UGANDA INPUT IN THEMATIC CONCEPT PAPER ON WATER ACTION DECADE

I. Introduction

Water is central to achieving all SDGs. Water accelerates action across the whole SDG agenda because of its interconnections with a range of sectors such as health, agriculture, protection of biodiversity and enhancing climate action, energy, sustaining peace and regional integration, and, as such, can supply life, food security, livelihoods as well as transform the global economy. However, there is deep concern in Africa that lack of access to a safe drinking water, basic sanitation and sound hygiene, water-related disasters, water scarcity and water pollution will be further exacerbated by urbanization, population growth, desertification, drought and other extreme weather events and climate change, as well as by the lack of capacity to ensure integrated water resource management.

The new Decade has therefore focused on the sustainable development and integrated management of water resources for the achievement of social, economic and environmental objectives and on the implementation and promotion of related programmes and projects, as well as on the furtherance of cooperation and partnership at all levels in order to help to achieve internationally agreed water-related goals and targets, including those contained in the 2030 Agenda for Sustainable Development.

II. Overview of the challenge, current status and interlinkages

Water resources are considered as both an infrastructure and an ingredient for human resource development and protection of ecosystems integrity. Water has been recognized as an opportunity and pillar in the Uganda Vision 2040 and the National Development Plan (NDP III). Water plays a critical role in employment and wealth creation, enhancement of Uganda's competitiveness and in fostering socio-economic transformation. It is for this reason that Uganda has already integrated SDGs in its National Development Plan whose implementation has already started. Indeed, SDG6 indicators have already been integrated in the revised water and environmental sector performance monitoring framework in Uganda and the country will be reporting formally on the revised framework regularly.

Uganda has however faced several challenges and pressures, such as high population growth, environmental degradation, pollution, climate variability and change, etc. Uganda and the rest of Eastern Africa have been facing recurrent challenges of floods, prolonged dry spells, droughts, and landslides, and these have affected socio-economic development. Uganda has experienced severe flooding and rising water levels in major bodies of water since October 2019, most notably Lake Victoria. Uganda was hard hit by the impact of COVID-19 Pandemic, locust invasion and the epidemics such as Ebola

which is still impacting negatively the country. The war in neighboring South Sudan, Somalia and currently Democratic Republic of Congo (DRC) have also greatly affected the country. The current refugee influx therefore has increased the demand for services especially water services, sanitation and hygiene (WASH). Financing has continued to go down with very few development partners coming in to support the sector. This has therefore made it difficult to achieve the targets of the water action decade.

While there has been greater focus to sustainable development and integrated management of water resources for the achievement of social, economic and environmental objectives of nations, the implementation and promotion of related programmes and projects are critical, as well as on the furtherance of cooperation and partnership at all levels. This will further help to achieve internationally agreed water-related goals and targets, including those contained in the 2030 Agenda for Sustainable Development. All in all, more still needs to be done to ensure that these principles are adopted by all countries.

While it is quite clear that by investing in the sustainable management of water resources, the world will be scoring on almost all the SDGs; and while also it is clear that water is at the centre of survival, adaptation and mitigation of the effects of climate change, water has not taken centre stage in in the financing agenda of Uganda and indeed in most countries especially in Africa. Similarly, although the World Economic Forum ranks the water crisis in the top 3 of global risks for the third consecutive year little priority has been given to water. Thus, water challenges continue to have devastating local and global effects. It is also worth noting that not many people are aware of the Water Action Decade despite the fact that we are half way its implementation.

With regard to SDGs, the role played by the UN-Water, the United Nations inter-agency coordination mechanism for all freshwater related matters, in the work towards the 2030 Agenda for Sustainable Development and its dedicated goal on water and sanitation (SDG 6) remains critical. This is possible since UN-Water is also the United Nations system's focal point for SDG 6 in the Inter-agency Expert Group on SDG Indicators (IAEG-SDGs). World over, the methodologies for monitoring SDG 6 indicators proposed by the UN Water underwent piloting in 2016 in a number of countries in including Uganda. The piloting informed finalization of the methodologies that are under implementation at a global scale to enable the establishment of a global baseline for SDG 6 indicators and progressively report on the achievement of SDG6 targets. There is however a need to have a deeper global understanding of the Sustainable Development Goals most especially in relation to fresh water resources, assess the progress made in the implementation of the SDG methodologies to obtain the baseline

for each of the indicators, and challenges faced. While momentum has been set in Uganda to fast track implementation of the various SDG6 targets and set a baseline, a

lot of technical and financial support is still needed to enable reporting on all the SDG6 indicators.

III. Overview of opportunities for progress and transformative solutions

Uganda is committed to accelerating the Water action Decade through partnerships with various stakeholders through NDP III and SDGs. Currently there are coordination platforms from the national to the local levels aimed at creating partnerships and collaboration for improved service delivery. There is however a lot that still needs to be done to scale delivery of services and achieve SDG targets as discussed below.

1. Financing

Financing to the sector has continued to go down with very few development partners coming in to support the sector. This has therefore made it difficult to provide services to the people considering that the country has been hard hit by many challenges such as flooding, rising water levels, loicusts, COVID-19 Pandemic, Ebola, refugee influx among others. The ability to mobilize development financing from the ever-evolving potential sources and prudent management of public resources at national, local government and sector levels are some of the critical attributes of an Integrated National Financing Framework (INFF). As recommended by the Development Finance Assessment (DFA) for Uganda (2019) that was undertaken by Government with UNDP support, the country will need to be supported to prepare an INFF. The INFF will need to be complemented by the Uganda Domestic Resource Mobilization (DRM) 2019/2020 - 2023/24 Strategy and Public Investment Financing Strategy (UN Uganda, 2020).

2. Data and information

Ensuring availability of adequate and reliable quality freshwater resources for all uses requires good quality and reliable data and forecasts. The government recognized that, there is need to invest in smart water technologies to improve collection of data on water resources variability, water use and water demand. Data collection is done with different modalities in different countries. Technical and economic institutions provide their relevant data, sometimes through the National Statistical Office (NSO), particularly for the economic data. Although data collection and its modality remains ultimately a responsibility of each country. Additionally, past and present water quality monitoring data is already available for many countries through the Water Global Water Quality Information System. FAO, World Bank, UNSD and other international institutions also compile, harmonize and publish data in sectoral databases such FAO's AQUASTAT, WB's Databank and UNSD's UNdata.

3. Capacity development

Realizing the objectives of the water Action Decade requires building inclusive human and institutional capacities in all the relevant sectors and different levels in order to maximize economic and social welfare in an equitable manner and this results in improved service delivery, operation and maintenance, increased job and wealth creation. Capacity development (CD) is at the heart of the sector performance and achievement of the sector goals in the National Development Plan III and Uganda Vision 2040, Sector Investment Plan and other policy documents supported by a wide ranging policy and legal framework. For the Water and Environment Sector, human resources is as crucial as financial resources. The importance of capacity development has therefore long been recognized by the sector and considerable resources have been devoted to capacity building since the early 1990s (W&E, 2012).

Capacity building in water resource-related fields involving universities and other academic institutions working very closely with relevant government agencies can help to improve service delivery. Uganda has established the Water Resources Institute (WRI) as a centre of excellence for building the capacity of sector stakeholders and is making use of retired professionals in the water and environment sectors as a way of enhancing institutional and human capacity.

As a way of exploiting the potential for partnerships and collaboration, Uganda organizes annual water week events geared at sharing information and best practices. Having started in 2018, the annual water weeks have attracted over 5,000 local and international participants who dialogue and exchange ideas and best practices on issues related to water and help build capacity of stakeholders across board.

4. Innovation

Uganda has embedded SDGs into its national developing planning process, and recognizes NDP III as a vehicle towards accelerating the achievement of these goals. The Government, with support from the United Nations system, rolled-out the integrated Sustainable Development Goals (SDG) simulation model to analyze and identify SDG accelerators to guide prioritization of the goals in national development planning. The model identified governance, environment and industry as SDG accelerators for Uganda linked to 12 of the 18 NDP III programmes, additionally noting that the human capital development sectors of health, education and water and sanitation are also vital to the attainment of the SDGs (UN Uganda, 2020). In respect to the water quality monitoring, conventional approaches to monitoring water quality as well as rapidly evolving innovative data sources, such as earth

observations and citizen science, real-time monitoring tools, need to be employed to help fill data gaps.

5. **Governance**

The governance mechanisms for water requires an integrated and cross-sectoral approach involving all the stakeholders. At the national level, governance arrangement for cross sectoral cooperation, scientific cooperation and water across the 2030 agenda exist through the Natural Resources, Environment, Climate Change, Land and Water Management programme of Uganda's third National Development Plan which aims to stop, reduce and reverse environmental degradation and the adverse effects of climate change as well as improve utilisation of natural resources for sustainable economic growth and livelihood security. The national level governance arrangement is also provided through the Water Policy Committee that is provided for in the Water Act. The committee promotes inter-Ministerial and inter-sectoral coordination over a wide range of water resources management and development issues. The Water Policy Committee provides an avenue for promoting IWRM at national level and guiding the strategic management and development of water resources of the country. There is also an SDG Coordination framework at the national level that is currently being supported by the Government of Uganda and the United Nations Country Team through the Resident Coordinator's office.

At the sub-national level, four Water Management Zones (WMZ) were created following hydrological boundaries. Their primary role is to facilitate sustainable development of the water resources for the economic and social benefit of the people in the catchment and to implement the water management measures needed to protect and conserve the catchment and its water resources, ensure sustainability and reduce or resolve conflicts over resource use.

At the local level, Catchment Management Organisations (CMO) have been created comprising several bodies namely Catchment Stakeholder Forum (CSF) that brings together all actors in the catchment management, Catchment Management Committee (CMC) composed of representatives of all relevant stakeholder groups, Catchment Management Secretariat (CMS) that provides support to the Catchment Management Committee in coordinating the planning and implementation of activities in the catchment, and Catchment Technical Committee (CTC) that is the technical arm of the CMO and brings technical expertise and knowledge during implementation of activities.

At community level Non-Governmental Organizations (NGOs), and Community Based Organizations (CBOs) work with local communities to manage and implement activities related to protection of water sources and community mobilisation and citizen participation.

IV. Recommendations

a) Key messages on financing of water and sanitation need to be developed and addressed to the Ministers of Finance in UN Member states. Similarly, mechanisms for regular dialogue between water and environment line ministers and ministries and those of finance should be established.
b) More needs to be done by the international community through the UN and its member states to ensure that water issues are given their rightful place is sustainable development most especially in developing countries.
c) There is need to promote the Water Action Decade and its priorities among the UN member states and at the various levels so that the agreed principles and priorities are domesticated and fully implemented.
d) The role played by the UN-Water, the United Nations inter-agency coordination mechanism for all freshwater related matters, in the work towards the 2030 Agenda for Sustainable Development and its dedicated goal on water and sanitation (SDG 6) remains critical and should be strengthened.

e) There is need to build institutional and human capacities to mobilize financial resources from domestic sources including from the private sector.

V. Guiding Questions

a) What needs to be done to ensure that Water Action Decade is given more priority among the UN member states and at the various levels so that the agreed principles and priorities are domesticated are realized by 2028?
b) What strategies need to be put in place to ensure that water takes centre stage in in the financing agenda of countries especially in Africa?
c) How to strengthen Continental and regional institutions through UN for implementation of Water Decade especially in developing and east developed countries. Annual conferences on Water, valuation of water and placement in the national accounting system, demand management and Life cycle management

UGANDA INPUT IN THEMATIC CONCEPT PAPER ON WATER FOR SUSTAINABLE DEVELOPMENT

I. Introduction

Freshwater resources in Africa are unevenly distributed. The Congo basin has almost 30% of the freshwater reserves in Africa yet supports only 10% of the continent's population. Conversely, highly populated semi-arid countries, like South Africa, Nigeria and Egypt are increasingly struggling with water scarcity, limiting further economic growth. With large disparities in access to safe water between urban and rural communities, there are economic opportunities for financial investments to increase water supply coverage and provide low-cost solutions for safe water and sanitation and efficient use.

As a strategic resource, groundwater underpins fundamental development goals across water and food security, human health, climate resilience, biodiversity and ecosystem services, and regional integration. Sustainable groundwater development holds an unleashed and high-impact potential to support socioeconomic uplifting in rural Sub-Saharan Africa (SSA) through secured distributed water supply for multiple uses. In parallel, economic growth in commercial sectors and urban growth in larger cities may benefit from sustainable groundwater development. Increasingly, fast-paced economic growth in various sectors in the African economies will rely on groundwater development, from intensified agriculture to industrialization and urbanization.

Water scarcity, poor water quality and inadequate sanitation negatively impact food security, livelihood choices and educational opportunities for poor families across the world. This has led to drought that afflicts some of the world's poorest countries, worsening hunger and malnutrition. In Africa, there is slow progress towards achieving the water-related targets and this is due to limited investment in the water sector, which are incommensurate with the growing demand and increasing pressure on Africa's water resources. Population growth in Africa is the highest in the world and the population is projected to increase from the current 1.2 billion to 2.5 billion by 2050. The number of youths is estimated to increase from 205 million to between 330 and 450 million by 2050, the majority of whom will live in urban areas (JICA 2013). The urban population in Africa's major cities is expected to triple from 400 million today to at least 1.1 billion in 2050. This explosive population growth has implications for demand and access to water for all sectors across the continent.

Integrated natural resource management, with its emphasis on water, land and biological and geo-resources, will be key to meeting the envisaged future socioeconomic transformation for Africa as indicated in the AU Agenda 2063. In respect to the SDGs targets, improving ambient water quality globally is one of the ambitious targets set out in the 2030 Agenda for Sustainable Development (target 6.3). Comprehensive and up-to-date monitoring data on ambient water quality are indispensable for decision makers to ensure availability and sustainable management of water resources for both human uses and healthy aquatic ecosystems. Reliable monitoring data on a worldwide basis and long-term temporal scale are also required for shaping global environmental policies and for science-based assessment of complex ecological issues.

II. Overview of the challenge, current status and interlinkages

Uganda's Vision 2040 aims at transforming Uganda from a predominantly rural and low-income country to a competitive upper middle-income economy. It is conceptualized around strengthening the fundamentals of the economy to harness the opportunities around the country, including agriculture, oil and gas, tourism, minerals, ICT, abundant labour force, geographical location and trade, water resources, and industrialization.

Water as a natural resource is meant for multi-purpose use and globally, water for agriculture accounts to over 80% of water withdrawn for use. However, in Uganda, less than 2% of water is used in production. Water for Production (WfP) in this respect refers to the development and utilization of water resources for productive use in crop irrigation, livestock, aquaculture, industries, energy, and other commercial uses. The demand is increasing primarily, due to climate change and degradation of natural resources. Majority of the population in Uganda have agriculture as the main activity. Agriculture is generally rainfed and the country continues to struggle with food insecurity. There is an agriculture revolution in Uganda and this has dependence on how fresh water resources are managed. Water is key in having resilient and sustainable energy and food systems. Energy and food systems policy and decision making more than ever need to give attention to water resources management. As pressure on water resources intensifies the need for coordinated development and management of water, land and associated resources becomes paramount in order to maximize the resultant economic and social welfare in an equitable manner.

There is therefore a need for an integrated approach in food and energy system policy decision making. Employing a nexus approach between water, food, energy and ecosystem is therefore not an option but a must. Uganda has been preparing integrated water resources development and management plans and is already implementing projects drawn from these plans for multipurpose use (urban and rural water supply, irrigation, ecosystem restoration and livelihood improvement). So far integrated water resources development and management plans for 19 catchments out of the 32 catchments in the country have been prepared and these are guiding planning and implementation of water related programs by all the stakeholders. Going forward, other water uses like energy will continue to be incorporated into water resources development and management plans for coordinated and harmonized development but there is need for support at policy level to have this adopted by all the water related sectors and stakeholders.

With respect to attainment of SDG 6 as well as to it's contribution to the rest of the Sustainable Development Goals (SDGs), there has been lower progress than expected. In 2019, Uganda's progress on SDGs was ranked 140 out of 162 countries with a global index score of 52.6 per cent declining from 125th position out of 156 Countries in 2018. According to the SDG Global Index, Uganda's achievement is average, with moderate performance on SDGs 3, 8, 9, 13 and 15. SDGs 2, 5 and 6 have stagnated and the country is off-track in achieving SDGs 1, 11, and 16. There are also information gaps, with official data available for only 46.3% of SDG indicators applicable to the country context (UN Uganda, 2020).

SDG6 is to ensure availability and sustainable management of water and sanitation for all. SDG 6.4 is on water use efficiency and water scarcity and is aimed at substantially increasing water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. Based on SDG6 indicator monitoring methodologies developed by the UN Water, Uganda has been monitoring

implementation of the various SDG6 indicators. The change in water use efficiency over time currently stands at 28.8 US$ per cubic meter of water while the level of water stress (freshwater withdrawal as a proportion of available freshwater resources) stands at 5.8%. The main challenge related to this indicator is limited data on water withdrawals and water use efficiency by various sectors. These two indicators improve the sector knowledge on the efficiency and sustainability of water usage and provide vital information to ensure that water resources support ecosystems and continue to be available for future generations.

With regard to SDG 6.5 on water resources management measures the level of implementation of integrated water resources management at all levels, including through trans-boundary cooperation as appropriate. Based on SDG6 indicator monitoring methodologies developed by the UN Water, Uganda has been monitoring implementation of the various SDG6 indicators. Currently, the degree of implementation of integrated water resources management (SDG6.5.1) in Uganda stands at 59% while the proportion of trans-boundary basin area with an operational arrangement for water cooperation level stands at 84%. The challenges faced in monitoring implementation of SDG 6.5 include financial resource constraints to monitor implementation and limited awareness by many stakeholders of what actually integrated water resources management means. There therefore a need to upscale awareness raising on integrated water resources management among all key stakeholders at the regional, national and local levels and to demystify integrated water resources management through concrete actions on the ground.

Target 6.3 is to improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally Indicator by 2030 and indicator 6.3.2 is '*The proportion of water bodies with good water quality*. This indicator uses 5 key parameters to measure good or acceptable and for a water body to be considered to be of good quality, 80% of the values of the 5 key parameters measured over a period should be within the respective target values. Based on this criteria by June 2022, Lake Victoria achieved only 78% for the stations on the Ugandan side. This is below the target of 80%. In respect to water quality monitoring, there are major challenges experienced especially while monitoring the indicator;

- Currently, monitoring the indicator is limited to only a few major water bodies and during the last reporting period, data was available on Lake Victoria only due to inadequate funding for water quality monitoring.
- Uganda has been monitoring and reporting on a selection of the core water quality parameters and *E.coli* is not a parameter Uganda uses for routine monitoring of surface water due to high costs involved in motoring the parameter.
- There is also a lack of harmonization between the reporting for the SDGs as well as reporting for the African Ministers' Council on Water (AMCOW). There is therefore additional burden of reporting when different formats are used to report to different organizations.
- Groundwater is under represented in indicator 6.3.2 and the core parameters are not sufficient to assess groundwater quality. Where data exists, there is a bias towards monitoring drinking water wells, which do not necessarily reflect the condition of groundwater as a whole.
- The core parameters are inadequate for reporting on a range of pollution issues such as plastic pollution, organics, xenobiotics, toxic metals etc.

III. Overview of opportunities for progress and transformative solutions

Uganda is committed to enhancing partnerships with various stakeholders in accelerating the achievement of NDP III and SDG targets. Currently there are coordination platforms from the national to the local levels aimed at creating partnerships and collaboration for improved service delivery. There is however a lot that still needs to be done to scale delivery of services and achieve SDG targets as discussed below.

1. Financing

Financing to the sector has continued to go down with very few development partners coming in to support the sector. This has therefore made it difficult to provide services to the people considering that the country has been hard hit by the impact of COVID-19 Pandemic, epidemics like Ebola which is still impacting negatively the country, the neighboring wars from South Sudan, Somalia and currently Democratic Republic of Congo (DRC) etc. The current refugee influx therefore has affected the demand since there is need for resources to provide the increasing demand for services especially water services, sanitation and hygiene (WASH). The ability to mobilize development financing from the ever-evolving potential sources and prudent management of public resources at national, local government and sector levels are some of the critical attributes of an Integrated National Financing Framework (INFF). As recommended by the Development Finance Assessment (DFA) for Uganda (2019) that was undertaken by Government with UNDP support, the country will need to be supported to prepare an INFF. The INFF will need to be complemented by the Uganda Domestic Resource Mobilization (DRM) 2019/2020 - 2023/24 Strategy and Public Investment Financing Strategy (UN Uganda, 2020).

2. Data and information

Ensuring availability of adequate and reliable quality freshwater resources for all uses and understanding water resources and the collective impacts of productive activities requires good quality and reliable data and forecasts. The government recognized that, there is need to invest in smart water technologies to improve collection of data on water resources variability, water use and water demand. Data collection is done with different modalities in different countries. Technical and economic institutions provide their relevant data, sometimes through the National Statistical Office (NSO), particularly for the economic data. Although data collection and its modality remains ultimately a responsibility of each country. Additionally, past and present water quality monitoring data is already available for many countries through the Water Global Water Quality Information System. FAO, World Bank, UNSD and other international institutions also compile, harmonize and publish data in sectoral databases such FAO's AQUASTAT, WB's Databank and UNSD's UNdata.

3. Capacity development

Realizing a nexus approach between water, food, energy and ecosystem requires building inclusive human and institutional capacities in all the relevant sectors and different levels in order to maximize economic and social welfare in an equitable manner and this results in improved service delivery, operation and maintenance, increased job and wealth creation. Capacity development (CD) is at the

heart of the sector performance and achievement of the sector goals in the National Development Plan III and Uganda Vision 2040, Sector Investment Plan and other policy documents supported by a wide ranging policy and legal framework. For the Water and Environment Sector, human resources is as crucial as financial resources. The importance of capacity development has therefore long been recognized by the sector and considerable resources have been devoted to capacity building since the early 1990s (W&E, 2012).

Capacity building in water resource-related fields involving universities and other academic institutions working very closely with relevant government agencies can help to improve service delivery. Uganda has established the Water Resources Institute (WRI) as a centre of excellence for building the capacity of sector stakeholders and is making use of retired professionals in the water and environment sectors as a way of enhancing institutional and human capacity.

As a way of exploiting the potential for partnerships and collaboration, Uganda organizes annual water week events geared at sharing information and best practices. Having started in 2018, the annual water weeks have attracted over 5,000 local and international participants who dialogue and exchange ideas and best practices on issues related to water and help build capacity of stakeholders across board.

4. **Innovation**

Uganda has embedded SDGs into its national developing planning process, and recognizes NDP III as a vehicle towards accelerating the achievement of these goals. The Government, with support from the United Nations system, rolled-out the integrated Sustainable Development Goals (iSDG) simulation model to analyze and identify SDG accelerators to guide prioritization of the goals in national development planning. The model identified governance, environment and industry as SDG accelerators for Uganda linked to 12 of the 18 NDP III programmes, additionally noting that the human capital development sectors of health, education and water and sanitation are also vital to the attainment of the SDGs (UN Uganda, 2020). In respect to the water quality monitoring, conventional approaches to monitoring water quality as well as rapidly evolving innovative data sources, such as earth observations and citizen science, real-time monitoring tools, need to be employed to help fill data gaps.

The need to invest in irrigation (micro, small, medium and large scale) as well as in innovative water harvesting technologies on the land and in artificial reservoirs to store the water to improve soil moisture and also have the water available for productive uses most especially in the dry season has been found to be very critical and the water storage reservoirs also serves as flood control structures.

5. **Governance**

Water touches every aspect of life and affects everyone and every sector. The governance mechanisms for water requires an integrated and cross-sectoral approach involving all the stakeholders. At the national level, governance arrangement for cross sectoral cooperation, scientific cooperation and water across the 2030 agenda exist through the Natural Resources, Environment, Climate Change, Land and Water Management programme of Uganda's third National Development Plan which aims to stop, reduce and reverse environmental degradation and the adverse effects of climate change as

well as improve utilisation of natural resources for sustainable economic growth and livelihood security. The national level governance arrangement is also provided through the Water Policy Committee that is provided for in the Water Act. The committee promotes inter-Ministerial and inter-sectoral coordination over a wide range of water resources management and development issues. The Water Policy Committee provides an avenue for promoting IWRM at national level and guiding the strategic management and development of water resources of the country. There is also an SDG Coordination framework at the national level that is currently being supported by the Government of Uganda and the United Nations Country Team through the Resident Coordinator's office.

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At the local level, Catchment Management Organisations (CMO) have been created comprising several bodies namely Catchment Stakeholder Forum (CSF) that brings together all actors in the catchment management, Catchment Management Committee (CMC) composed of representatives of all relevant stakeholder groups, Catchment Management Secretariat (CMS) that provides support to the Catchment Management Committee in coordinating the planning and implementation of activities in the catchment, and Catchment Technical Committee (CTC) that is the technical arm of the CMO and brings technical expertise and knowledge during implementation of activities.

At community level Non-Governmental Organizations (NGOs), and Community Based Organizations (CBOs) work with local communities to manage and implement activities related to protection of water sources and community mobilisation and citizen participation.

IV. Recommendations

This key recommendations in respect to the water for sustainable development include;

1. Stakeholder involvement is critical; development partners (DPs), Civil Society Organizations, Non-Governmental Organizations (SCOs/NGOs), communities and others.
2. Mobilization of different sectors is key; Ministry of Water and Environment (MWE), Ministry of Energy and Mineral Development (MoEMD), Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Ministry of Finance, Planning and Economic Development (MoFPED) and others.
3. Sourcing for both technical, financial, human and other resources that would make it possible to attain the SDGs targets and specifically SGD 6 targets.
4. Understanding water resources and the collective impacts of productive activities for robust planning and decision making to ensure water security for all water uses including nature.
5. Employing an integrated approach to planning, development and management of water and related resources in order to improve water security and resilience to climate change.
6. Avoiding fragmented approach to planning at country level there is need to adopt a comprehensive and coordinated approach with regard to the execution of water related projects so that the three elements of; power generation, water for agriculture and water for domestic use, are effectively covered.

7. Strengthening networking, partnerships and building synergies to realize the benefits of the nexus approach.
8. Involvement of urban areas and cities into national dialogues on water resources development and management, and how to address water related issues in a sustainable and integrated manner.
9. Building human and institutional capacity to develop and implement bankable projects using among others experienced professionals that have retired yet they are important resources that can be used to train, mentor, and build the capacities of young professionals in the water sectors.
10. Harnessing the potentials of creating more jobs, and businesses around water resources through business incubation and innovation in the water sector.
11. A strategy to "reach out" to other stakeholders such as water utilities should be pursued to acquire existing data, and to cooperate in the supply of continuous water quality data.
12. A pool of experts is needed for monitoring SDG6 and these experts could focus on specific projects such as delineating aquifer systems, or designing suitable monitoring programmes. The capacity to understand groundwater flow systems is needed in order to design groundwater monitoring programs and to interpret data generated correctly.
13. Additional data sources such as satellite-based earth observation, citizen science, private sector and modelled data could be explored for reporting into 6.3.2.
14. Ensuring the correct lines of communication are established in countries and aligning reporting timeframes and formats or establishing data structures that allow direct integration of data collected for one regional framework into another.

V. Guiding Questions

Proposed guiding questions;

I. What are the financing options that will enable developing countries like Uganda be able to provide water for sustainable development looking at the challenges of; high refugee influx, pandemic/epidemics like COVID-19, Ebola and the wars in the neighbouring countries?

II. In view of the challenges mentioned, what are the strategies Uganda can put in place to ensure that there is commendable progress on the attainment of the SDGs specifically SDG 6?

III. Technology advancement is critical in creating change in as far as service provision is concerned. How best can the developed nations support Uganda in regards to Water-Energy-Food Nexus noting that water for production is not well financed?

IV. What needs to be done differently to ensure water supports sustainable development?

V. Any experiences to share regarding harnessing the potentials of creating more jobs, and businesses around water resources through business incubation and innovation?

VI. What is the potential of groundwater as a strategic resource for supporting socio-economic uplifting of rural and urban areas of Africa?

VII. How can organisational obstacles in reporting especially in line with water quality be overcome?

UGANDA INPUT IN THEMATIC CONCEPT PAPER ON WATER FOR COOPERATION

I. Introduction

Uganda is 98% located in the Nile Basin and almost all its waters are shared with other 10 Nile Basin countries namely, D.R. Congo, Burundi, Egypt, Ethiopia, Kenya, Rwanda, Sudan, South Sudan and Tanzania. It is both an upstream and downstream country in the Nile Basin.

Overall, 15.3 percent of Uganda's area is covered by open fresh water sources (rivers, lakes, streams and swamps). The Total Renewable Water Resources (TRWR) for the country is 43.3 billion m3. Average annual groundwater recharge is relatively high in the range of 19.1 to 39.9 mm. Hence, Uganda is not a water scarce country. However, Uganda does experience water challenges such as, water pollution and siltation of dams and rivers. The major problem with the water resource is pollution mainly caused by poor farming practices, coupled with degradation of the wetland and catchment areas.

II. Overview of the challenge, current status and interlinkages

An ever-increasing demand for water brought about by, increasing population growth; increasing economic growth; increased industrialization and Increasing water for consumption and productive (domestic, industrial, agriculture, irrigation, livestock, hydropower, fisheries, commercial, tourism & wildlife, ecosystems, oil & gas, mining, transport, navigation, deep diving, hydrotherapy and recreation) has created high pressure on available water resources in the country.

There is also decreasing trans-boundary water inflows brought about by over utilization by upstream users; environmental degradation and impacts of climate change. Furthermore, restricted access to water brought about by limiting trans-boundary water use obligations; trans-boundary obligations to downstream users; changes in land ownership; water sources located in cultural and inaccessible or restricted sites; sovereignty and geographical physical features or barriers.

Current Status

Indicator SDG 6.5 on water resources management measures the level of implementation of integrated water resources management at all levels, including through trans-boundary cooperation as appropriate. Based on SDG6 indicator monitoring methodologies developed by the UN Water Uganda has been monitoring implementation of the various SDG6 indicators. Currently, the degree of implementation of integrated water resources management (SDG6.5.1) in Uganda

stands at 59% while the proportion of trans-boundary basin area with an operational arrangement for water cooperation level stands at 84%. The challenges faced in monitoring implementation of SDG 6.5 include financial resource constraints to monitor implementation and limited awareness by many stakeholders of what actually integrated water resources management means. Going forward there is need to upscale awareness raising on integrated water resources management among all key stakeholders at the regional, national and local levels and to demystify integrated water resources management through concrete actions on the ground. The challenge regarding the indicator on transboundary water cooperation is that information on transboundary aquifers is very limited and the spatial extent of transboundary aquifers in Uganda have been delineated from remote sensing and have not been verified on the ground.

With respect to practical transboundary water cooperation, the Nile Basin countries engaged in negotiations to establish a basin-wide legal and institutional framework, the Nile River Cooperative Framework Agreement (CFA), on the use, development, protection, conservation and management of the Nile River Basin and its resources with an institutional mechanism for cooperation. So far, six (6) Nile Basin countries (Ethiopia, Burundi, Kenya, Rwanda, Tanzania and Uganda) signed have signed the Nile Basin Cooperative Framework Agreement (CFA).

The Nile Basin Initiative was accorded a legal status in Uganda through the Nile Basin Initiative Act, 2002 and the secretariat is hosted in Entebbe, Uganda. The current cooperative arrangement on the Nile River Basin has prepared and supported resource mobilization of projects worth USD 74.7 million. These include irrigation projects, hydropower generation and transmission, and watershed management, among others. Projects worth USD 864 million with direct benefit to Uganda have been identified and are at various stages of preparation. They include; Rusumo Falls Hydropower Generation Project 80MegaWatts, Olwiyo-Juba South Sudan Power Transmission Interconnection, 400KiloVolts of 320 kilometers (Uganda-South Sudan). The others are; the Nkenda - Beni – Butembo - Bunia transmission line, 220KiloVolts of 396 kilometers (Uganda-DR Congo), the 5000 hectares Amagoro Irrigation Scheme, 4,500 heactars Angololo Multipurpose Project (Uganda-Kenya), 3,100 hectares Nyimur Multipurpose Project (Uganda-South Sudan) and Kabuyanda Multipurpose Project.

Uganda ratified the CFA by depositing the instrument with the African Union thereby bringing the number of countries that have ratified the CFA to four (4) in addition to Ethiopia, Rwanda and Tanzania. However, two more countries are required to ratify, and the process is increasingly political, with Egypt strongly opposed to the CFA.

The East African Community Treaty as recognized in the Preamble of the Protocol for the sustainable development of Lake Victoria Basin (2003) obliges Partner States to cooperate in relation to Lake Victoria Basin in a coordinated and sustainable manner and negotiate as a bloc on any issues related to the Lake Victoria Basin.

The EAC Partner states are in the process of finalizing the EAC Regional Water Resources Policy and Integrated Water Resources Management (IWRM) Strategy that will guide water resources management and development within the region.

Through Joint Permanent Commissions, Uganda signed an MoU a Bilateral Agreement between Uganda and DRC on the Fisheries Management and Development with Democratic Republic of Congo. Uganda is in the process of entering other bilateral agreements with the Republic of Kenya and United Republic of Tanzania on Cooperation in Development and Management of Shared Environmental and Water Resources.

Guidelines for Catchment -based Water Resources Management in the Nile Basin have been developed which have guided development of Catchment Management Plans for some shared catchments and set-up of Catchment Management Organisations (CMOs) at a catchment level, which build on and utilise to the maximum practicable extent, existing structures and relationships. The CMO constitutes the most involved and collaborative stakeholder group who engage through related forums, which are consultative. The CMO structure provides for (i) the Catchment Stakeholder Forum (CSF) brings together all actors in the catchment; (ii) the Catchment Management Committee (CMC) is composed of representatives of all relevant stakeholder groups (government, politicians, and community based organisations, NGOs, water users, media, academic institutions, and private sector) and collaborates with the WMZ during the formulation of a Catchment Management Plan and plays a steering role during its implementation; (iii) the Catchment Management Secretariat (CMS) provides support to the Catchment Management Committee in coordinating the planning and implementation of activities in the catchment and (iv) the Catchment Technical Committee (CTC) forms the technical arm of the CMO and supports the CMC in their tasks.

So far, joint catchment management plans have been developed for Semiliki (Uganda-DRC), Maziba (Uganda-Rwanda), Sio-Malaba Malakisi (Uganda-Kenya) with operational Catchment Management Committees. A Basin Development and Management Plan for Kagera Basin (Uganda-Rwanda-Tanzania) is also in place. These plans have paved the way for joint investments, notably the Angololo Multipurpose Project between Uganda and Kenya.

Interlinkages

Participation of local communities in IWRM in transboundary catchments has been strengthened through Joint Catchment Management Organisations (CMOs) which includes the Catchment Stakeholder Forum (CSF), Catchment Management Committee (CMC), Catchment Management Secretariat (CMS) and Catchment Technical Committee (CTC).

III. Overview of opportunities for progress and transformative solutions

1. Financing

Leverage on financing windows through the Regional Economic Blocks, e.g The East African Community (EAC) and Intergovernmental Agency for Development (IGAD), and international bodies e.g the Nile Basin Initiative provides windows for access to development partners and financing institutions for joint and coordinated water resources management and development interventions in transboundary basins for shared benefits.

2. Data and information

A Water Regulation and Management Tool for River Nile in Uganda, commonly referred to as the “Nile Tool” is being developed to guide the use of River Nile waters in Uganda for Hydropower and other economic developments. This requires a cooperative mechanism with upstream countries to acquire the necessary input data and information for its operation to guide hydropower generation in the country and outflow from Lake Victoria.

Shared data collection by joint teams from riparian states with harmonised data collection methods/techniques may increase decision makers trust in basin data and information generated from this data. Such initiatives have been made for the Nile Basin Decisio Support System (NB DSS) at the Nile Basin Initiative (NBI).

Similarly, basin level data banks/water information systems that will support joint research and data processing and analysis to solve basin level challenges. Such a database already exists at the NBI, and EAC Partner States are in the process of developing the Lake Victoria Basin Water Information System (LVB-WIS).

3. Capacity development

Uganda has benefited from capacity building programs through transboundary cooperation arrangements through NBI, Lake Victoria Basin Commission (LVBC) and Global Water Partnership in collaboration with the Water Resources Institute (WRI) and Academic Institutions. Capacity building has been provided to government officers, the civil society, private sector, students and the public during the Uganda Water and Environment Week celebrated in March each year.

To enhance effective negotiations amongst riparian states, the capacity of institutions to upgrade knowledge management systems for data and information gathering, storage and reporting on water usage in shared basins is required. The systems should incorporate state-of-the-art analytical tools with innovative algorithms to take advantage of the latest advancement in remote sensing technology. The platforms will facilitate assessments on the implication of water use practices on water related development prospects.

Support to capacity development of local authorities in transboundary water resources management and development will allow for accelerated transmission of agreed transboundary actions at national and basin level to local communities, leading to improved service levels in transboundary catchments.

4. **Innovation**

Innovative practices and technologies for IWRM in shared catchments at national and community level exist, albeit to poor documentation. Support to community-based organisations and community groups to upscale/transmit local innovative solutions to neighbouring communities also contributes to management of transboundary resources.

Exchange visits among River and Lake Basin Organisations, and peer to peer learning amongst transboundary/cross border communities carrying out similar economic activities and facing similar challenges will go a long way in transferring innovative solutions to challenges within transboundary basins

5. **Governance**

Governance arrangement for transboundary and international water cooperation, cross sectoral cooperation, scientific cooperation and water across the 2030 agenda that support implementation of SDG 6 exist at international, regional, national and local levels. At the international level, Uganda participates in a number of water related programs such as the UNESCO's Intergovernmental Hydrological Programme (IHP), Water Convention under the United Nations Economic Commission for Europe (UNECE) and many other programs. At the Africa continent level, the African Ministers' Council on Water (AMCOW) promotes cooperation, security, social, economic development and poverty eradication among member states through the effective management of the continent's water resources and provision of water supply services. It implements the African Union Agenda 2063. At the East Africa region level, the East Africa Community Vision 2050 and Regional Water Resources Policy of the Intergovernmental Authority on Development (IGAD) provide a framework for management and development of the water resources of Lake Victoria Basin and IGAD region.

At the Nile Basin level, the Nile Basin Initiative contributes to transboundary cooperation in the Nile basin with a shared vision to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources. Nile riparian states have cooperated on transboundary programs that have resulted into identification of bankable projects within the basin.

At the national level, governance arrangement for cross sectoral cooperation, scientific cooperation and water across the 2030 agenda exist through the Natural Resources, Environment, Climate Change, Land and Water Management

programme of Uganda's third National Development Plan which aims to stop, reduce and reverse environmental degradation and the adverse effects of climate change as well as improve utilisation of natural resources for sustainable economic growth and livelihood security. The national level governance arrangement is also provided through the Water Policy Committee that is provided for in the Water Act. The committee promotes inter-Ministerial and inter-sectoral coordination over a wide range of water resources management and development issues. The Water Policy Committee provides an avenue for promoting IWRM at national level and guiding the strategic management and development of water resources of the country.

At the sub-national level, Uganda is delineated into four Water Management Zones (WMZs) along hydrological boundaries. Thus, the northern parts of the country are covered by the Upper Nile Water Management Zone (UNWMZ), the western parts by the Albert Water Management Zone (AWMZ), the south by the Victoria Water Management Zone (VWMZ) and the east by the Kyoga Water Management Zone (KWMZ). Within each Water Management Zone, there exists a number of smaller hydrological units called catchments, the appropriate level at which IWRM is being implemented, thus the need for catchment management planning.

All these governance arrangements support transboundary and international water cooperation, cross sectoral cooperation, scientific cooperation and water across the 2030 agenda from the international to the lowest possible level.

IV. Recommendations

The recommendations for improved management and development of transboundary water resources are;

a) Enhanced collaboration among riparian states for joint management and development of transboundary water resources, with a focus on shared benefits among countries through operational strategies and policies will translate plans into actions within transboundary basins.
b) Cascading transboundary water management to lower levels amongst cross border communities will contribute to realization of catchment management goals and conservation of natural resources within the basin.
c) Multi-sectoral inclusion and coordination of all water dependent sectors, i.e energy, agriculture and fisheries, trade and industry, mining, oil and gas among others is needed for coordinated development of transboundary waters.
d) Strengthened cooperative frameworks to deal with the ever-increasing water demand and competition within transboundary basins for enhanced transboundary cooperation and benefit sharing, minimized resource-based conflicts through consensus-based planning and building of an effective enabling environment.

V. Guiding Questions

1. How can cooperation and collaboration among riparian states be enhanced for joint management and development of transboundary water resources?

2. What are the experiences with implementing transboundary water management amongst cross border local communities?

3. How can multi-sectoral inclusion and coordination of all water dependent sectors for coordinated development of transboundary waters be realized in practice?

4. What strategies need to be implement to enhanced transboundary water cooperation and benefit sharing among the riparian states or communities sharing common resources?

UGANDA INPUT IN THEMATIC CONCEPT PAPER ON WATER FOR HEALTH

I. Introduction

Limited access to safe water, sanitation and hygiene (WASH) remains a major hindrance to sustainable development, especially in the developing world. Sub-Saharan Africa (SSA), in particular, lags behind the rest of the world with only 57% access to safe water and 63% access to safely managed sanitation[1]. This situation leads to significant health impact on the vast of the SSA population, a region experiencing a rapid population growth and urbanization. Therefore, the United Nations international decade for action "water for sustainable development" (2018-2028) was welcomed with optimism by SSA towards addressing the WASH inequities. This paper tracks the mid-term progress achieved by Uganda and the challenges ahead with respect to Goal 6, Ensure availability and sustainable management of water and sanitation for all; Target 6.1, By 2030, achieve universal and equitable access to safe and affordable drinking water for all and Indicator 6.1.1, Proportion of population using safely managed drinking water services. Safely managed drinking water defined as the use of an improved drinking water source which is located on premises, available when needed, and free of faecal3 and priority chemical contamination.

II. Overview of the challenge, current status and interlinkages

Access to WASH in Uganda has not improved significantly over the last five years. The figure below shows the performance trend on the key WASH indicators in Uganda from 2018-2022.

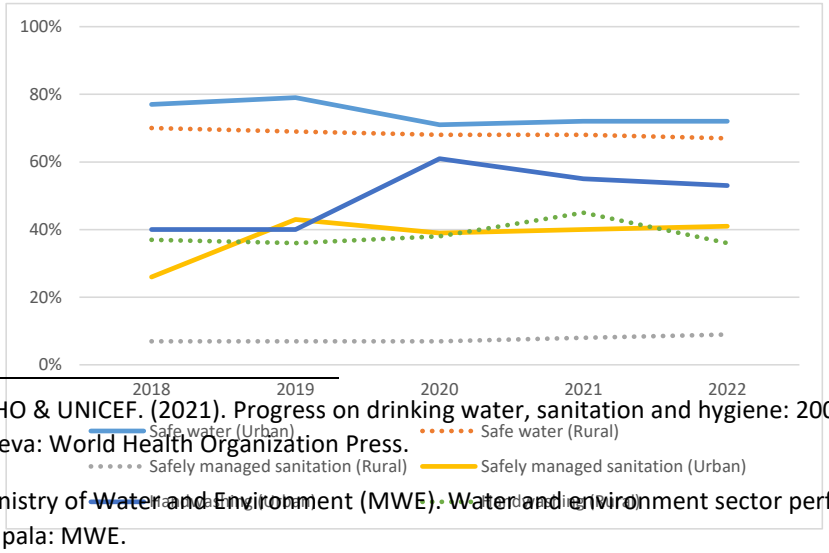


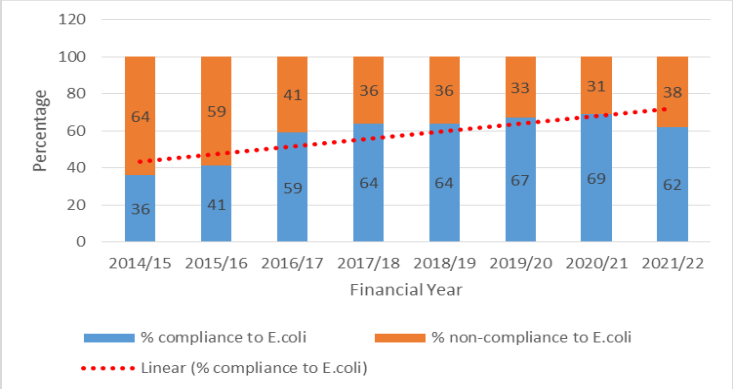
Figure: WASH performance indicators in Uganda (2018-2022)[2]

[1] WHO & UNICEF. (2021). Progress on drinking water, sanitation and hygiene: 2000-2020 five years into the SDGs. Geneva: World Health Organization Press.

[2] Ministry of Water and Environment (MWE). Water and environment sector performance reports (2018-2022). Kampala: MWE.

Uganda is still far short of the SDG targets on WASH. The effects are reflecting in increased morbidity and mortality associated with WASH-related epidemic diseases, including diarrhea, covid-19, ebola and cholera. The annual mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene in Uganda is estimated at 54 per 100,000 population[3]. WASH services in rural areas remain lower than the urban population, with over 80% of the population still rural. From this performance trend, it is highly likely that a significant proportion of the population will be left behind in service provision, with devastating effects of their health, hence slowed economic development.

Uganda is still far from achieving the target of zero *E.coli* in drinking water. While there has been a general improvement in the quality of water provided in the rural area from only 36% compliance to the target of zero *E.coli* in 2015 to 62.3% in 2022, this is still below the SDG target of zero *E.coli* in drinking water. The main challenges in achieving the water quality target for drinking water include issues related to type of technologies used for water supply, operation and maintenance issues, functionality, geology and hygiene at the household level. The graph below depicts the trend of drinking water quality of rural point water sources from 2014 to 2022.



Source: MWE: 2022

While Uganda is endowed with natural freshwater resources (16% of the land covered by water), WASH challenges have remained unabetted. The major impediments to improved performance relate to limited financial resources, amidst a

[3] Ministry of Health (MoH). (2020). Ministry of Health Strategic Plan 2020/21 - 2024/25. Kampala: MoH.

highly growing population (average annual growth rate of 3%[4]). The situation was exacerbated by the effects of covid-19 on the economy, which lead to re-prioritization of resources to combat the pandemic.

III. Overview of opportunities for progress and transformative solutions

The opportunities for progress and transformative solutions from the Uganda lens are discussed along the thematic areas as follows:

1. Financing

Donor contributions in form of sovereign loans and grants have enabled Uganda to achieve the progress to date. Grant financing has dwindled in the recent years and questions are emerging on the debt sustainability of Uganda. Alternative financing options including public-private partnerships are foreseen to make significant contributions. There have been successful PPP projects in the roads sector, from which we can bench-mark for application in WASH. Leveraging financing from the private sector is also being explored at micro level in WASH, including sanitation services delivery, although mostly applicable in urban areas. Financing of rural WASH will remain more challenging as the revenues are not suited to such PPP projects.

2. Data and information

Uganda has made significant improvement in WASH data management over the past decade. This is now being strengthened by increased collaborations between the different stakeholders in WASH in the country.

3. Capacity development

The Uganda water and environment sector developed a strategic capacity development plan in 2018, building on previous institutional and national reforms that commenced in early 2000s. At the national level, there is significant capacity to steer forward the WASH agenda, within the government ministries and affiliated organizations. However, capacity gaps still remain at the sub-national level for implementing major WASH interventions. A two-pronged approach is being pursued involving sub-national actors for small to medium level interventions, while the national level actors implement the large-scale WASH activities. Operation and maintenance of WASH infrastructure has been challenging, which has been addressed improved efficiencies in undertaking O&M activities.

4. Innovation

Uganda continues to explore several innovations in delivery of WASH services. An appropriate technology centre has been natured serve as an incubation centre of

[4] Uganda Bureau of Statistics (UBOS). (2020). Statistical abstract. Kampala: UBOS.

WASH innovations. Institutional strengthening of the National Water and Sewerage Corporation was achieved through internal innovations in improved management of urban water and sanitation services. The corporation is now one of the leading water utilities in Africa.

5. **Governance**

The Government of Uganda is striving to achieve the Uganda Vision 2040, towards improving the livelihood of the population, implemented through the National Development Plan framework. Different state and non-state actors are brought together under program-based planning and implementation, which has improved the co-ordination and implementation of WASH activities. There is an active civil society and development partner presence, which supports the government of Uganda in improving WASH governance structures.

IV. Recommendations

This main recommendations towards improved WASH services are:

1. There is need for improved global support to low-income countries, targeting the least served communities, if we are to achieve the SGD target of “leave no one behind”. Highly developed countries could provide targeted subsidies to benefit the least served communities.
2. There is still limited collaboration between the energy sector and the WASH sectors in Uganda. While we promote the water-energy-food nexus, practical synergies remain yet to be achieved.
3. Validation of the required resources (technical and financial) to achieve SGD 6 targets globally, which will inform the expected level of achievement in light of the available resources.

V. Guiding Questions

Suggested guiding questions:

1. How can we accelerate access to WASH in low-income countries of the World?
2. What are the technical and financial resources required to achieve SDG 6 targets?
3. In light of the Covid-19 impact on progress of WASH, what adjustments do we need in UN SDG agenda?