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THE HAGUE, THE NETHERLANDS | 12 – 14 MARCH 2019

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## The Evolution of Rural Drinking Water Sector for Service Delivery in Uganda

Paper for the WASH systems symposium

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This paper was drafted by J.O. Eyatu, for the All systems go! WASH systems symposium, The Hague, The Netherlands, 12-14 March 2019. Cite this publication as follows Eyatu, J.O. 2019. The Evolution of Rural Drinking Water Sector for Service Delivery in Uganda.

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This paper gives an overview of the provision of drinking water in Uganda with a focus on the rural water sector. Provision of clean and safe drinking water in Uganda has had a mix of experiences leaving communities grappling with challenges of access to water. This is mainly due to low access to safe water; inequitable distribution of water facilities; limited funding; rapid population growth; insufficient potable water for rural households' productive purposes; and increased conflict over access to clean water. However, the government's Rural Water and Sanitation Department (RWSSD) is committed to improving access to potable water for drinking as well as micro irrigation, sanitation and hygiene to improve health and boost livelihoods of rural communities. A number of strategic approaches have evolved starting in the 1960s and are still being implemented.

## Introduction

Uganda's Ministry of Water and Environment (MWE) has a mandate of 'Policy making, standards setting, national planning, regulation, coordination, inspection, monitoring and back-up technical support relating to water and environment (including weather, climate and climate change).'<sup>1</sup>

## Vision of the Ministry of Water & Environment

"Sound management and sustainable utilization of water and environment resources for the betterment of the population of Uganda."

## Mission of the Ministry of Water & Environment

To promote the rational and sustainable utilization, development and effective management of water and environment resources for socio-economic development of the country.

## Sector Institutional Framework

The MWE has three directorates; Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD), and Directorate of Environmental Affairs (DEA).

In addition there are four semi-autonomous sector agencies under the Ministry - National Water & Sewerage

Corporation (NWSC), National Forestry Authority (NFA), National Environment Management Authority (NEMA), and Uganda National Meteorological Authority (UNMA).

## Rural Water Supply and Sanitation Department

The Uganda Bureau of Statistics projected that the population would be 38,669,810 people by mid-year 2018 at an average annual growth rate of 3%, with 805 (30,967,593 people) living in rural areas. The provision of rural water supply and sanitation covers communities or villages (Local Council level 1 (LC1)) with scattered populations living in settlements up to 1,500 people, and Rural Growth Centres (RGCs) with populations between 1,500 and 5,000.

The Rural Water Supply and Sanitation Department (RWSSD) is under the Directorate of Water Development (DWD) and is responsible for providing sustainable safe drinking water supplies within easy reach and hygienic sanitation facilities, which user households manage and own.

In line with Vision 2040<sup>2</sup>, which calls for, "*Transformed Ugandan society from a peasant to a modern and prosperous country within 30 years*", over the last nine years the department has shifted its implementation approach, targeting yard tap connections and promoting micro irrigation at household level. This will prevent women and girls from having to carry water on their heads and enable them to engage in more productive activities.

## Systematic approaches to the provision of drinking water in rural areas

The strategic shift in implementation focuses on:

- Extending existing piped water and gravity flow systems;
- Solar technology for domestic water supply and promotion of self-supply initiatives;
- Developing in-house capacity for construction works;
- Use of private sector for preventive maintenance; and
- Strengthening umbrella organisations<sup>3</sup> to support operation and maintenance (O&M) of the schemes.

To realise these objectives, RWSSD has embarked on the following strategic approaches:

**Source per village:** The current strategic directive by government is to ensure provision of at least one improved water source per village (LC1). The Water Supply Atlas<sup>4</sup> indicates that out of the 57,974 villages recorded, only 66% (38,183) of the villages had valid safe water sources.

<sup>1</sup> refer to Constitution of the Republic of Uganda, 1995. Available: <https://ulii.org/ug/legislation/consolidated-act/0>

<sup>2</sup> See <https://www.gou.go.ug/content/uganda-vision-2040>

<sup>3</sup> Public utility

<sup>4</sup> See Uganda Water Supply Atlas at [www.wateruganda.com](http://www.wateruganda.com)

**Motorising boreholes with solar pumps:** This initiative started in 2014 with 35 facilities constructed in various districts using funds from both government of Uganda (GoU) and the African Development Bank (ADB).

**Construction of large gravity water supply systems:** The RWSSD is currently identifying the potential for constructing large gravity piped water systems. The investment cost is high in the medium term but pays off in longer term.

**Strengthening technical support to local governments:** The RWSSD offers technical backup support to local governments to ensure efficient and effective use of the District Rural Water and Sanitation Conditional Grant (DRWSCG).

**Improving O&M for rural water supplies (communal and institutional):** The department is improving the functionality of rural water facilities. The medium term goal is to establish and strengthen subcounty level water supply and sanitation boards and the long term goal is to set up service centres specifically for timely repair of community water supply systems.

**Rehabilitation of existing sources:** Major rehabilitation of boreholes is taking place under a national programme aiming to rehabilitate water facilities beyond community capacity.

## Sector reforms and strategies

There have been several reforms to the water sector in Uganda over the last three decades. The initial reforms were anchored on the government's poverty alleviation plans, and financed largely by debt relief funds. The reform process involved a comprehensive assessment of the water and sanitation sector, including studies of the rural and urban sub-sectors, and preparation of action and investment plans. The key strategies to emerge from these assessments include more decentralised delivery of services, increased private-sector participation, and the need for a programmatic, sector-wide approach (Robinson, 2002). These new approaches have translated into significantly increased access to basic water services from 27% in 1990 to 70% in 2018.

### Poverty Eradication Action Plan

In 1997 the GoU embarked on a Poverty Eradication Action Plan (PEAP) to alleviate poverty and guide economic and social development planning and resource allocation. In 2001 the initiative resulted in debt relief under the Highly Indebted Poor Countries (HIPC) scheme.

As a result, the Poverty Action Fund (PAF) was established in 1998, under the Medium-Term Expenditure Framework, a ring-fenced fund aimed at protecting resources for key poverty reducing areas including water, health, education and rural infrastructure.

## National Development Plans

The history of development planning in Uganda is characterised by different approaches. From 1962 to 1971 the mixed economy approach to development was a key feature of Uganda's economic development. This was interrupted in the 1970s by an almost ad hoc economic plan during the country's conflict, which was followed by the Structural Adjustment Programme (SAP) in the early 1980s and the Economic Recovery Programme (ERP) of 1987. Between 1997 and 2008, the Poverty Eradication Action Plans (PEAP) became the overarching planning framework for the country. The National Development Plan commenced in 2010-2015 (NDP I) followed by NDP II in 2015-2020.

The NDP is designed to be the primary Government national strategic plan, the anchor for Government fiscal strategy, and lower level or sectoral plans. It will provide a guide for the allocation of resources through the Medium Term Expenditure Framework (MTEF).

**Medium Term Expenditure Framework:** is a three-year rolling budget framework used to guide public-sector resource allocation, including aid. The first year of the MTEF forms the basis of the annual budget allocations, which are voted by parliament (SPR, 2018)

**Sector Wide Approach (SWAP):** is a mechanism whereby GoU, civil society and development partners support a single policy, development plan and expenditure programme, which is under government leadership and follows a common approach. A SWAP de-emphasises donor-specific project approaches and promotes funding for the sector through general, sector earmarked budget support or through basket funding. The rural water and sanitation sub-sector is the most advanced in terms of SWAP implementation.

### Joint Water and Environment Sector Support Programme:

The JWESSP constitutes the framework for collaboration between development partners and the GoU and embraces all support to the sector which is on-budget. While the JWESSP-I was centred on joint financing modalities (Joint Partnership Fund and Sector Budget Support), the JWESSP-II is more a coordination than financing framework.

Water and Environment Sector Working Group (WESWG) Comprising stakeholders from GoU institutions within a sector, civil society organisations (CSOs) and development partners, the WESWG meet to agree sector budget submissions and new projects proposed for the sector, as well as to review sector performance and to deliberate on key sectoral policies.

### **The Water Policy 1999**

In a bid to increase performance and cost effectiveness in the water sector a number of studies were launched in 1998. These led to the development of the water policy 1999 aimed at strengthening the legal framework and a number of reforms and approaches.

### **Decentralisation and service delivery models**

The devolution of power and authority to local authorities aimed to improve access to and quality of basic services. Local governments are empowered by the Local Governments Act (1997) to provide water services and manage the Environment and Natural Resource base. The District Water Offices manage water and sanitation development and oversee the operation and maintenance of existing water supplies in the District.

The central government allocates resources to District Local Governments for implementation of cost-effective, sustainable water and sanitation facilities to rural communities in an equitable manner under the District Rural water and Sanitation Grant (DRWSG).

### **Community-based maintenance system**

Communities are responsible for demanding, planning, contributing a cash contribution to capital cost and for the O&M of rural water supply and sanitation facilities. A Water and Sanitation Committee (WSC) should be established at each water point as stipulated in the water policy.

### **Demand-responsive approach**

This is based on community ownership and management of rural water facilities, with increased attention paid to hygiene promotion, gender awareness, and participatory planning. Operation and maintenance costs are to be borne by the users, with support for rehabilitation and major repairs from central and local government.

### **De-concentrated units**

In response to the increasing number of districts and the need to provide support to local government, MWE established a number of de-concentrated entities. A number of de-concentrated units are at different stages of institutional establishment, including Technical Support Units (TSUs), Water Supply Development Facilities (WSDFs), Water Management Zones (WMZs), and Umbrella for Water and Sanitation Authorities.

### **Technical Support Units (TSUs)**

Following the decentralisation policy and supported by the Local Governments Act 1997, the Ministry of Water & Environment in 2001 established eight Technical Support

Units (TSUs) to provide specialised support to District Local Governments. In April 2017, the number of units increased to ten.

The main aim for setting up TSUs was to improve performance in the water and sanitation sector by ensuring efficient and effective provision of sustainable services throughout the country. The TSUs were the first de-concentrated structures of MWE and because of their success, other departments followed suit and regional offices have been set up.

### **Water and Sanitation Development Facility (WSDF)**

The WSDF programme was established as a service delivery and funding mechanism to focus on provision of water supply and sanitation to small towns and rural growth centres in the country. It was developed as a vehicle to actualise the Urban Water Supply and Sewerage (UWSS) sub-sector key strategy.

Based on the experience in the South-West region established in 2006, the WSDF approach has been up-scaled. Currently the intervention area of four regional branches covers the whole country: the core activities funded by the WSDF include water supply and sanitation infrastructure development (new investment, rehabilitation, and major extensions), software and sanitation promotion programmes in small towns and rural growth centres.

Since the inception of WSDFs the Ministry has completed piped water and sanitation systems in 211 towns/RGCs. WSDF-South-West has so far constructed 91 piped water supply and sanitation systems, 48 by WSDF-Central, 38 by WSDF-East and 34 by WSDF-North.

### **Umbrella Authorities**

The core objective of establishing umbrella organisations in 2004, at the outset was to bring together individual water supply schemes. In this way member schemes would benefit from technical guidance, routine water quality monitoring, financial support to procure high cost spare parts and equipment, as well as capacity building of both the Water Supply Sanitation boards members and the scheme operators, among other benefits. The concept was to ensure efficient, reliable and sustainable service delivery by providing O&M backup support to the member schemes.

During FY 2017-18 the Directorate of Water Development introduced a new management model that is tailored for piped water schemes supplying small towns and rural areas. Under the new model the Umbrella Authorities (UAs) – are appointed as Water Authorities. Instead of

playing a supporting role as in the past they assume direct management responsibilities for the “gazetted”<sup>5</sup> schemes. To date UAs manage 434-gazetted piped systems located in all the six authorities across the country.

### **Water Management Zones**

The Directorate of Water Resources Management (DWRM) is implementing Catchment based Water Resources Management (CbWRM) as part of its water resources management reforms. This process deconcentrates management of water resources along hydrological units called catchments: areas that contribute water to a common outlet and are therefore independent of administrative boundaries.

### **Water for Production**

The overall sub-sector objectives, based on the vision for development of the WfP sub-sector is: “Water for production services provided for increased production in order to reduce poverty on a sustainable basis”. While the goal is: “To promote development of cost effective and sustainable water supply and water management for increased production and contribution to the modernization of the agricultural sector in Uganda with a focus on poverty reduction and minimal environmental impacts.”

To achieve the objectives and goal the sub-sector de-concentrated to the four regions of the country.

### **Privatization and private sector involvement in service delivery**

GoU is firmly committed to the privatisation process and promotion of private involvement in service provision. District authorities are encouraged to develop and utilise local private-sector capacity for design, construction, and O&M of rural water supply and sanitation facilities and for the supply and distribution of spare parts and appropriate equipment.

Private sector firms undertake design and construction in water supply and sanitation under contract with local and central government. Private hand pump mechanics and scheme attendants provide maintenance services to water users in rural and peri-urban areas. Private Operators manage piped water services in small towns and rural growth centres.

## **The Rural Water Infrastructure, Operation and Maintenance Division**

With Community Based Management Systems (CBMS) model functionality stagnated between 80-85% due to challenges of technology, finance, social, environmental and institutional factors. Urbanisation and reduced poverty within the rural communities called for a shift from looking at infrastructure to service delivery.

GoU through the MWE created a new division in charge of Infrastructure Operation and Maintenance (IOM). The IOM division under the RWSSD mainly addresses the key issues surrounding operation, maintenance and functionality of rural water supply facilities.

Major challenges yet to be resolved include: rapid silting and drying up of boreholes, corrosion of installation materials, contamination of shallow wells, raw surface sources being used for water supplies without any form of treatment, aging water supply systems, collapsing sanitation facilities, springs drying up to mention just a few.

### **Challenges faced in providing drinking water supplies**

#### **Inadequate financing allocated to the water and environment Sector**

The water and environment sector in Uganda is characterised by inadequate funding coupled with a high population growth rate of 3.4%. The access to safe water in the rural areas is still low with 30% of the population without access to a basic water service.

#### **Functionality of existing water installations**

In the past, there has been increased focus by the government and sector development partners on financing construction of new water infrastructure. Functionality has for the last three years stagnated at 85%, implying high cost of redundant investment.

#### **Effects of climate change**

Climate change and variability manifests in Uganda in the form of extreme weather and climatic events such as drought, high temperatures, heavy rains, hailstorms, floods and landslides.

In response, the MWE has established a national Climate Change Unit (CCU), which recently steered development of a national climate change policy, and is responsible for coordination of all climate change mitigation and adaptation actions in Uganda.

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<sup>5</sup> “gazetted” means published in the official gazette by the responsible Minister for management of the authority.



### **Water quality and pollution**

There is inadequate enforcement of wastewater discharge regulations/permits due to human resource capacity constraints within the Directorate of Water Resources Management, low funding and prioritisation, and inadequate political support at all levels, which have led to pollution of the available water resources.

### **Degradation of the environment**

Deforestation, soil erosion, water pollution/contamination, wetland degradation, over-fishing and general biodiversity loss is estimated to cost the country in the range of US\$170-460 million per year (State of the Environment Report, 2004). The natural resources of Uganda are one of its many sources of national wealth and are under intense private sector development and political pressure. The environmental regulations are not fully enforced and are seen in some areas as interfering with economic growth as well as powerful economic interests.

### **Sanitation and hygiene**

The overall aim is to increase access to sanitation and hygiene by 100% as per the Sustainable Development Goal. The target is increasing efforts in demand creation activities as well increasing supply of sanitation goods and enabling environment. The areas of focus include:

**Advocacy:** increased advocacy is carried out at all levels especially targeting the bodies that allocate resources such as Parliament through the Parliamentary WASH forum, Budget Committee, Social Service Committee and the district and sub county councils.

**Financing:** Attracting more donors to the sub sector; lobbying other government agencies like Ministry of Health, Ministry of Education, Sports, science and Technology (MOESST), Internal Affairs (to address sanitation in police barracks and prisons) to allocate funds; engaging private sector to invest in sanitation through Public Private Partnerships and Corporate Social Responsibility.

**Enforcement of relevant legislation:** this should be strengthened as it has the power to compel communities to move to universal access especially where demand has already been created through promotion. It should also target achieving the relevant standards of the facilities to move communities higher up the sanitation ladder to more permanent options.

**Appropriate technologies/ innovations:** consideration to user acceptability and suitability to prevailing local challenges like high water table, flooding, rocky ground,

high number of users, transient communities. Address issues of fecal sludge management to enable people to use technologies that offer a higher level of service and are more permanent like water borne toilets as well as drainable latrines. All these should be climate change resilient.

**Monitoring and Evaluation;** Strengthen the M&E system to ease data collection, increase district level analysis and ownership, ease transfer to the central government and ensure that the results inform decision making.

In conclusion, the reforms implemented over the years have not been in vain, but have translated into improved service delivery to rural communities; the percentage of the population using an improved drinking water source has been increasing, to the current basic access of 70%. It is hoped that the strategies and approaches being implemented will transform the sector to bring safely managed drinking water services. It is only then that the country's vision 2040 can be realised. However, the sector investment plan indicates a substantial funding gap, with huge financial resource requirements to meet the targets.

### **Keywords**

Drinking water services, Rural communities, Water quality and pollution, Advocacy, Environmental Degradation, finance, sanitation and Hygiene

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