

Revitalizing Water, Sanitation, and Hygiene in Uganda's National Determined Contributions` 2021 Revision Process- A Policy Brief

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Abstract

Uganda as a signatory to the Paris Agreement is required to update her Nationally Determined Contributions to demonstrate progress after every five years. The Water Sanitation and Hygiene(WASH) sector has proven to be a victim, contributor but also a critical component to addressing the existing climate challenges. Despite the clear link between WASH and Climate change, most climate change initiatives do not address WASH adequately from both adaptation and mitigation perspectives. This study analyzed the WASH related targets in Uganda's current NDCs to ascertain how they have been addressed from both the mitigation and adaptation perspectives. The paper took on a rapid assessment of the current NDCs using a desk study and secondary literature review approach coupled with key stakeholder expert inputs through write-shops. Whereas WASH climate focused targets have been to a greater extent covered under adaptation, there is limited integration from the mitigation perspective which does not provide a balanced approach towards achieving the targets set out in the NDCs. The policy brief recommends a number of actions that include inclusion of WASH mitigation policy action in the NDCs, setting adaptation targets for the waste sector, amplifying the role of the private sector in WASH in the updated NDCs, prioritizing research and development to support decision making, providing for measurement, reporting and verifications for WASH in the NDCs, enhanced technology transfer and alignment of the updated NDCs with the long-term strategy. If adopted, these recommendations provide a starting point to comprehensively address WASH in the revised NDCs and subsequently contribute to the achievement of goal six of Sustainable Development Goals on clean water and sanitation for all.

Keywords: climate change, water sanitation and hygiene, nationally determined contributions, Uganda

Key Policy Insights

- Uganda has committed to reduce her emissions by 22% by 2030 with actions focused on energy, forestry and wetlands.
- There is limited, if any, climate change mitigation actions relevant to the WASH sector in the current NDCs.
- There is insufficient integration of WASH in other NDCs sectors such as agriculture, forestry, and energy.
- There is no tangible action on technology transfer despite its potential contribution to reducing GHG emissions.
- There is no action captured in the NDCs pertaining to waste management.

1. Introduction

The WASH sector has proven to be both an emitter and recipient of the impact of climate change. Research shows that achieving WASH targets is good for the climate as well as for gender equality and healthy ecosystems. Sanitation is a significant emitter of greenhouse gases and is equally vulnerable to climate related risks caused by climate variability and extreme weather conditions (Bayoumi, 2019), including damage and loss of services from floods and reduced carrying capacity of receiving wastewater. The impacts of climate change are also likely to be manifested in water where people, ecosystems and economies will be impacted (ODI, 2014). Concerns for water

supply include damage to infrastructure from flooding, loss of water sources due to declining rainfall and increasing demand, and changes in the quality of water sources and within distribution of water. Large economic losses from unsafe water supply and sanitation are estimated at 1.5% of global GDP, moreover, the number could be higher for sub-Saharan Africa at over 4% of GDP (Dickin et al., 2020). The WHO further highlights that sanitation, water, food systems and disaster risk reduction are health determining factors, and climate change is expected to exacerbate existing health problems related to poor sanitation (IPCC, 2014). The impacts further depend on the type of technology being used or lack of it, e.g., water borne systems depend heavily on water availability.

Despite the clear link between WASH and Climate change, most climate change initiatives do not address WASH adequately from both the adaptation and mitigation perspective. This has limited policy coherency with the SDGs, Paris Agreement, and the Sendai Framework on Disaster Risk Reduction, (Mannina et al., 2016; Dickin et al., 2020).

Geared towards addressing pressing climate challenges, Uganda joined over 190 countries to endorse the Paris Agreement (Note 1) which has the long-term goal to strengthen the global response to addressing climate change in the context of sustainable development and poverty eradication efforts. The Agreement aims at holding the increase in the global average temperature to below 2 °C above pre-industrial levels, pursuing efforts to limit the temperature increase to 1.5 °C above preindustrial levels, and by supporting adaptation efforts, building resilience and limiting emissions while not threatening food security (Note 2). To achieve this, state parties to the agreement agreed to prepare, communicate, and maintain Intended Nationally Determined Contributions (INDCSs) (Note 3) to set out each country's approach toward reducing emissions and adapting to a changing climate. The NDCs are non-binding national plans highlighting climate actions, including climate related targets, policies and measures governments aim to implement in response to climate change and as a contribution to achieve the global targets set out in the Paris Agreement.

Uganda submitted first NDCs in October 2015 and is credited for being among the first countries to do so. The government of Uganda equally ratified the Paris Agreement (Note 4) and submitted NDCs in recognition of the principle of 'Common but Differentiated Responsibilities and Respective Capacities' (Note 5). The Paris Agreement requires each member state to communicate a revised NDCs every 5 years (Note 6). The NDCs review is paramount to reflect the current context, capabilities and circumstances.

As the government of Uganda is set for review of 2015 NDCs, this paper is geared to depict the extent to which WASH targets have been integrated into Uganda's 2015 NDCS and provides recommendations on how they can be enhanced in the 2021 NDCS update. It provides an overview of the linkages between WASH and climate change, highlighting their interconnectedness and the need to integrate climate action into WASH and subsequently its prioritization in the revised NDCs. In doing so, the analysis further looks at the Sustainable Development Goals on WASH which are fundamental to addressing WASH gaps in the NDCs. It is anticipated that the provided recommendations will contribute to input in the review process of the NDCs for Uganda as part of the civil society contribution and influence of local and global climate policy and actions.

2. Methods

The study followed a theory-driven systems approach drawing on the theory of change developed by WaterAid East Africa and Pan African climate Justice alliance assessing the extent to which Water, Sanitation and Hygiene were included in the Nationally determined contributions and the interdependent institutional enablers that could be tapped into to ensure WASH is fully integrated in NDCs. Mixed methods of data collection were matched with appropriate analytical approaches. These incorporated qualitative and quantitative techniques and content analysis, both manual and with limited machine learning. Methods used included document review, country strategy studies, policy reviews. The secondary and primary data for this paper were gathered through desk study and secondary literature review approach coupled with key stakeholder expert inputs through write-shops. The documentary review looked at Uganda's NDCS documents, Climate change policy, SDG relevant goals, the Paris Agreement, UNFCCC documents, and other relevant literature. The paper has taken a national focus, drawing global linkages via the NDCs, SDGs and the Paris Agreement, and subsequently assesses the WASH gaps in the 2015 NDCs in terms of adaptation and mitigation actions.

3. Findings

The findings of the rapid assessment of Uganda's NDCS show a marked difference between the committed mitigation and adaptation actions. Uganda's NDCS puts strong emphasis on adaptation actions, to ensure all people and communities are resilient to climate impacts. Equally, Uganda has committed to reduce emissions by 22% by 2030 with actions focused on energy, forestry, and wetlands by prioritizing 5 key areas with 49 key targets

(Government of Uganda (GoU), 2015). According to the current NDCS, Uganda has committed to adaptation actions across the health, water, and hygiene sectors. In health, this includes improving water efficiency; ensuring water supply to key economic sectors and domestic use; managing water resource systems in such a way that floods are prevented; and extending electricity to support water supply. Similarly, the health sector includes adaptation measures such as: conducting vulnerability assessment and assessing the impacts of climate change on human health and well-being; Improving early warning systems for disease outbreaks; Putting in place contingency plans to develop climate change resilient health systems; and strengthening public health systems by building and equipping hospitals. Adaptation measures in the hygiene sector center on the provision for a safe water chain and sanitation facilities to limit outbreaks of water-borne diseases and implement strong public awareness programs to promote better hygiene (GoU, 2015).

Conversely, there are currently no mitigation action for the WASH sub sector in Uganda's current NDCS. This is despite significant literature proving that the WASH sector is a significant emitter of GHGs, and despite evidence of growing solid wastes, wastewater disposal and management challenges in both urban and rural areas. It worth noting that Uganda's growing population (3.2% per annum) coupled with a growing urbanization rate (24.36 %) points to an increased output in wastes (solid and liquid) which implies increased emissions from the sector. Further, available technology at the moment is not well greened to recover or reduce most of the emissions from the waste sector.

This failure to include WASH sector into the targets in the NDCs points to weakness in Uganda's ambitions to reducing emissions by 22% by 2030 and achievement of SDG 6. The inclusion of WASH targets would generate significant benefits that could be tapped into by the private sector who would invest to generate carbon credits with co-benefits in adaptation.

Another gap in the NDCS actions is the inadequate integration of WASH actions in other sectors such as energy, forestry, and agriculture where they could provide co-benefits. For example, the energy sector should have provided for actions that seek to recover energy from wastewater or solid wastes which are currently a big challenge for urban authorities and emerging urban centers.

Similarly, there are currently no policy actions on managing solid and liquid wastes as either mitigation or adaptation actions. Industrial and municipal waste management have huge impact on quality of soils, surface water, ground water and marine life and therefore should have been given high priority in the NDCs. In addition, there is no mention of parallel technology transfers that could play a role in reducing emissions from the waste sector. The NDCs should have clearly indicated a set of actions that call for technology transfer or acquisition as a measure for building resilience in the sector. Technology transfer just like financing is a key means of implementation of the actions and therefore needed to be prioritized.

Whereas, sanitation has been recognized as a global development challenge, Uganda's NDCs did not give it utmost importance it requires compared to how it is dealt with in the SDGs. It only appears as an action under health dealing with safe water chain which is an adaptation measure. However, sanitation has both an adaptation and mitigation perspective given the fact that increased emissions from wastewater and solid waste is growing as the countries urbanize – Uganda inclusive. It is estimated that the waste sector emits 5% of global GHG emissions and that domestic wastewater related emissions will rise by over 50% by 2020 (Bogner et al., 2008; Fishedik et al., 2014) and nearly double by 2050 (OECD/IEA, 2016). Failure to prioritize sanitization and its impact on the climate poses a serious challenge to achieving other NDCs targets.

4. Discussion

The WASH sector is a victim, contributor but also a critical component to addressing the existing climate challenges. Extending and securing access to water and sanitation services plays a key role in poverty reduction where households benefit through a range of health, educational, nutritional, and broader livelihood impacts, while economies benefit from greater economic activity as resilience is built. If services are sustained even in the face of climate risk, water supply and sanitation interventions have a combined return of USD 4.3 for every dollar invested (Hutton, 2012). Of particular importance is the positive impact on women and girls where it ensures their health and dignity (Pearson and Mcphedran, 2008).

The necessity of a climate resilient WASH sector in Uganda cannot be overemphasized. With a rapid population growth rate and urbanization rate, the Water and Environment Sector Performance Report 2019 for Uganda showed that the percentage of rural population using improved water source stood at only 69% compared to 70% in FY 2017/18, whereas access to urban drinking water increased to 79.1% compared to 74% in the previous year. The report notes that although cumulative water for production capacity increased, access to some form of sanitation in rural areas reduced from 79% in FY2017/18 to 77.2% in 2019. In absolute numbers, 8 million

Ugandans lack access to safe water and 27 million do not have access to improved sanitation facilities (GoU, 2019). The lack of access to safe WASH services is further constrained by disparities in water access where the urban poor pay as much as 22% of their income to access clean water – a situation that reduces their overall household incomes and savings, and coupled with the COVID-19 pandemic makes it worse for over 9 million people. (Note 7). This implies that the demand for safe water and sanitation facilities in both urban and rural areas is increasing significantly and is not matching the population increase coupled with challenges associated with climate change, hence constraining the WASH sector targets and emphasizing the need to integrate WASH targets in climate change action plans.

The sanitation sector on its own is a significant emitter of GHG and its current state of vulnerability towards climate change variability puts it a risk of falling back on any gains made previously if not adequately addressed (UNICEF, 2012; Watts et al., 2018). From a mitigation perspective, wastewater is a significant and well documented source of GHG emissions that contributes to carbon dioxide, methane from anaerobic process, and nitrous oxide (Zouboulis and Tolkou, 2015). Pit latrines account for approximately 1% of global anthropogenic methane emissions (Reid et al, 2014).

Although current evidence suggests an increasing GHG emissions trend from wastewater treatment plants, they remain poorly understood – a situation premised on lack of data and complex modeling. This has limited policy coherency with the SDGs, Paris Agreement, and the Sendai Framework on Disaster Risk Reduction, (Mannina et al., 2016; Dickin et al., 2020). The same is attributed to solid waste management where much of it is left uncollected or poorly disposed in inefficient or technologically outdated landfills.

Studies show that climate change can significantly impact on hydrology and ground water including direct and indirect effects on sanitation systems thereby constraining public health (WHO, 2018). Apart from the potential discomfort, poor or lack of sanitation contributes to the transmission of diseases including cholera, diarrhea, dysentery, hepatitis A, typhoid, and polio whereas outcomes of climate change, especially floods can exacerbate those waterborne disease rates and floods, droughts, and storms destroy water supplies and sanitation disposal areas and, in turn, contaminate water (UNICEF, 2015).

The impact of climate change on water, sanitation, and health sectors is therefore likely to be severe for Uganda, just like for many other developing countries in the global south. It is likely to slow progress on achievement of targets in the NDCs, but also have a profound impact on progress towards the SDGs. The 2030 agenda on sustainable development states that by 2030, there will be need to improve water quality via reduction of pollution, elimination of dumping and release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally (Note 8). SDG 6.3 calls for an increased effort towards improving wastewater treatment and management which is essential in supporting healthy ecosystems and human health.

5. Conclusion and Recommendations

The opportunity to review Uganda's NDCs for the first time since its development in 2015 has provided a good entry-point for assessing the extent to which the WASH and climate change nexus is understood, appreciated, and captured in the NDCs. It is apparent that Uganda's NDCs has not adequately addressed the issue of WASH especially from the mitigation point of view. The NDCs tend to concentrate mostly on adaptations actions ignoring the fact that the poorly resourced WASH sector coupled with a growing population and urbanization is likely to roll back on gains made in other sectors in reducing emissions. Integrating WASH policy actions fully in the NDCs is likely to improve Uganda's attainment of her climate action goals/ambition and contribute to a low carbon future and more resilient economy that will aid sustainable development progress. The findings suggest that gaps need to be filled in the policy, technological, financing, and implementation levels to respond to WASH's multidimensional effect on other sectors and so that Uganda can achieve the 22% emission reduction targets by 2030.

The NDCs need to include mitigation action on WASH and the government must prioritize emission reduction actions likely to come from sanitation and waste management as least cost options with greatest opportunities and co-benefits. The NDCs should also set adaptation targets for the waste sector, coupled with the action on green cities and creation of green jobs especially when tackling the emission reductions. The NDCs provide a great opportunity for Uganda to raise 'additional' financing to building a sustainable sanitation and hygiene regime. Through the NDCs, improvement in sanitation and hygiene could be financed from the climate finance mechanisms and consequently enhance efforts to achieve SDG 6.2 (Note 9) and 6.3 (Note 10). Uganda's revised NDCs should amplify the role of the private sector in addressing climate action through improved waste management and promotion of hygiene. Private sector leverage on financing and technology transfer coupled with

a strong incentive regime such as support to earn Certified Emission Reduction (CERs) units can contribute to a climate resilient WASH sector. The NDCs should also promote research and development for the sector, responding to the need for high quality data and analysis, technical expertise, and increased stakeholder commitment. Particularly, there will be need to revise the WASH meta-data profiles in the country to provide accurate and more reliable data that can be used for planning and informed decision making. In line with the EAC's climate change strategy, Uganda needs to benchmark her NDCs with partner states in the block to tap into and leverage on capacities and resources. Given the limited consideration of the WASH sector in the NDCs, there is need to have a clear set of MRVs that will improve on collecting data that creates transparency and improves efforts to meet the set targets. Particularly, emissions monitoring for the WASH sector is lacking in the NDCs. The revised NDCs should have a policy action on technology transfer to tackle emissions from sanitation and wastewater systems. The waste sector particularly provides an opportunity to increase on the renewable energy mix and subsequently contribute to emission reductions if well harnessed.

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Notes

Note 1. Conference of the Parties, Adoption of the Paris Agreement, Dec. 12, 2015. U.N. Doc. FCCC/CP/2015/L.9/Rev/1 (Dec. 12, 2015).

Note 2. Article of 2 of Paris Agreement.

Note 3. Article 4 (2) of the Paris Agreement.

Note 4. At least 195 have signed and 189 countries have ratified the Paris Agreement. See <https://www.un.org/en/climatechange/parisagreement#:~:text=Ratification,189%20have%20ratified%20the%20Agreement>.

Note 5. Common but Differentiated Responsibilities and Respective Capabilities (CBDR–RC) is a principle within the United Nations Framework Convention on Climate Change (UNFCCC) that acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change. See <https://climatenexus.org/climate-change-news/common-butdifferentiated-responsibilities-and-respective-capabilities-cbdr-rc/>.

Note 6. Article 4 (2) of Paris Agreement.

Note 7. See: <https://water.org/our-impact/where-we-work/uganda/>.

Note 8. See UN Water: <https://www.sdg6monitoring.org/indicators/target-63/>.

Note 9. Target 6.2 seeks to achieve access for all to sanitation and hygiene.

Note 10. Target 6.3 seeks to halve the proportion of untreated wastewater discharged into our water bodies.

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