town council. They have discovered that from garbage we can earn a living through adding value to what is considered waste. This is very important for both the environment and homesteads," he added.

He called upon the government to consider women who are organized and are adding value to the environment.

"Such groups of women should be the first to be considered when it comes to Emyooga and Parish Development Model."

Beatrice Akello, the Family Strengthening Programme Coordinator at SOS Children's Villages, said they were targeting to empower 240 families mainly headed by women to be able to set up various income generating activities that are also beneficial to the environment.

"We train them to collect the waste, dry it, burn it and sell to other customers.

We have also supported the women with machines to make briquettes on large scale for commercial purposes. So far they are doing well and we hope to expand the project to other landing sites in the country," Akello said.

For now, the women at Kavundira Landing Site say they are not worried whether their husbands come home or not, give them support or squander their earnings in bars. They have discovered that one secret hidden in garbage waste and they are not about to give up making briquettes both for home use and commercial purposes.



**"We would like to thank the women who are the drivers of this nation for embracing this project that was started by SOS Children's Villages,"**



PENTECOSTAL ASSEMBLIES  
OF GOD - UGANDA

## PAG CLEAN WATER INITIATIVE IN KARAMOJA RESTORES HOPES IN RURAL COMMUNITIES.

By Robert Ariaka



PAG Bishop Robert Olupot explains the water situation in Karamoja

*“We drill the boreholes in villages that completely lack clean water sources.”*

**T**he struggle to access clean water sources in the rural communities within Karamoja has been greatly restored with the intervention Pentecostal Assembly of God PAG took to drill boreholes.

The borehole drilling project started after a survey was done in different communities greatly affected by water crisis and lacked clean water sources for human consumption.

Bishop Robert Olupot of PAG is pleased with the initiative of drilling boreholes which has helped provide clean water sources to the rural communities. “The people were helpless and as church, we thought of the supporting through provision of clean water sources,” Olupot said

Touching the people with love of God, Bishop Olupot disclosed that, as PAG, they have managed to drill and install 50 boreholes in Karamoja region with support from C&Di. “We drill the boreholes in villages that

completely lack a clean water sources. On completion, we link with district and sub-county water departments to ensure they take over responsibility with the water user committees in maintenance.

Each borehole drilled costs sh21m through funding support from the donors lobbied by PAG.

Once the borehole is drilled, the communities that access the water point raise funds with each paying Sh1,000 collected by the water user committees saved for repair and maintenance.

Bishop Olupot says when the boreholes get spoiled; PAG does not repair them but links with the responsible water departments at Sub-County and district level with the support of the communities to fix the broken components.

The boreholes have helped the communities to easily access clean water closer to their villages.



A Pregnant woman carrying water from one of the water points in Moroto

## Challenges Faced.

Bishop Olupot alludes to the poor aspect of the communities owning the borehole for maintenance once they are drilled. They still ask PAG to repair the borehole when it breaks down forgetting their responsibility of collecting water user fees to maintain the water source.

“We have come out to guide them to collect a monthly fee from all water users which helps to maintain the water source once it breaks down.

The low water table affects the drilling process, making it difficult to easily access water by those drilling. This comes with high costs once a designated location fails to easily depict water table.

Some places have good water table while other places have low water table.

## Insecurity

With the continuous cattle rustling and attacks in Karamoja region, Bishop Olupot says the borehole drilling process is sometimes delayed and disrupted by the fights.

PAG sometimes hires the UPDF to boost security during the water drilling process for the safety of the workers.

Bishop Olupot says in a period of five years, PAG plans to drill 1,000 boreholes.



Goats searching for water at the borehole point in Kaloi in Nayeel in Nadunget Sub County Moroto District

## Positive Impact

The water sources have brought unity among men and women during water user committee meetings and joint involvement.

The water sources have helped promote gender equality and working together for men and women during cleaning exercises at the water points.

The people who directly benefit from the water sources have seen and felt the influence of the PAG churches in Karamoja and joined the church to pray adding spiritual change.

PAG and the benefiting communities have been able to work together with the local leaders. Bishop Olupot is pleased with the community offering land to support the church in establishing structures for prayers.

“Our people now fetch clean water and drink safe water. It has also given communities access to establish church under the PAG guidance. The communities donate land for the church and documented,” Bishop Olupot said

Bishop Olupot said this has helped them mentor the people through education, preaching peace messages like “do not kill and raid other people’s animals” and teach one another love.

## PAG Strategic Plan

Our strategic plan is to drill 1,000 boreholes and we still have a long way to drill more.

We have identified some places to drill more boreholes. The people within the communities are incapable of drilling the boreholes.

In nine districts, PAG targets to ensure the 1,000 boreholes are constructed.



The borehole point at Nayeel village in Nadunget Sub County Moroto district constructed by PAG



One of the PAG Pastors helping a girl to carry water from Nayeel village borehole point

“ Our strategic plan is to drill 1,000 boreholes and we still have a long way to drill more.



Michael Munyes one of the water user committee members in Nayeyel village in Naitakwae Parish in Nadunget Sub-county in Moroto District

### Water Users Speak Out.

Michael Munyes, one of the water user committee members in Nayeyel village in Naitakwae Parish in Nadunget Sub county in Moroto District, said the water source was donated on February 12, 2019.

“We are drinking safe water right now compared to the last time. Water is life a reason we are maintaining it for the community.

In Kaloyi we thank and appreciate the church and pray that God should give us strength to support our communities.

Previously, the people were drinking water from an old borehole which has broken down. According to Munyes, over 80 households depend on the water source because neighboring villages lack boreholes.

Five villages of Nachele, Nangorit, Lokeruman, Nayeel and Looyakarome depend on the borehole constructed by PAG, and donated by C&Di.

We ensure the borehole point is protected and some pit is dug to collect water for the animals to avoid damages and breaking the cement.

As water user committee, we charge the users Sh1, 000 for a month. This money helps in the repair and maintenance of the water source. The church, sub-county and local government always come to our aid when the water source breaks down.

Munyes advises the community not to graze animals at the water points to protect it from damage.

Daniela Loput, another resident, says the borehole helps them fetch water with ease.

Every time we are thirsty and need water, we easily access it with our animals. We used to fetch water from the valley and now this water source has reduced the burden of walking long distances in-search of water.

We tell the children not to play near the borehole and stop urinating and defecating near the borehole. We also ask those taking care of the animals not to graze near the borehole.

Every household is advised to collect money but the response is still poor. Many families still complain of hunger and poverty, making it difficult to pay the Sh1, 000 as water user fee.

As a woman, the water source has helped us avoid domestic violence and brought peace with the husbands.

Muntes Chelementina, a mother of three children, is pleased with the construction of the water source. She is now living happily, spending little time at water sources.

We drink safe water and this makes us healthy. Our animals are equally drinking safe water.



Daniela Loput another resident says the borehole helps them fetch water with ease

“

We are drinking safe water right now compared to the last time.



A refugee girl carries home the food she received from the Japanese donation for vulnerable people



Soloman Osakan, the Refugee Desk Officer Arua

The soya blend has nutritious food for lactating mothers. From 2017, the project helped support vulnerable persons.

The World Food Program cut down food ration and the food relief for the needy saved them. The refugees have been relied on sorghum.

Osakan hopes PAG will submit a project proposal to their donors to ask for more funding. He appeals to the refugees not to misuse the support given to them but consume it at household level.

The refugees are proposing for money compared to food ration. Some of them sell off the food to buy other items.

The local farmers need to grow a lot of food and sell to the refugees and tap the money.

The food supplied to the settlement mostly comes from Hoima, Masindi and Eastern Democratic republic of Congo.

The refugees should not depend only on money but also participate in farming.

## PAG RELIEF SUPPORT TO VULNERABLE REFUGEES IN RHINO CAMP SAVED LIVES

By Robert Ariaka

**T**he COVID19 relief support to vulnerable refugees in Rhino Camp settlement has helped boost and extend healthy living for those in need.

Pentecostal Assemblies of God (PAG) came out to support needy refugees with relief food items and Psychosocial teachings. Denis Mbaguta, the settlement commandant of Rhino Camp, said PAG provided COVID19 relief for the needy refugees.

They also conducted psychosocial support to the refugees. The support has helped the refugees come out of stress and food crisis during the food ration cut down.

“If you have food shortage and you are vulnerable, PAG supports you besides the food provided by WFP. There are many people who come seeking their support but it is limited to the needy” Mbaguta said.

Mbaguta appealed for more support to the vulnerable refugees asking PAG to extend their program. It is still difficult for the refugees to live on their own without support, but they have been guided to adopt backyard farming. The food ration was cut by 40% leaving

60% food for the refugees. This has affected families that have large family members.

Solomon Osakan, the refugee desk officer says it was not a big project but the backyard farming component was able to change the lives of refugees to boost their food content.

In West Nile there is backyard farming that helps support them. PAG distributed relief food in form of sorghum and soya blend to lactating mothers and vulnerable persons, including elder’s persons.



An elderly woman sits next to her food as she waits to carry it home

“  
If you have food shortage and you are vulnerable, PAG supports you besides the food provided by WFP.”

# Q & A WITH BISHOP ONAGA J FRANCO General Secretary



**BISHOP ONAGA J FRANCO**  
General Secretary

**Our long term goals are that we want every citizen having easy access to safe and clean drinking water and national improvement of community sanitation and hygiene with community ownership to ease effective sustainability**

**Q. Kindly share PAG's historical background.**

PAG started in eastern Uganda and was first registered in 1964. It spread through Teso sub-region before spreading to northern Uganda and other parts. We then established churches in western Uganda in districts such as Kisoro, Mbarara, Kabale, Kabarole, Kasese and across the districts in the region.

We have over 6,000 churches spread all over the country.

PAG is a church and we preach the gospel of the total man with interventions of the needs of the community that we are in.

We, therefore, support government in delivering such services as supplementary food for refugees in West Nile, menstrual hygiene in Kasese, and agricultural projects to get better yield and easing access to safe and clean Water to the communities

**Q. Briefly talk about the long term plans of the organization in the regions where you are implementing WASH programmes.**

Our long term goals are that we want every citizen having access to safe drinking water and improvement of community hygiene. You see, you can provide people with water but if there is no hygiene, then trouble will brew. We also want the community to take responsibility and ownership of the projects so that they become their property to easily effect sustainability.

**Q. What was the criteria used in selecting the districts/regions where the organization is implementing WASH programmes and what was intended population outreach?**

We are implementing WASH projects in several regions and for each region we followed particular criteria.

For Karamoja region, it is a drought-stricken area where a season comes and basically there is no water. So we had to consider them along that line. Not forgetting that cattlekeeping people like Karimojong share the same water with animals.

So, we thought this was going to bring problems and, thus, we had to provide them with safe water by drilling deep boreholes. This was mainly meant to improve hygiene and health by reducing waterborne diseases.

For West Nile, it was because of the influx of refugees from South Sudan and the Democratic Republic of Congo. We had to think of safe water in camps and for the host communities.

Because of the influx of refugees, the situation had reached a level where people started lining up for water as early as 4am which was a lot of time wastage. But you cannot provide for refugees and leave out host communities. We had to sink boreholes for the hosts as well.

About the population targets, it depends on the region because, like

for West Nile, the refugee population keeps fluctuating.

In other regions, we target geographical locations and not the exact number of people because services can also be accessed by outsiders. And we reached over 500,000 people.

**Kasese:**

The case of Kasese was quite unique and situational. Because of the floods people were forced to live in camp and issues of hygiene came up. We had to train women in how to make re-usable menstrual pads. Testimonies were positive as critical issue for women were being handled. We could train women and whoever was trained could train 10 other women. The Multiplier effect was awesome.

**Q.What is the organization's focus in the next 3-5 years?**

We are mainly focusing on expansion in order to be able to do more of what we are already doing in regions where we are present. We are looking at questions such as How do we attract more sponsors? Already in Arua the response is positive as individual sponsors are getting on board.

Sensitisation: We are working hard to remove the challenge we have in the community of people understanding that we are giving them a hand-up and not handouts. They should know that these are their basic problems which they should be able to solve with our additional help.

Community ownership and responsibility: What we are targeting is for the community to take responsibility, ownership of the projects in their neighbourhood. We want the community to look at these projects as their responsibility to take care of. We want them to drop that mentality of "Tell those people their borehole has broken down" while referring to us.

We, therefore, help the community create a committee for the boreholes to form water user committees. The people decided that each family contributes sh100 per month to help for maintainance when it breaks down.

**Q. How has PAG supported districts to build local capacity in the areas of operations?**

Where ever we go we work with the local government which helps identify the people we can work with. We also identify people we can train.

After we build a toilet we hand it over to the local government people. In the process of construction, the local governments appoint their own people whom they want to learn construction techniques. This has worked for us.

Even where we build boreholes, we work with the local governments. We tell them "Give us three people whom we can train so that they can repair them when they breakdown".

**Q. Who are some of the partners that have worked closely with PAG to ensure the programme is successful?**

We have many partners including UNHCR, missionaries from Romania individuals who come to support us. We of course work with local governments and since we work under the Office of the Prime Minister, all NGOs under OPM are our partners.

**Q. What are some of the challenges that the organization has met in the course of providing WASH services to the various communities? What recommendations can you put forward to overcome these challenges?**

We have two major problems. Some of our communities have developed the entitlement mentality. When you try to mobilise for their participation, they want to charge you for the work. However, we are getting through it by sensitizing the local community. Before we begin the project, we tell them what to provide. So the local leadership works with the individuals to provide some of the necessities.

The second challenge is that of too much demand for money. Some of the beneficiaries want money, not services. When they see you coming to do something they think it is their money.

You have to be careful in handling the tension between the refugees and host communities. Also tension among the refugees has to be handled carefully.

The OPM has worked with the NGOs to see how we overcome these challenges. We are making progress in mitigating these challenges together with the Prime Minister's Office.



**we are working so hard to sensitize the population on behavior change and mindset change to remove the mentality of the community to think and understand we are giving hand-ups but not handouts.**

# Displaced by floods, latrine crisis hits Ntoroko resident

By Wilson Asiimwe



The submerged latrines and people's homes

**F**or the internally displaced persons in Kanara sub-county, Ntoroko district, misery is not about to end.

First, they were displaced by water, next came the latrine crisis punctuated by lack of safe water.

The affected sub-counties include Kajweka, Rwangara, Rwenyana, Kachwankumu and Katunguru.

All the water sources have since been submerged by the rising water volumes and residents are in dire need for safe and clean water.

In 2019, more than 11,000 households were displaced by the rising water levels of Lake Albert.

Simon Kanyoro, the village chairperson of Rwenyana, recently told local media that the makeshift latrines that were constructed in the camp have all filled up. Kanyoro says that the only existing temporary public pit latrine has only two stances that are not enough for the entire community. He is worried about the possible outbreak of diseases.

"We realized as leaders that there could be a disease outbreak due to the poor disposal of human waste, so we mobilized the community to put up this two-stance public pit latrine which is also not enough," he told URN in a February interview.

As if this is not enough, even the space to put pit-latrines is nowhere to be seen.

Gideon Bajenja, the area councilor, said there is inadequate space to construct pit latrines because the water table is very high.

"The water table here is very shallow because the camp is just adjacent to the Lake. Additionally, the camp is too congested without any other space for erecting any structure no matter how small it could be" Bajenja said.

Omuhereza Mujungu, one of the landlords hosting the IDP camp, called on the government to consider relocating the flood-affected people to a safe area.

"Although we temporarily accepted to host these people on our farmland, they cannot be here forever because they are too congested and due to the poor sanitary conditions now, the place is not habitable at all," he said.

Lilian Kansiime, a mother of seven, said that her husband died in the floods in 2019 and since then she has been struggling to take care of the family.

Kansiime said that they were lacking safe water for drinking and that currently they depend on dirty water from the lake.

"We dont have latrines and people defecate in the lake and it is that water that we also use for drinking and cooking," Kansiime said.



The submerged latrines

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We dont have latrines and people defecate in the lake and it is that water that we also use for drinking and cooking.

Kansiime

## Making the invisible visible through increasing access to safe and clean water, sanitation for all by International Aid Services Uganda



**W**ater and sanitation are at the core of sustainable development, and the range of services they provide underpin poverty reduction, economic growth and environmental sustainability. Every person, whether young or older, female or male from all walks of life at household, institution and community level needs to thrive through access to safe, clean water and sanitation services. International Aid Services (IAS) contributes to increased access to safe and clean, appropriate water supply and sanitation services that dignifies the targeted rights' holders, people with disabilities and affected communities. Our Humanitarian and development interventions are in Rhino camp and Kyangwali refugee settlements, as well as development projects in Pader, Agago and Abim districts.

IAS improves access to clean, safe water and sanitation services among refugees and host communities. With funding from Swedish Mission Council (SMC), two hand pump boreholes were successfully drilled and installed, and are functional in two host villages (Etiyo and Obiyo). These two water points are serving over 2,040 people and neighbouring villages. As a result, cases of water related diseases have reduced amongst the targeted population; women in the two villages no longer suffer walking for long distances in search of water from unsafe wells, especially during dry season.



International Aid Services (IAS) contributes to increased access to safe and clean, appropriate water supply and sanitation services



## Menstrual Hygiene Management and promotion of safe, affordable reusable sanitary towels

**T**wo water user committees of 10 members each and village leaders were trained and are actively managing operations and maintenance of their wells for sustainability.

Water users are contributing user fees to ensure their wells don't break down. 8 members are female, 6 of them are in the executive positions and trained to ensure effective operation and maintenance of water sources.

As part of personal hygiene promotion among women and girls of reproductive age group in both host and refugee communities, International Aid Services (IAS) has supported over 1,343 youth and women of reproductive age with training on reusable menstrual pads and making of liquid and bar soap in areas such as refugees settlement.

Menstrual Hygiene management for the girls and women in different communities have been conducted by training on making re-usable menstrual pads using the locally available materials for easy access during their menstruation cycles for management of their menstrual cycles.

Additional 980 adolescent girls and 730 women learnt how make and use reusable menstrual Pads and are Trainers of Trainees (ToTs). The adolescent girls actively training their peers and are proud to use their own locally made pads. 920 girls reported to have trained 3,420 by end of March 2019 and this has continued to happen.

Complaints from women over menstrual dignity kits have also reduced in the villages of operation.

**The adolescent girls actively training their peers and are proud to use their own locally made pads.**

## Increasing access of portable clean and safe water using Solvatten water purification containers:



The Country Director Juliet Namukasa handing over solvatten to parents of children with nodding disease

IAS in partnership with Solvatten AB is supporting households with children affected by Nodding Disease with 936 water purification containers in Angagura, Atanga, Laguti and Lapul sub-counties, Pader district. The Solvatten water purification containers purify unsafe water to be drinkable by using solar energy, to boil water to the temperature of 550C by placing the container under the sun.

The Solvatten containers help provide safe and clean portable safe guarding people from acquiring water borne diseases like diarrhea, Typhoid, Cholera, Bilharzia and Dysentery etc. Water from the container is majorly used for drinking, bathing/shower, face wash, hand wash, personal hygiene/menstrual hygiene, washing dishes, and prepare food for children and households.

Marriana Akullo, a 61-year-old mother, testified that with the use of Solvatten container, she has been able to use only two bundles of firewood weekly compared to five and water take less than five minutes to boil yet before water could take about 25 to 30 minutes. Additionally, she is able to save 60,000 UgX monthly from treating diseases related to drinking unsafe water.

Below is Akullo, a 61-year-old grandmother, bathing her grandchild with warm water



# DOKOLO

At least 68 villages are set to benefit from a new water scheme geared towards improving access to safe water in Dokolo District.

BY BILL OKETCH



Eng Felix Twinomucunguzi, the assistant commissioner for Urban Water Supply and Sewerage Department at the Ministry of Water and Environment hands over a water facility to Dokolo leaders on March 24, 2022

***The Dokolo Water Supply and Sanitation Project financed by the African Development Bank and the government of Uganda, will address the challenge of water shortage in Dokolo Town Council, Adwoki and Iguli trading centres; Agwata and Amwoma sub-counties. The project total cost is sh14b.***

**T**he beneficiary villages include; Agula, Abongorwot, Ayito, Ajet, Odokogweno B, Odokogweno A, Ajokdong in Agwata Sub-county; Adagani, Agori, Apor, Awat, Adagamone, Iguli, Abuki and Araki in Amwoma Sub-county.

In Dokolo Town Council the beneficiary villages are; Basere A, Basere B, Opokotedo, Acenlworo B, Arudabiro, Gorogoro B, Gorogoro A, Adukulotong, Anyac B, Oonyonino, Amiro, Acanmac A, Acanmac B, Amuli, Ateri, Abur, Anyomoloi A, Anyomoloi B, Dima, Otolemomoleo B, Otolemomoleo A, Acengryeny, Acungapenyi, Akongodyek and Awinyipany A. Others are; Awinyipany B, Awinyipany C, Akaidebe A, Akaidebe B, Akaidebe C, Akaidebe D, Arwotnyap A, Arwotnyap B, Alokiri A, Alokiri B, Abenyo, Alwar, Ogonyoworo, Atama B, Atama A, Abongowoo B, Abongowoo A, Acandyang, Olelpek, Akeogweno, Ocokowie B, Ocokowie A, Atur, Agora C, Agora B, Agora A and Ayito.

The project, whose implementation commenced on August 3, 2020, through November 2, 2021, was inspected and handed over to National Water and Sewerage Corporation (NWSC) for operation and maintenance recently.

The project was implemented by the Ministry of Water and Environment through Water and Sanitation Development Facility-North.

The system was constructed by M/S Zhongmei Engineering Group Limited.

Mr Quinto Opio, the Dokolo District water officer, thanked the government for the intervention.

“As Dokolo District, the rural coverage was slightly higher at 90 per cent but we had challenges in urban settings where the coverage was a bit low, at 80 per cent,” he said. “With the extension that has been made already within this area, we shall have enough water being supplied to the people of Dokolo, Adwoki, Iguli and Amwoma.”

He said before this intervention, residents of Dokolo were purely dependent on ground water. They were using boreholes, shallow wells and springs.

Achola Mercy, a Primary Five pupil of Iguli Primary School, said people used to line up at a borehole in their village to fetch water.

“People would fight at the borehole as they struggled for water,” Ms Winnie Abeja, a resident of Awat Village in Amwoma sub-county, said.

Mr Isa Mbooge, the Dokolo chief administrative officer, said: “We are looking at reducing the kilometres somebody walks for water. People were walking as much as 10km then we said that let us reduce it to 5km but still it was very much for a rural woman.”

Ms Judith Sokoto Abonyo, the manager of NWSC Dokolo branch, said with this intervention, they were now in position to supply the outskirts of town.

“And we hope that with this project we shall be in position to be at 100

per cent coverage of the town. So, I want to thank the government so much because the challenges will actually come to an end and as National Water we are going to do a lot of extension to see that most of the areas are actually covered,” she said.

NWSC Lira Area Manager, Mr Gerazio Tukahirwa, said his team would take good care of the project, and they were going to ensure the water reaches everywhere.

“The production at the treatment plant at Kachung is 12 million litres per day. I get 4 million litres per day for Dokolo and then I get 8 million litres of water for Lira and Amach,” he said.

He added: “We have the projects that are going on and one year from now we shall have an additional 7 million litres of water added to our current production. So, I want to assure you that the problem of water will not be there and don’t think of it.”

Eng Felix Twinomucunguzi, the assistant commissioner for Urban Water Supply and Sewerage Department at the Ministry of Water and Environment, said: “Every household within the urban areas will be able to access water within 200 metres. We want 100 percent coverage in urban areas, and we are working very hard towards that.”

The water coverage in Dokolo District varies from 85 per cent in urban areas and 90 per cent in rural areas.



The new water system which is benefiting 68 villages is being tapped from Kachung Treatment Plant, Agwata Sub-county in Dokolo District.

**“People would fight at the borehole as they struggled for water,”**



A woman fetches water from a public stand post at Iguli Trading Centre, Dokolo District, on March 23, 2022.



# UGANDA REDCROSS SOCIETY EXTENDS WATER, SANITATION AND HYGIENE SERVICES TO THE REFUGEES AND HOST COMMUNITIES



Beneficiaries fetching water

## Background of the project

Uganda government with its open door policy allowed the refugees and asylum seekers from South Sudan, Burundi and the Democratic Republic of Congo into the country. Uganda has since then received a large number of refugees for the past 3 years. The continued arrival of refugees added pressure on the limited resources in the hosting districts. The refugees in Rhino Camp are predominantly women and children.

By the start of this project in March 2018 there were 153,034 refugees and asylum seekers who were recorded in Rhino refugee settlement which are predominantly women and children but the numbers keep increasing.

In response to the increased influx of refugees, The Netherlands Redcross, NLRC approved funds for the implementation of Integrated Health and WASH assistance for South Sudanese refugees and host communities in Arua/ Madi Okollo Districts in Rhino Camp.

Activities implemented aimed at reducing preventable illnesses and included: Water sanitation and hygiene, Community disease surveillance and referral, Behavior Change communication (BCC) for Health (HIV, malaria, diarrheal and water related diseases, hygiene promotion) and Nutrition education and Sexual and Gender Based Violence (SGBV).

## Achievements

- Rehabilitation of 520meters transmission line and Pipe water extension (construction 6,000 meters OD40 secondary lines, 1100 meters' service line, 8 stand stands, and 8 solar lighting systems to the refugee community, lighting system to serve. The total of 1077 households benefited from the intervention
- Improved hygiene practices as a result of continuous and follow up sensitizations with IEC materials, home visits, distribution of tippy taps,
- Increased latrine coverage as a result of subsidy distributions
- Increased advocacy, coordination and networking with the WASH partners and district leadership.

## Uganda Redcross Society Community Empowerment

Unsanitary conditions in refugee camps due to overcrowding, poor sanitation systems, lack of clean water, and minimal ways to access to clean and safe water and water safety storage can lead to spread of preventable illness such diarrhea, typhoid, among others

The provision of adequate sanitation services is crucial to prevent communicable diseases and epidemics while ensuring good health and dignity. Though the importance of having adequate latrines is well documented, still 30% of refugee camps do not have adequate waste disposal services or latrines.

To advance the poor sanitation and water access in the settlement, Uganda Redcross society (URCS) with her partners came in to play with the rehabilitation of 520meters transmission lines and pipe water extension, as result women and girls no longer have to walk for long distances which has increased easy access to clean and safe water for the population and reducing time wastage at the water points.

Uganda Redcross Society has empowered community members with capacity and involvement in the cause to increase and Improve latrine coverage by sensitization and construction of environmental friendly latrines in communities with tip tap points which has also increased on Handwashing practices benefitting 1007 households.

## Achieving Open Free Defecation

**How Uganda Redcross Society is improving sanitation and Hygiene through construction of latrines.**



Doom slab productions for construction of the community latrines, the technology which is environmental friendly

In the sector review performance report last year, the Ministry of Water and Environment reported that 97.9% are open defecation free and only about 2.1% Ugandans were still practising open defecation.

But this is changing in the settlement camps due to the influx of refugees this piles pressure on the already limited latrine facilities resulting into open defecation which leads to communicable illness and low human dignity.

Open defecation is the practice whereby people go in the bushes, forests, open water bodies or open spaces to defecate. the practice pre-exposes communities to various health risks such as diarrhea, cholera, typhoid among others.

Such diseases can be extremely contagious and deadly among crowded and confined populations such as refugees or internally displaced persons (IDPs).

The open defecation free in one of the WASH interventions being implemented by Uganda Redcross Society with funding from the Netherlands Redcross.

Under this intervention, Uganda Redcross Society empowered communities and formed organised groups such as PHAST GROUP which were taught how to model

and produce doormat slab for the construction of community latrines to eradicate the vice and the slabs are environmental friendly.

PHAST Group members have disclosed that working in groups is easier and effective in terms of work done in shortest period possible, making construction of pit latrines a walk over.

Uganda Redcross Society refers the PHAST Group as a model group which creates shame related to open defecation among the refugees and sensitize the population to abandon the vice so as to improve on the sanitation and hygiene in the communities.

The intervention involves construction of pit latrines at household and community level.



PHAST Group members working in groups to improve on the sanitation coverage in their community

## Water Quality

Uganda Redcross Society (URCS) has Eased access to clean and safe water in the refugee settlements by rehabilitating 520meter transmission line and pipe water extension which has drawn water closer to the population.

URCS has also trained the community on water quality surveillance which has helped community members to identify and know the quality of water which is good for domestic use.



Rehabilitated transmission line



Training the water communities on water quality surveillance

## Motorization of Water System Supply

The provision of water and sanitation, with associated sustained behavior change, is critical to improved public health. Ensuring that these services remain functional and deliver public health protection to the refugees in the Palorinya settlement, is a priority of Uganda Red Cross Society nationwide. Resulting from this primary role and commitment, URCS with funding from the German Government Under the Ministry of Foreign Affairs – Humanitarian Assistance, through the German Red Cross, has constructed a multi-billion motorized piped water supply system in Palorinya settlement zone 3 West as a measure to respond to the human suffering due to inadequate safe water supply to the refugee community the residential host community in the area. The water system has the potential of producing up to 360m<sup>3</sup>/day, performing at 75% of its maximum source potential of 480m<sup>3</sup>/day operating eight hours per day. For sustainability purposes, and keeping production within the current demand, the system is being operated at 280m<sup>3</sup>/day which is able to meet the daily demand adequately for the 10 villages being served by the system.

**THE WATER SYSTEM HAS THE POTENTIAL OF PRODUCING UP TO 360M<sup>3</sup>/DAY, PERFORMING AT 75% OF ITS MAXIMUM SOURCE POTENTIAL OF 480M<sup>3</sup>/DAY OPERATING EIGHT HOURS PER DAY**



Figure-1: Solar power supply bed consists of 152 solar models of 260W each, for a multi-billion hybrid motorized piped water supply system in Palorinya settlement Zone 3 West.



Figure-2: Obongi District Executive Committee during their infrastructural development monitoring a multi-billion hybrid motorized piped water supply system in Palorinya settlement Zone 3 West.



Figure-3: Field visit by Project Delegate and Project manager during the multi-billion hybrid motorized piped water supply system in Palorinya settlement Zone 3 West construction.

## URCS Skybird Project Urban - Rural Social Inclusion

With funding from Austria Development Cooperation through Austrian Red Cross, URCS is implementing WASH projects in Ntungamo, Kampala South, Iganga, Moroto, Lira, Ajumani, Rakai, Gulu and Imvepi refugee settlement. The innovative WASH projects aim to improve the living conditions of the communities by integrating Urban WASH, gender and social inclusion, climate change and green energy, food security and nutrition, community engagement and accountability, digitalization and Cash transfer programming (CTP).



Figure-1: URCS through the Skybird project is committed to reducing deforestation and promoting afforestation and green energy as a way to fight climate change impacts



Figure 2: URCS through the Skybird Project is committed to improve Hygiene and sanitation in Makyindi Division- Kampala through gulping and waste management



Figure 4: URCS through the Skybird project built capacity of the staff to ensure full integration of PGI in WASH and other through gulping and waste management



# Women, children suffer after prolonged drought wreaks havoc in northern Uganda

BY BILL OKETCH

People march during Uganda Water and Environment Week 2022 in Lira City on March 17.

## NORTHERN UGANDA.

**P**rolonged drought compounded by heat waves is making life unbearable in northern Uganda, affecting majorly women and children.

Disturbingly, while the need for water is growing, the volume of available water has gone down.

For instance, residents of Lira City are facing what appears to be a chronic water crisis as taps are beginning to run dry.

Mr Patrick Ojok, the LCI chairman of Wigweng cell, Barogole ward in Lira City West Division, said residents are facing a big water challenge. This is because the only spring well which residents were majorly dependent on has been taken over by a businessman who claims the water source is located in his land.

Just like Lira City, National Water and Sewerage Corporation (NWSC) has resorted to rationing water in Gulu City due to the prolonged dry spell in the area.

Oitino dam located in Patiko sub-county, and Kachung, Agwata sub-county in Dokolo District have been the major water sources in Lira City, Dokolo Town Council and Gulu City but were rapidly drying up.

This publication established that Oitino dam's water levels dropped to a record low at less than 2.5 metres deep, causing a significant drop in the volume of water to be pumped for supply.

Indeed, the NWSC in a public notice, acknowledged that they were deeply concerned about the impact of the dry season on the dam, hence the need to ration the water.



People march during Uganda Water and Environment Week 2022 in Lira City.

*The only spring well which residents were majorly dependent on has been taken over by a businessman who claims the water source is located in his land.*

“It has become necessary to ration water in the city as it will ensure that at least the whole city receives some water for limited hours daily to avoid situations where some areas go without water for days,”



Cattle graze on dry ground at Olweny swamp, Agwata sub-county in Dokolo District. Desertification is threatening northern Uganda amid prolonged drought, increased heat waves



“It has become necessary to ration water in the city as it will ensure that at least the whole city receives some water for limited hours daily to avoid situations where some areas go without water for days,” the public utility company, which is 100% owned by the Government of Uganda, said in a statement in March.

According to the notice, rationing tests have been conducted across the city of Gulu to find out how to implement the programme and the schedule will be shared with customers.

The production at Kaching Treatment Plant stands at 12 million litres per day. Of these, 4 million litres are used in Dokolo while Amach Town Council and Lira City share 8 million litres on a daily basis.

NWSC Lira Area Manager, Mr Gerazio Tukahirwa, confirmed that the supply in Lira was not stable. “We are soon getting a pump to stabilise it,” he said.

This has affected more than 200,000 people in Lira City and Amach Town Council in Lira District that depend on water supplied by NWSC.

However, whenever there is a water shortage, women and children suffer the most.

In Lamwo District at the South Sudan-Uganda border, the burden of water scarcity has placed children in the face of abuse as they trek long distances in search of water for domestic use.

Lamwo safe water coverage stands at 81 per cent. But the district water

department estimates the distance taken to access water in rural areas of Lamwo to be about five kilometres.

Mr Solomon James Ochola, Padibe Town Council chairperson, said the acute water shortage has now placed children in the face of violence and abuse either along the way or at the water collection points.

*“Young girls who trek long distances in search of water meet bad boys who end up raping them,” he said.*

“We have registered cases of defilement as a result of children leaving home at night to go and look for water. Sometimes, children move at night in an attempt to dodge the long queues at the point sources.”

The water scarcity, the LC3 chairman said, has also given birth to domestic violence.

The Lamwo District water officer, Ms Grace Acayo, acknowledged that safe water still remains a rare commodity in many rural areas of Lamwo.



Labourers hired by the Ministry of Water and Environment slash rice planted in Okole wetland, Lira City, on February 4, 2022.

**Padibe Town Council with a population of 18,000 people has 10 functional boreholes – their major source of water – that are inadequate.**

Many water facilities that were constructed in the formally internally displaced people (IDP) camps have broken down after being abandoned by the community, she said.

Today, the time spent moving from point A to point B for the scarce water has resulted in school dropouts, especially for the girl child.

“And for the mother, of course you go to look for water, come back late, your husband thinks you have been with another man. All these bring a lot of problems in the family,” Ms Acayo added.

Mr James Obol, the community development officer, said that Padibe Town Council with a population of 18,000 people has 10 functional boreholes – their major source of water – that are inadequate.

The adverse effects of climate change currently being experienced in several parts of Uganda are brought about by human activities in protected ecosystems, according to the Ministry of Water and Environment.

In fact, the ministry has warned that global warming will do northern Uganda no favour. Already, evidence abounds that it will be the region that climate change will hit hardest.

Dr Florence Adong, the director of water resources management at the Ministry of Water and Environment, said the evidence for the onset of climate change is compelling, but it is hitting northern Uganda the hardest.

“I really wish that all of us should appreciate and take actions which do not conflict with the environment, or else the northern region is going to be part of the desert of South Sudan,” she said at the dialogue to mark the world Water and Environment Day at Mayor’s Garden, Lira City, on March 17.

“This one must be very clear, if we don’t plant trees we are heading in for desertification,” she added.

# NAMING AND SHAMING FIGHTING OPEN DEFECATION IN KITGUM

By Nantambi



A boy coming from one of the pit latrines constructed under triggering

**N**aming and shaming of homesteads in Omiya Nyima sub-county in Kitgum District has been applauded for fighting open defecation in the district.

Ann Mercy Auma, a community led total Sanitation Officer of forum for Kaloso Parish Women Association (FOKAPAWA), said ever since she started her work of triggering, many people were named and shamed for not having latrines.

Triggering is the process of creating shame and disguise to bring in change.

“Omiya Nyima is one of the sub-counties with sanitation challenge especially in latrine coverage .out of 4,100 households, about 2,800 were practising open defecation which is a big challenge in terms of percentage.

In the whole village, you would find only two latrines with the rest of the people defecating in the bushes. In the process of triggering, I was able to understand their sanitation situation and

they were able to appreciate and later on ashamed because they got so disgusted,” explained Auma.

She said in Tegweng village, they triggered and within two weeks, all village members agreed to construct their latrines and everything was done.

“I was able to follow up with them closely and held two meetings with the sanitation committees,” Auma said.

The sanitation committee are volunteers who are willing to monitor and give reports about the community sanitation.

Auma said the committee did a lot of monitoring backed with advise on how to use the latrine together with handwashing facility which has helped those who have at least put up the latrines, thus creating a good rapport.

“Within four months of triggering, we were able to work with 51 villages who are ready to be declared open defecation free with Tegweng being one of them.



*Omiya Nyima is one of the sub-counties with sanitation challenge especially in latrine coverage .out of **4,100 households**, about **2,800** were practising open defecation which is a big challenge in terms of percentage.*



Arop washing hands to demonstrate the proper practice of handwashing

“

IN THIS VILLAGE, IT IS **34 OUT OF 34** AND ALL THE **51 VILLAGES** HAVE GOT **100% LATRINE COVERAGE** WITH **HANDWASHING FACILITIES.**

At this village, they were 34 households and out of that, 14 had improved latrines with 20 completely practising open defecation. Because of the sparsely populated villages, chances of sharing were minimal which prompted them to resort to using bushes for defecation.

Currently, Auma said that everyone has a latrine while those with very old latrines had to demolish them after realising that what they had was just what they thought was a latrine.

**“Our intervention with the help of the USAID funded Uganda Sanitation for Health project USAID-USHA, helped us to introduce a model latrine and trained sanitation committees to show the community members the true latrine which has increased latrine coverage.**

In this village, it is 34 out of 34 and all the 51 villages have got 100% latrine coverage with handwashing facilities.

“I am so proud to say that a lot has changed and many have now started a saving group to save the money which they were spending on treating sanitation related diseases like typhoid, diarrhea among others,” she said.

The chairman LC2 who was ashamed and later constructed the latrine said that during the time without the latrine, it was hard for him to keep referring visitors to neighbors.

“During the camp, I saw people suffering from cholera and dysentery but when we returned, we tried to dig up some pits before FOKAPAWA came to my home, I had a latrine which collapsed and led to my naming and shaming. this provoked me to construct a model latrine which is attracting many to build these latrines.

We have been spending about sh40,000 to treat sanitation related diseases,” he said He added: “I feel empowered as right now, I can speak with authority because I have a latrine, considering the cost involved in treating sanitation related diseases the latrine is better.

I call upon the people in my communities to embrace constructing latrines to guard against diseases arising from poor sanitation.”

He explained that considering the transport to the hospital and the medical bills, a lot was being spent yet would be saved.

“My latrine is for everyone in my community and as a leader this has earned me a lot,” he said.

Ayeko Nakolina, the wife to the chairman, said naming and shaming them was a turning point because they were so embarrassed on the radio and could not move in public.

This triggered us to put up a decent latrine and also promoted sensitization which is also helping others.

Nickson Nokrachi, the sanitation Manson, said the campaign has created a lot of demand with every home calling to construct for them such latrines and this has widened my connection.

“Ever since the campaign, I have been able to construct over 200 latrines,” he said.

The LC3 chairperson Omiya, Peter Julius Otto, said more efforts are still needed to instill a sense of sanitation in people’s minds.

**“My latrine is for everyone in my community and as a leader this has earned me a lot,”**

# FILLED UP TRENCHES, UNCOLLECTED GARBAGE STILL A MENACE IN MBARARA CITY SUBURBS

By Adolf Ayoreka

**"It is as if we don't have leaders because we spend about two weeks without seeing those who are charged with collecting garbage"**



Pilled up garbage in Koranorya Market in Mbarara city

***Mbarara City apparently has about eight suburbs that are densely populated with average income earners living in average houses that match with their meager and hard-earned money.***

**A**mong the suburbs, are Kisenyi, Kijanja, Kashanyarazi, Kijungu, Kiswahili, Katete, Biafura and Lugazi which have the most filled and blocked trenches that take sewage and running water, a lot of littering made of plastic waste, buvera among others. Especially those located in low lands.

However, with the coming of the City, one would think the situation was going to change with improved capacity towards improvement of sanitation and hygiene but this has remained a nightmare among the residents.

Rodgers Bigabwaruhanga, a shop attendant from Kijanja suburb on Mbarara Bushenyi road, said the situation becomes worse when it rains. "I wish you had come during the rainy day; you would understand that us who live and carryout business in the suburbs are hardliner."

Adding that in most times, Mbarara City council's tenderers who were charged with collecting garbage delay to come and sometimes people tend to throw garbage in trenches

and channels.

Bigabwaruhanga's account does not vary from that of Scovia Kyokushaba another resident in Kijanja operating a bar who maintains that, "It is as if we don't have leaders because we spend about two weeks without seeing those who are charged with collecting garbage."

Kyokushaba, noted that they are not aware about who is responsible for reopening the filled-up trenches that end up creating a foul smell in the whole area.

It should be noted that, in July 2020, Mbarara city council signed contracts with private companies to help the council in collecting garbage. Those include, Tati waste solutions responsible for Kamukuzi, Homeklin Uganda limited has been given Kakoba division, and Apsec has been allocated Biharwe division, Kima and Ecofresh responsible for Nyamitanga division and Telikigana Sanitation solution responsible for emptying all toilets in town.



Some of the staffs from Nile Breweries doing a clean up exercise recently to mark the water and environment day in Kiyanja suburb

## Situation in Markets

The situation of poor sanitation and hygiene does not only affect those in the suburbs but also in most food markets in Mbarara City.

Vendors and traders operating in Koranorya market located on Mbarara-Masaka road in Mbarara City have put leaders on the spot over failure to collect garbage in the market which they say has generated a foul smell.

They argue that despite the fact that they pay dues for garbage collection, they have not realized the importance of such dues.

Kato Turibiyo Kyaruhinda, the general secretary Koranorya Market, said garbage has become a major menace on the operations of the market, saying some customers have started abandoning the market due to the foul smell which comes from the heaps of uncollected.

"This garbage has spent like a month without being collected yet traders pay for garbage to be collected and taken to the dumping site in Kenkombe. But even at Kenkombe we hear the place is full," said Kyaruhinda.

He added. "It has reached an extent of chasing away clients, especially those from outside districts of Mbarara. When they come and find the place stinking, they doubt the quality of foods staffs we are going to sell them and end up buying from other markets which seem tidy."

Kyaruhinda said that through their internal arrangement, they collect garbage from various stalls to one centre where the city council is supposed to collect it to the dumping site which is not being done.

*"Much of the garbage gets decomposed on the collection centre before it is picked and this causes the whole place to stink. We want city council leaders to come to our rescue the way how they collect dues for garbage every Sunday, they should be collecting garbage every week," Said Kyaruhinda.*

Robert Mugabe Kakyebi, Mbarara city Mayor, said given the fact that council was spending over shs30m per months on garbage collection, they moved in to delegate the responsibility to private service providers to help in collection of garbage. Kakyebi revealed that as council they resolved that whoever generates garbage must ensure that it is collected at a fee by service providers.

"And this has helped us especially one can hardly find garbage on major streets in Mbarara town. However, we still have a problem of the people living in the suburbs who at night tend to dump it in the drainage channels"

Kakyebi said apparently, he is not aware about the service provider for Kakika division where Koranorya market falls and Kamukuzi but he is going to find out.

"Us, at the center we allocated private companies but I think the town clerk Kakika is responsible for answering why garbage has piled up in the market because the mayor cannot be everywhere," Kakyebi said.

Emmanuel Twine, a fruit dealer in Koranorya market, also revealed that they are tired of electing leaders into positions to serve the interests of public and end up serving their personal interests.

## Poor sanitation a threat to R. Rwizi

River Rwizi, is the major source of water for Mbarara City and the surrounding districts, however it has been threatened by poor plastic waste disposal where people dump waste directly into the river hence contaminating the quality of water.

Last year a group led by Abahumuza Group headed by Seth Murari championed the campaign to save river Rwizi and picked tonnes of plastic bottles that were found floating on top of the river at a section in Buremba Kakoba in Kakika.



Plastic bottles floating on River Rwizi, the major source of water for Ankore sub region

“

**This garbage has spent like a month without being collected yet traders pay for garbage to be collected and taken to the dumping site in Kenkombe. But even at Kenkombe we hear the place is full”**

Kyaruhinda



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