
This item was submitted to [Loughborough's Research Repository](#) by the author.
Items in Figshare are protected by copyright, with all rights reserved, unless otherwise indicated.

Strengthening climate resilience for WASH in Rwanda

PLEASE CITE THE PUBLISHED VERSION

PUBLISHER

WEDC, Loughborough University

VERSION

VoR (Version of Record)

LICENCE

CC BY-NC-ND 4.0

REPOSITORY RECORD

Malik, Murtaza, Marcelline Kayitesi, Yahaya Hassani, Jean Marie Vianney Rutaganda, Leoncia Mukamwiza, and Gedeon Musabyimana. 2024. "Strengthening Climate Resilience for WASH in Rwanda". Loughborough University. <https://doi.org/10.17028/rd.lboro.28062218.v1>.

43rd WEDC International Conference

ONLINE: 9 – 13 September, 2024

WATER AND CLIMATE RESILIENCE

Strengthening climate resilience for WASH in Rwanda

Murtaza Malik, Marcelline Kayitesi, Yahaya Hassani, Jean Marie Vianney Rutaganda,
Leoncia Mukamwiza & Gedeon Musabyimana

Rwanda

REFERENCE NO. 3530

Background

Rwanda has made significant progress in improving access to water and sanitation services with estimated 82 per cent and 92 percent of the households having access to improved water supply and sanitation services (NISR, 2022). Rwanda's efforts to achieve universal access to safe water supply services, however, are being threatened by climate change related hazards. Frequent flooding is resulting in damage and disruption to the water supply infrastructure and contamination of water sources. Droughts in part of the country are resulting in reduction in the yield of water sources. Moreover, they are also impacting the financial allocation for scale up of WASH services as the limited funds available for the sector are being diverted to frequently repair and rehabilitate the damaged infrastructure. Against this backdrop, the Government of Rwanda (GoR) is taking several initiatives aimed at strengthening climate resilience for WASH services. This paper presents an overview of these initiatives and provides recommendations for further strengthening the climate resilience for WASH sector.

Initiatives to strengthen climate resilience for WASH services

An overview of the key sector initiatives aimed at strengthening the climate resilience of WASH sector in Rwanda is as follows:

- Integration of WASH in the key National Climate Change related policy documents: Rwanda's Nationally Determined Contribution-2020, identifies water as one of the key adaptation priorities and includes specific water sector adaptation indicators. Similarly, Rwanda's Green Growth and Climate Resilience Strategy-2022, identifies WASH as a priority sector that needs focus for building adaptive capacity;
- Integration of climate change in the sector policies and strategies: The recently approved National Water and Sanitation Policy-2023 includes specific provisions regarding strengthening of climate resilience for WASH sector. Similarly, WASH Financing Strategy, developed in 2022, also includes cost estimates for achieving SDGs targets for WASH with strong focus on climate resilience;
- Climate risk assessment and rationale for WASH: In 2022, the Ministry of Infrastructure (MININFRA), the lead Ministry for WASH sector, undertook a climate risk assessment for the sector. The assessment identifies the key climate change related risks to which WASH services are exposed to in Rwanda, the sector's vulnerability to these risks and provides recommendations on how the sector should respond. Subsequently, a climate rationale for WASH was developed to make the case for effective action by government and WASH sector partners;
- Guidelines for climate resilient WASH services: Based on the climate risk assessment, MININFRA, with support from UNICEF, also developed guidelines for climate resilient WASH services in 2022. The guidelines recommend measures for climate proofing of WASH infrastructure and provide guidance on identification of technically feasible adaptation options in the context of Rwanda, based on related experiences elsewhere (UNICEF, 2022 & USAID, 2017). The guidelines have been shared with

line government agencies and the sector partners. Dedicated briefings on the guidelines were also organised for the staff of most vulnerable districts;

- Implementation of the guidelines: Rwanda Water and Sanitation Corporation (WASAC) Group, with support from UNICEF and other partners have started implementation of the guidelines for climate resilient WASH services. For instance, WASAC, with support from UNICEF and the Government of Japan, recently concluded works on ten water supply systems damaged during the 2020 floods, benefitting over 50,000 people. During rehabilitation of these systems, specific measures for climate proofing of the damaged infrastructure were implemented such as raising the pipes above maximum flood level river crossings; re-location of pipes and other critical assets in areas at high-risk of landslides or flooding; and improvement of drainage around pumping stations, where required;
- Groundwater mapping study: Currently, springs and sources water are the main sources of drinking water in Rwanda. As part of efforts to diversify the water sources, Rwanda Water Resources Board, with support from UNICEF in 2023, undertook a groundwater mapping study in priority areas of eight drought prone districts;
- Solar energy for pumping stations: Solar systems are being constructed, especially for boreholes and diesel-run water pumping stations as a measure to reduce operational cost using green energy;
- Climate financing for WASH sector: Efforts are being made to mobilise funding for climate resilient WASH services from climate financing mechanisms. In this regard, a concept note for a project focussing on climate resilient water supply services (USD 47 million), the first-ever for the sector, was submitted to Green Climate Fund in December 2023; and
- Strategy and action plan for climate resilient services: Currently, WASAC Group, the sole water and sanitation utility in the country, with support from UNICEF and UK's Foreign, Commonwealth & Development Office, is developing a strategy and action plan for climate resilient WASH services to help WASAC Group transform into a climate-smart utility.

Conclusion and the way forward

The GoR and partners have taken important steps to shift to climate resilient WASH programming in Rwanda. The experiences of the work carried so far show that, given the high vulnerability of WASH infrastructure to climate change in Rwanda, which is characterised by hilly topography, more efforts are needed to build sector's climate resilience. There is a need to strengthen evidence base and reporting on impacts of climate change on WASH services; build the capacity of the sector professionals in planning, design, implementation and operation and maintenance of climate resilient WASH services; increase engagement with climate change and environment sector ministries and partners so that WASH can be prioritised on climate agenda; and mobilise additional resources for WASH from the climate financing mechanisms. To guide and support efforts to further build the sector's resilience, MININFRA has established a sector thematic working group on "WASH and climate resilience", which brings together all the relevant government agencies as well as the development partners.

References

1. NISR - National Institute of Statistics Rwanda (2022). Population and Housing Census, NISR, Rwanda.
2. MINEMA -Ministry of Emergency Management (2023). Emergency Response Plan, May 2023 Floods and Landslides, MINEMA, Rwanda.
3. UNICEF (2022). Strategic Framework for WASH Climate Resilient Development, UNICEF and Global Water Partnership, UNICEF, New York.
4. USAID (2017). Climate-Resilient Water Infrastructure: Guidelines and Lessons from the USAID Be Secure Project, USAID Philippines.

Contact details

Murtaza Malik, Chief WASH, UNICEF, Rwanda. Email: mumalik@unicef.org

Marcelline Kayitesi, Director General, Water and Sanitation, MININFRA, Rwanda.

Email: marcelline.kayitesi@mininfra.gov.rw

Yahaya Hassani, WATSAN SWAP Secretariat Coordinator, MININFRA, Rwanda.

Email: hassani.yahaya@mininfra.gov.rw

Jean Marie Vianney Rutaganda, WASH Specialist, UNICEF, Rwanda. Email: jrutaganda@unicef.org

Leoncia Mukamwiza, Policy Research & Development Expert, WATSAN SWAP Secretariat, MININFRA, Rwanda. Email: leoncia.mukamwiza@mininfra.gov.rw

Gedeon Musabyimana, WASH Officer, UNICEF, Rwanda. Email: [gmusabyimana@unicef.org](mailto:gumusabyimana@unicef.org)