

Uganda Country Overview

BUILDING

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1. Stakeholders

Government Agencies, External Development Agencies, CSOs, Private Sector, Research and learning institutions are some of the stakeholder groups that have been engaged in the Preparatory Process through stakeholder engagement meetings as well as activities like the Water and Environment Week. Uganda has an elaborate climate change coordination structure and institutional framework reflected through the Nationally Determined Contributions (NDCs), National Climate Change Policy (NCCP), and the Climate Act. The institutional arrangements to coordinate and consolidate cross-sectoral and multi-stakeholder capacities to shape the country's



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climate change adaptation and mitigation efforts are in place. Table 1 shows a summary of the stakeholders and why they were engaged.

2. Climate and wash policy analysis

Uganda has well-articulated WASH and Climate Change Policies and regulatory framework which provide guidance on prioritization and development pathways that are Climate change sensitive. The planning and budgeting frameworks including the overarching Vision 2040 and the National Development Plan III, all amplify the importance of prioritizing climate change and its impact on key socio- economic outcomes. The country has set out a number of policies and regulatory frameworks to support the implementation of the key actions and these include the NDC, the Climate Change Policy 2015, Climate Change Act 2021. Water and Environment Investment Strategic Plan 2018-2030.

Uganda first submitted its first NDCs in 2015 and an updated version ahead of COP 26 in 2021. The revised NDC has set out clear adaptation and mitigation priorities, well defined targets, indicators and outcomes for the subsector.

WASH	Priorities for Adaptation	Opportunities for Mitigation
Component		
Drinking Water	 Promotion of water conservation, efficiency, and reuse practices in domestic, commercial, institutional and industrial water use Improving water catchment protection Ensuring there an Integrated Water Resources Management Systems including wetlands especially in the cities Ensuring resilient access to water supply both for domestic and productive purposes, especially in areas most exposed to climate hazard 	
Sanitation	 Increasing access to reliable and safe water and sanitation (including wastewater treatment) infrastructure and services, especially in districts of Uganda where climate risks overlap with lower access levels 	 Ensuring there's an efficient Solid Waste and Wastewater Management system, especially in cities including supportive regulatory frameworks to enable reduction, recycling and Reuse of Solid Waste options, and decentralized sanitation solutions for wastewater treatment in cities Achieving energy neutrality in wastewater treatment plants with

WASH Priorities for Adaptation and mitigation opportunities







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		 implementation of energy recovery Replacement of fossil energy sources with renewable energy in water and wastewater management Improving cooking and sanitation conditions of schools through bio latrines (biogas digesters).
Hygiene	 Making provision for a safe water chain and sanitation facilities to limit outbreaks of water-borne diseases and implement strong public awareness programmes to promote better hygiene 	

Despite the fact that Uganda has made commendable progress in the policy development processes, there are still notable gaps. Key policies that are being reviewed should be able to integrate the key strategic NDC priority actions and strategies to ensure sustainable action. These include the Water Policy, Public Health Act, Sanitation Guidelines. Although the country developed and launched the NAP for the agriculture sector in 2018, efforts are underway to formulate the overall National Adaptation Plan. The Country needs to develop a WASH Climate change financing strategy to support the implementation of the plans and policies more effectively.

Climate risks to WASH

With support from UNICEF, Uganda undertook *a Climate and vulnerability risk assessment for water and sanitation services* in the sector. The study used the risk assessment methodology of the GWP and UNICEF Strategic Framework for WASH Climate Resilient Development. Through a step by step, participatory and consultative approach, the study discussed hazards, exposure, and vulnerability separately, and then brought them together to provide an overall scoring of risks, according to the following risk formula: Risk = Hazard x Exposure x Vulnerability. The following hazards were prioritized: drought, flooding, landslides, land degradation, water pollution, and water overexploitation and were characterized based on an assessment of their main features, Frequency, Duration, Intensity, Geographical extent, and Time of year. Details are shown in Table 4 below

Characteristic	Drought	Flooding	Landslides	Land degradation	Water pollution	Water Over- exploitation
Frequency,	10-15 events occur per 5 years on average.	Floods occur every year, in both wet seasons. Sometimes, the same district is hit twice by flood episodes within the same year.	There are reports of landslides occurring every year mainly in the wet seasons.	Constant, aggravated during heavy rainfalls and windstorms	Constant, aggravated in emergency situations	Constant, aggravated in the dry seasons
Duration,	Since 1980 droughts	Floods last generally for	The sudden soil	Constant, aggravated during	Constant, aggravated in	Constant,

Table 4. Climate hazards in the country







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	have lasted from 1-4 months in Central Uganda (a peak of 20 months in the drought of 2005-2007).	several hours but can last longer depending on the intensity (3 days peak period was reported for an episode in the Kasese region).	movement lasts from a few seconds to minutes. But some landslides remain active (i.e., in slow movement or in risk of sudden movement) for years	heavy rainfalls and windstorms	emergency situations	
Intensity	Uganda has suffered from drought hazards of moderate, severe and extreme intensities although intensity varies drastically in the different regions and seasons.	More intense floods varying from moderate to very high (1m depth or more) occur between March and May and between October and November, except for the North where it is normally wet (July to August) and thus flood prone.	According to Jacobs et al. (2016), shallow slides in the Rwenzori region are most found in higher altitudes while deep slides are most found in lower altitudes.	Erosion is measured in terms of loss of soil mass per hectare (>1 t.ha is considered unsustainable and >10 t.ha is considered high risk). Districts with mean annual soil loss rates of >10 t·ha=1·y=1: Bududa (46.3 t·ha=1·y=1), Kasese (37.5 t·ha=1·y=1), Bundibugyo (28.9 t·ha=1·y=1), Bulambuli (20.9 t·ha=1·y=1), Sironko (14.6 t·ha=1·y=1) and Kotido (12.5	Varies according to the water source (open water sources tend to be more contaminated than groundwater and piped water systems)	More intense in the dry seasons. Even considering the forecasts of increased rainfalls in the future, water stress could become more acute due to population growth and land degradation. Other climate related hazards could impact too
Geographical extent	40% of the territory is moderately susceptible, 25% is highly susceptible and 7% is very highly susceptible to droughts. The most drought prone regions in the order of severity include Northern, Eastern and Western regions.	Flood prone areas in central, eastern and northern Uganda are generally located alongside rivers and major water bodies, seasonal and permanent wetlands, and low-lying areas (e.g., Lake Kyoga). The Central region is more prone to lower depths floods, while the East and the North are prone to higher intensity floods	Mount Elgon and the Rwenzori region are the most prone areas. Some examples of districts affected by landslides are: Kapchorwa, Bududa, Kasese, Sironko, Rubanda, Bulamabuli, Kween, Kasese, Bundibugyo and Kisoro.	The two most fragile ecosystems in the country are the highlands and the drylands, but other regions experience various degrees of land degradation processes as well. There are 12 districts affected	In urban areas with piped systems, water quality is improved, and contamination tends to be less frequent and less intense, In rural settings, peripheral urban areas, and informal settlements, where population relies on open sources, bacteriological contamination is higher.	North-east and south- west are the regions that already experience water stress and scarcity. These areas might expand towards the east and the center of the country.
Time of year	December to February: Moderate / Severe (Lake Victoria, North and West) -	In the periods from March to May and October to November, there is a higher	The incidence of landslides coincides with the wet seasons because rainfall is the	Constant, aggravated during heavy rainfalls and windstorms	no information was available on this topic.	Constant, aggravated in the dry seasons







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March to May: Moderate (East) and Severe / Extreme (North) - June to August: Moderate (Centre) and Severe (whole territory	incidence of intense floods in most of the affected area. In August, there are more moderate events	main triggering factor. March to May and August to November are the most common times of the year.		
except North) - September to				
November: Moderate (Centre) and Moderate / Extreme (North				

Vulnerability analysis considered six main components: human, social, physical, financial, political, and environmental. The assessment was conducted in a participatory way, through a simple voting system of the vulnerability indicators and questions proposed in the GWP and UNICEF Guidance Note, which were adapted to the Ugandan context. Results for all assessed indicators are shown in the table below, which provides the criteria organized within the six components

Table 5.	Vulnerability	and capacity	y key points	for WASH
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Component	Key vulnerability issues identified	Key capacity gaps identified
Social	Access to social network is limited for most people in Uganda	Approaches for undertaking risk assessments
	5% of the population in Uganda defecates in the open (6% in rural areas, and 2% in urban areas) (JMP.	Waste management techniques that are sustainable and climate-proof.
	2021)	enforcement capacity for compliance to Safely managed Sanitation especially in
	are not conducted (or they are not available)	Urban areas
Financial	Other service providers (Umbrella Organizations cannot mitigate emergency water supply	Build capacity for the development of bankable projects, and in mobilizing resources and finances to implement the proposed actions by the sector
	affected in drought periods, with severe income losses	Capacity building in the establishment of Public-Private- Partnerships (PPP).
Physical	Pit latrines are particularly affected by flooding	Research into climate-smart and sustainable WASH practices, including dissemination of good practices
Environmental	Erosion in recharge areas has severe consequences on water quality	Capacity development in building of climate information management systems, as well as maintaining a national early warning system







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Human	Poor knowledge by vulnerable populations and in rural areas People living in informal settlements are more exposed to water pollution	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Political (and institutional)	Uganda has a number of guidelines and policies in place that specifically include climate resilience, but these are rarely implemented.	Build and retain institutional capacity for Policy implementation

Several processes have been put in place to identify climate-resilient WASH solutions including:

- Government (Ministries of Water and Environment and of Health with other partners (UNICEF, CSOs) convened workshops on climate resilience in Water, Sanitation and Hygiene (WASH)
- 2. Government and partners conducted studies/assessments on Climate Resilient WASH (programming, financing, risk analysis, Climate Change, and WASH Nexus...

The climate-resilient WASH options identified using Table 3 are as highlighted below;

General Options for WASH:

- 1. Consider WASH as a priority within climate policies, legislation, strategies, plans and budgets to address climate resilience
- 2. Develop a WASH policy that covers climate-related vulnerabilities, risks, and priority options
- Strengthen inter-agency, inter-ministerial coordination, and multi-stakeholder cooperation, with the involvement of local governments and communities to enhance institutional capacity and streamline existing and future knowledge on climate-resilient WASH services and infrastructure
- 4. Increase dialogue and engagement between stakeholders to enhance appreciation and contributions to climate mitigation and adaptation and enhance scaling and creation of greater impact through climate-focused funding
- 5. Conduct research and innovation to generate evidence on climate change WASH vulnerabilities and risks
- 6. Prioritize studies on the links between climate change and WASH
- 7. Leverage existing WASH information management systems to capture sector-specific impacts of climate change on WASH.
- 8. Climate funding mechanisms should consider climate-resilient WASH investments







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Specific options per WASH Component:

WASH Component	Priorities for Adaptation	Opportunities for Mitigation
Drinking Water	 Improve water efficiency through promoting and encouraging water harvesting and efficient water utilization among individuals, households, institutions and sectors. Expand clean energy water supply through promoting WASH humanitarian preparedness and response to avert possible outbreaks of water-related diseases, especially in settlements of poor communities as well as refugees and displaced persons. Promote Integrated Water Resources Management (including underground water resources), including contingency planning for extreme events such as floods and drought. Support institutional and human capacity building in water resource use, development and management 	 Catchment area protection to prevent groundwater contamination. Avoiding depletion of the water source through over-pumping of the water resource Proper siting of the water facility to avoid degradation Create safe underground water stores Develop appropriate climate-resilient technologies and innovations for improved water supply (solar-powered water systems)
Sanitation	 Make provision for a safe water chain and sanitation facilities to limit outbreaks of water-borne diseases Promote improved sanitation at household level and public places 	 Develop appropriate climate resilient technologies and innovations for sanitation facilities To end open defecation, promote conduct Water and Sanitation Safety Planning (WSP) in communities and schools. Promote and encourage waste-to-energy programmes to reduce GHG emissions and increase energy generation and access. Promote proper disposal and sustainable use of wastes, including sorting and composting wastes. Promote the gasification and incineration of large quantities of waste to generate thermal energy or electricity. Promote the use of human waste for production of biogas, which can be used for cooking and lighting in institutions such as schools







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		and hospitals, while effluent can be used as fertiliser.
Hygiene	 Promote improved hygiene at household level and public places Implement strong public awareness programmes to promote better hygiene 	 Promote good hygiene practices (hand washing with soap) Conduct climate inclusive awareness campaigns in communities (e.g., Weyonje Clean Yourself Campaign)

Financing for the climate resilient WASH options

The Uganda WASH and Environment Sector developed a Strategic Investment Plan (SSIP) for the Water, Sanitation and Environment sector (2018-2030) that indicates the sector requires 9 times it's current budget in order to attain the 2030 Sustainable Development targets (Strzepek Kenneth, 2018).

The Uganda Climate Change Costed Implementation Strategy, 2013 indicates that Uganda would require an estimated USD 258 million per year to address climate change concerns, which is about 1.6% of the country's GDP per annum. Adaptation cost would account for 1.2% and mitigation for 0.4% of the annual GDP. An economic assessment of the impacts of climate change in Uganda indicates that the total costs for ensuring climate-resilient infrastructure in Uganda are estimated at USD 52-66 million for the period 2015-2020; and USD 638-1,157 million for the period 2045-2050 (MWE, 2015a).

The cost of implementation of the country's first Nationally Determined Contribution (NDC) had been estimated at USD 5.523 billion of which USD 3.093 billion, equivalent to 56% of total cost of implementation are adaptation costs with USD 1.029 billion for agriculture, USD 24.286 million for forestry, USD 227.7 million for Water, USD 1.053 billion for infrastructure, USD 393.7 million for energy, USD 351.7 million for health and USD 12.1 million for risk management (MWE, 2018a). According to the NDCs, 70% of the total cost would be mobilized from external sources NDCs (MWE, 2016) and 30% from domestic sources.

The funding for climate change policy priorities come from various sources, including national and sectoral investment plans and budgets, private sector investment, multilateral and bilateral donor support and market- based mechanisms, including payment for environmental services schemes. Over the years the country has received financial resources support to facilitate NDC implementation from external and internal sources in the form of grants and concessional loans, guarantees and private equity. Funding has been accessed from the Green Climate Fund, the Global Environmental Facility (GEF), and its sub funds, Adaptation Fund, Climate Investment Funds, Multilateral and Bilateral sources (Byakagaba & Naturinda, 2020). To date, the MFPED estimates climate financing in Uganda at USD 942 million, distributed in the implementation of 38 adaptation and mitigation projects.

The agriculture, energy, water and risk management sectors dominate much of climate financing in Uganda across all levels. However, whereas there is a dedicated budget line for WASH activities, the budget lacks adequate funding from the national budget and is always prone to budget cuts and late release of funds by the finance ministry.





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#2022SMM info@sanitationandwaterforall.org www.smm-swa.org With the majority of financing coming in from external/ global financing sources, with minimal domestic finance both from the government and private sector. It is not surprising, therefore, that the country's climate change response, for instance, is often described as weak and concentrated at the policy, plan, legal, and integration guidelines, with minimal and slow transition to the implementation phase of these planned activities. This makes such response less programmatic and unsustainable as it is impossible to plan on foreign aid given that its scope and time of receipt is beyond the control of recipient countries.

3. Discussions and action towards WASH and climate country integration

Several discussions and action points are underway for building alliances between WASH and climate communities and identifying potential entry points for joint action going forward.

As a mitigation measure, the switch to zero or low-carbon alternatives to power WASH sector operations has been adopted to reduce the climate impact of the sector and enhance the growth of a green economy.

Choosing appropriate typologies of sanitation and treatment processes of wastewater and excreta, energy-efficient management (the transport and treatment) of solid and liquid waste reduces emission of Green House Gases and helps create benefits such as emissions 'sinks', a potential low carbon energy source, and a cleaner environment. This is specifically important in urban settings.

Improving water and energy efficiency and promoting low-carbon processes that involve use of water saving technologies, such as water meters and water-efficient house appliances and promoting rainwater harvesting and greywater recycling and reuse; are mitigation approaches that have significant impact on water demand and carbon emissions related to water provision. Relatedly, reducing leaks on water networks increases efficiency and requires less pumping, with less energy consumed. Similarly, improving the energy efficiency of water and sanitation treatment processes can substantially reduce energy use and emissions.

Other measures target making investments in climate-resilient WASH attractive. The WASH sector is also implementing, testing and innovating climate resilient interventions, practices, and technologies. Identifying the most effective areas for adaptation and opportunities for mitigation in the provision of WASH services will strengthen the development of strong proposals for accessing climate finance.

The WASH sector has for long been partnering with International Financial Institutions (IFIs) and would build on such existing partnerships and networks, and leverage on the experience to explore and deepen relationships with climate-focused funding organizations such as Green Climate Fund, Global Environmental Facility (GEF), Adaptation Fund, and Climate Investment Funds to induce shifts in investment towards climate-resilient WASH services and infrastructure.

The SWA MAM provides an opportunity for all stakeholders to work together in setting priorities, communicating roles and responsibilities and monitoring progress towards WASH - related climate action.







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When Uganda was updating the NDCs, efforts were made to integrate WASH as part of the update/ revision of the National Determined Contributions (NDCs) as highlighted below:

- Improve water efficiency through promoting and encouraging water harvesting and efficient water utilization among individuals, households, institutions and sectors.
- Ensure water supply to key economic sectors through ensuring availability of water for production in water dependent sectors particularly agriculture and domestic use in order to increase their resilience to climate change impacts.
- Expand clean energy water supply through promoting WASH humanitarian preparedness and response to avert possible outbreak of water related diseases especially in settlements of poor communities as well as refugees and displaced persons.
- Promoting and strengthening the conservation and protection against degradation of watersheds, water catchment areas, river banks and water bodies.
- Promoting Integrated Water Resources Management (including underground water resources), including contingency planning for extreme events such as floods and drought.
- Managing water resource systems especially wetlands in cities in such a way to make sure that floods are prevented and existing resources conserved through an establishment of integrated water resource systems.
- Ensuring that all guidelines for infrastructure/hydraulic works (that is, water for production, piped water supply schemes and conditional grants guidelines for support to point sources protection) mainstream climate change
- Promote and encourage water catchment protection in transport infrastructure development and maintenance.
- Improving and strengthening trans-boundary cooperation regarding water resources management.
- Supporting institutional and human capacity building in water resource use, development and management.
- Strengthening water resource monitoring networks and flood warning systems.
- Extending electricity or expanding use of off-grid solar system in water supply.
- Making provisions for safe water chain and facilitation facilities to limit outbreak of water borne diseases and promoting awareness on better hygiene.
- Promoting improved hygiene and sanitation at household level and public places and undertake sensitization on safe water use.

Uganda has been active on the global scene and has fully participated in international meetings such as COP26. Delegations have also been sent to all the SWA high level meetings and all the SWA sector ministers' meetings. A delegation of 3 Ministers and 4 technical officers from Government and CSOs will represent the country at the SMM 2022 in Jakarta, Indonesia.





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Commitments from the previous meetings have been reviewed and updates prepared while new commitments have been identified in addition to follow up actions of the previous commitments.

Uganda has benefitted from a number of projects targeting climate change adaptation and mitigation over the past years. However, several challenges in accessing climate financing still exist, including lack of accreditation. Currently, the Ministry of Water and Environment accesses the funds through intermediaries leading to losses amounting to 10-20% of the released funds as commission.

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