

Training on Climate Resilient WASH Services in Karongi and Nyamasheke district

Training / 23rd – 27th February 2026, Kibuye, Rwanda

Final-report



Background: why this training?

Rwanda is experiencing increasing climate variability characterized by intense rainfall, prolonged droughts, and rising temperatures. These climatic changes pose significant challenges to water infrastructure systems, affecting water security, public health, and socio-economic development. The country's Vision 2050 and National Strategy for Transformation (NST1) prioritize climate resilience and sustainable water resource management.

Current water infrastructure in Rwanda faces multiple climate-related vulnerabilities including flooding of water treatment facilities, erosion affecting pipelines and intakes, drought-induced water shortages, and infrastructure damage from extreme weather events. Building capacity among water sector professionals to plan, design, and operate climate-resilient water infrastructure is critical for ensuring sustainable water service delivery.

The Rwanda Red Cross Society in Partnership with Austria Red Cross is implementing Climate change adaptation project in Karongi and Nyamasheke districts. The project aim is to strengthen the climate resilience of vulnerable rural communities, with a focus on women and youth in Western Province.

Within this framework, the Training on Climate Resilient WASH Services contributes to Output 2 of the project, which focuses on ensuring climate-resilient and safe access to water amid increasing climate impacts. The training will build the capacity of key stakeholders including local authorities, water operators, and community water committees to conduct climate risk assessments, apply climate-resilient design principles, and implement adaptive measures. These enhanced capacities will inform and guide the implementation of Output 2 interventions, specifically the assessment of climate risks, identification and prioritization of vulnerable water supply infrastructures, and the promotion of resilient rainwater harvesting and water storage solutions for the targeted communities.

Who, when and where?

The workshop took place from Monday 23rd February till Friday 27th February in the Kivu Breeze Hotel in Kibuye, Rwanda. There were 19 participants in total (8 (6f / 13m) from Rwanda Redcross branches& HQ, government offices, WASAC, private sector as well as Austrian Red Cross.

Overall goals

To enhance the technical capacity of key WASH stakeholders in Karongi and Nyamasheke districts to plan, design, and manage climate-resilient water systems and services.

Specific learning objectives

By the end of the exercise, participants can:

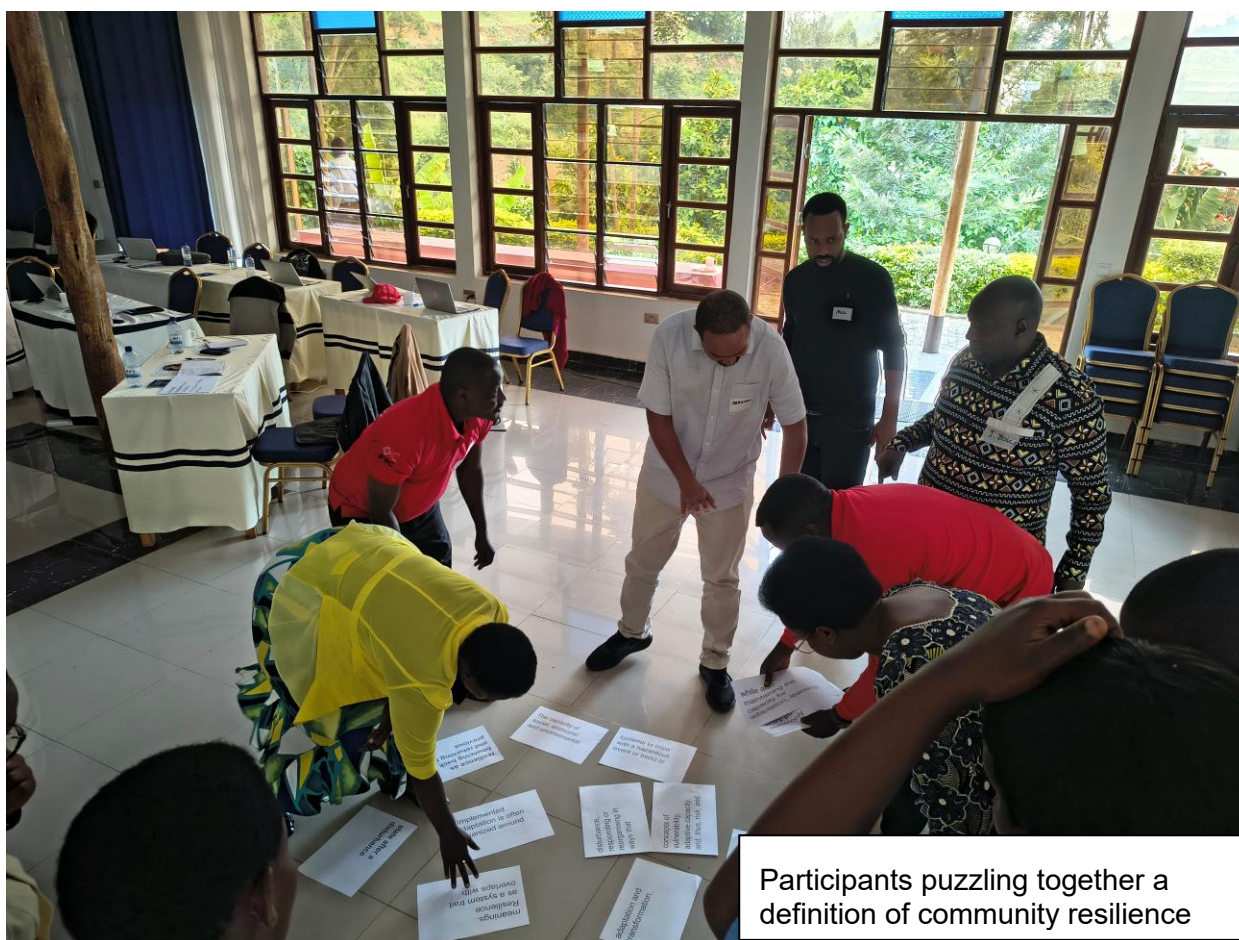
1. Strengthen understanding of climate change impacts on WASH services in the Rwandan context.
2. Build technical skills in climate risk assessment and vulnerability analysis for water systems.
3. Develop competencies in designing and managing principles for climate-resilient water infrastructure including considerations for floods, erosion, and drought
4. Enhance knowledge of nature-based solutions and green infrastructure for water management
5. Promote integration of climate resilience into local WASH planning and investment decisions to strengthen long-term sustainability and service delivery in the targeted districts.
6. Foster collaboration and knowledge exchange among local authorities, water service providers, and community representatives to improve coordination and ownership of climate-resilient WASH interventions.

Description of the training

- The training used a face-to-face adaptation of an online course by [IRC](#), with some omissions (the section on climate financing was completely skipped, as it was deemed irrelevant for the target audience of the course) and some adaptations:
- The training used the Red Cross PGI framework to cover the topic of Gender & Inclusion. For this, the RRCS PGI focal point gave a presentation, but in addition of course the topic of differential vulnerabilities was a significant part of the sections on climate risks.
- The training made use of [a presentation about WASH and climate resilience](#) that was developed by IFRC and the RedCross Climate center. Both IRC and IFRC use the same underlying definition of climate resilient WASH, namely the one of [SWA](#):
- “Climate-resilient water, sanitation and hygiene services anticipate, respond to, cope with, recover from, adapt to or transform based on climate-related events and trends - all while striving to achieve and maintain universal and equitable access to safely managed services, minimizing emissions where appropriate, and paying special attention to the most exposed and vulnerable groups.”
- Furthermore, this training mainly used examples from Rwanda rather than the examples from other countries that were provided in the IRC package. For that reason, a local consultant was part of the facilitation team, which also included a WASH advisor from Austrian Red Cross and the PGI focal point of Rwanda RCS.

- Finally, the practical parts of the training (~60% of the training time) worked on actual WASH systems in the project area of PROTECT, rather than using hypothetical scenarios with limited relevance and familiarity to the participants. This also included a field visit to nearby water and sanitation systems.
- Consequently the main sequence of the training consisted of
 1. defining climate change and climate resilience, and its relevance for WASH
 2. elaborating the gendered vulnerabilities and the RCRC approach to them (aka PGI)
 3. assessing climate risks for WASH (with a particular emphasis on Rwanda and the lake Kivu region)
 4. learning about possible interventions in the domains of adaptive management, ecosystem protection and upgraded infrastructure including nature based solutions.
 5. Reflecting on advocacy for climate resilient WASH systems, with a particular emphasis on awareness creation in the communities

A detailed training agenda-as-run can be found in Annex 1.



Participants puzzling together a definition of community resilience



Participants identifying climate related risks in their own water & sanitation systems



Participants observing a school latrine and discussing with the director climate related risks to the proper functioning of that system



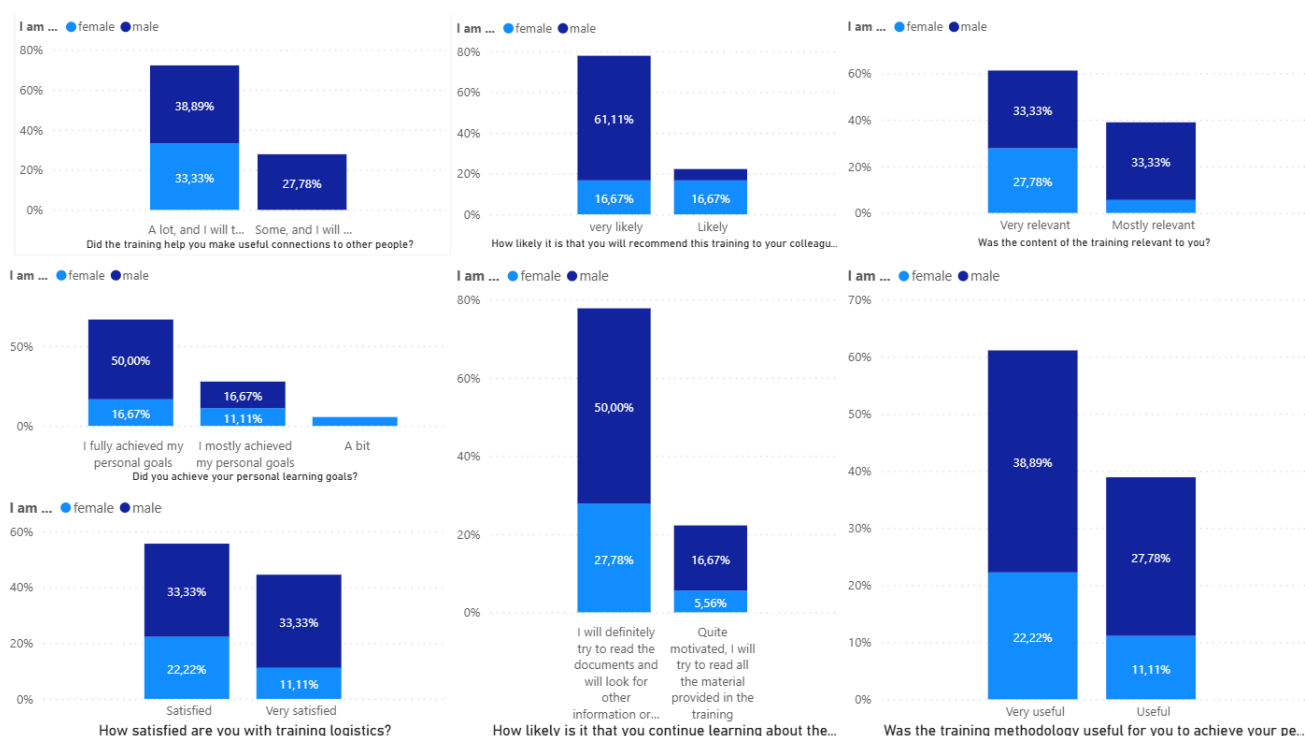
Participants practicing the identification of risks in catchment areas of water supply schemes and brainstorming improvement actions.

Outcome

By means of anonymous surveys before (15 replies) and at the end of the workshop (18 replies), the participants' self-confidence in various aspects of climate resilient WASH systems was assessed, based on a similar self assessment that participants of the IRC online course have to do.

The self-confidence of the participants increased in all aspects during the course of the workshop. The average self assessment across all aspects for women and men was 1.93 and 2.35 respectively before and 3.34 and 3.6 after the training (indicating that women on average managed to increase their confidence more than men, but both did considerably). A more detailed visualization can be found in Annex C.

In addition, the general feedback from the workshop participants was positive as seen in Figure 1, with almost all participants indicating to have fully achieved or even overachieved their own goals for the workshop. In terms of logistics, the



1 - Post Workshop evaluation

Direct Comments also indicate high satisfaction of the participants and show that the concept of using actual systems and field visit was appropriate. In fact, in verbal comments at the end of the training, some participants expressed the wish for even more field visits and more practical applications in particular more time for actually designing and planning interventions. However, there did seem to be significant knowledge gaps about basic concepts such as climate vs. weather, or climate change mitigation vs. adaptation, risk or resilience. Consequently, spending more time on practical applications without addressing those basic knowledge gaps first feels like building a roof of a house before its foundations. For the future, we would recommend a **modular approach to this training**: a **basic introduction** that gets the fundamentals right, and subsequently a **practical workshop for more in-depth application** of the knowledge.

Furthermore, language was an issue. The presentations were prepared in english, but some participants seem to struggle with understanding and even more so with expressing themselves in english. While the bilingual facilitation team did offer translation to Kinyarwanda when it felt necessary, a Kinyarwanda-only training or a French language trainer might have been more

effective (which was also commented in the open section of the post training survey – see Annex.D) The **inclusion of a Rwandan climate resilience expert into the facilitation team proved to be of crucial importance**, as he could chip in official documents and examples from Rwanda.

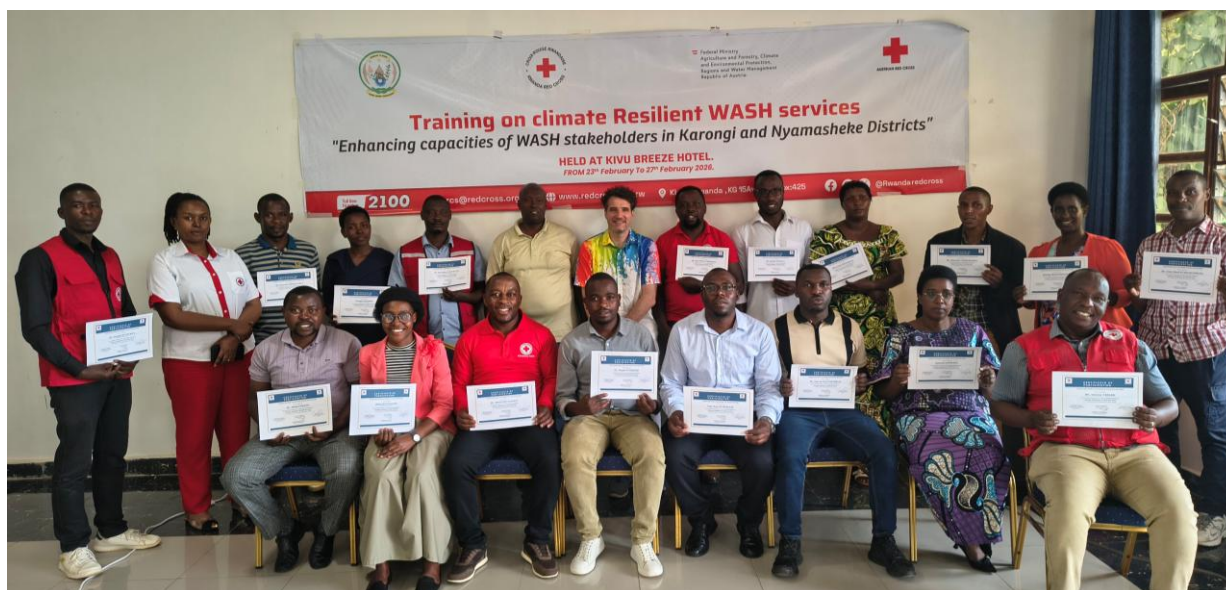
Furthermore, presentations used official definitions (eg for climate resilience) from high level documents, and as such they were often pretty complex. This was partially addressed by including an activity in the advocacy section about creating videos with the translation of difficult terms into simple Kinyarwanda. However, it would have helped to a) have this translation exercise earlier on in the workshop and b) replacing official terminology on the slides with simple language from the beginning.

As it was expected for a diverse crowd, the most important learnings were different for all participants, with some people appreciating more the PGI part, while others were highlighting the more technical & infrastructure focused sessions (see Annex D).

The anonymous surveys pre- and post-training also contained a small knowledge quiz (again using the questions from the IRC online course) The % of correctly answered questions increased from 50.6% before to 66.1% after the training. More detailed results can be seen in Annex C.

Some questions might have been formulated in not so easy language, so it has to be kept in mind that a key determinant of success in that test might be rather related to the respondents proficiency of English rather than an understanding of the topic. Also, Climate financing was not covered in the training, but the knowledge test included a question on that. However the test does indicate that **some key messages did stick with the participants**.

In general, we think that the training could be (adapted &) replicated in other contexts as well.



Want to know more? Contact

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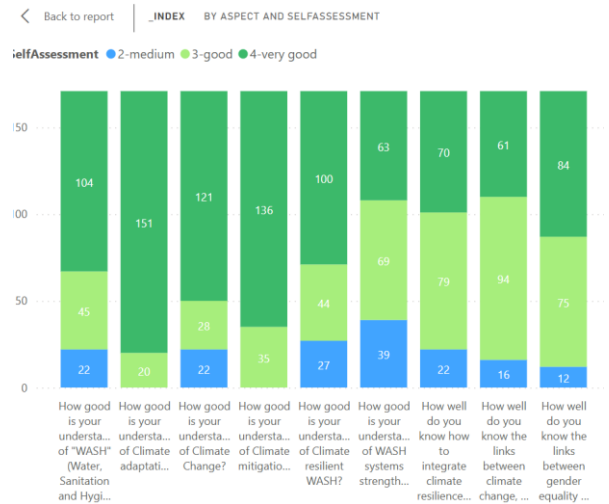
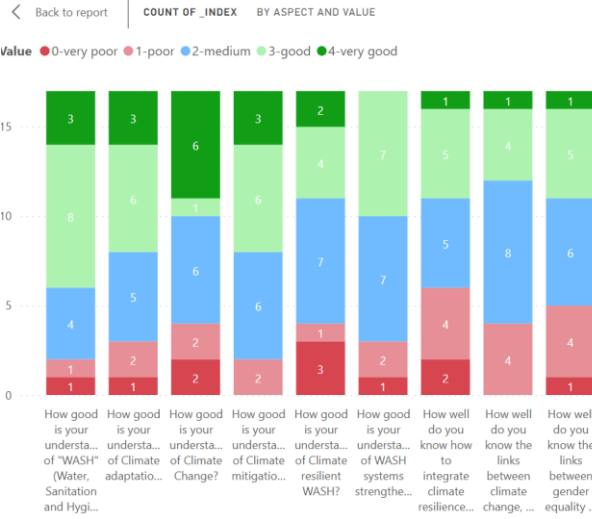
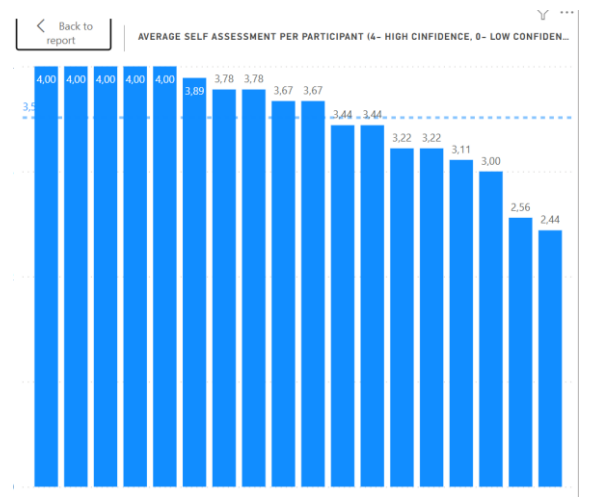
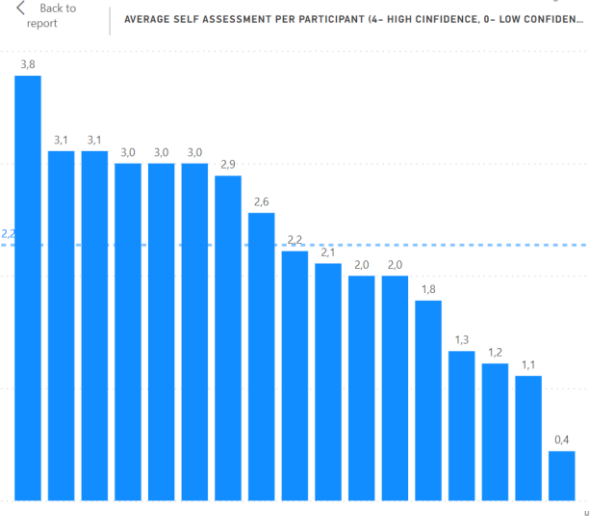
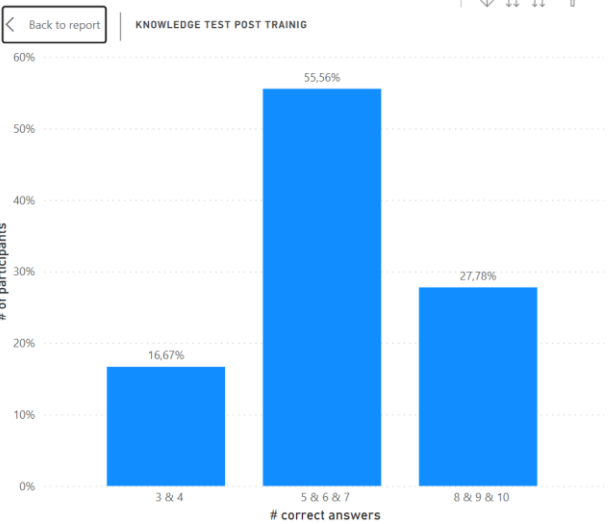
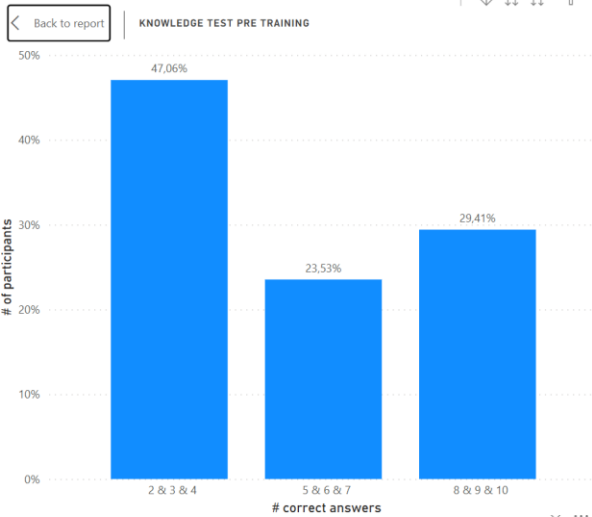
ANNEX A – Reference Documents/ Links

Title	Link
IRC online course	https://washsystemsacademy.org/mod/page/view.php?id=14105
IFRC - document	https://www.climatecentre.org/wp-content/uploads/RCRC_IFRC-Health-and-Water-Sanitation-and-Hygiene-WASH-V1-2021-2.pdf
IFRC presentation on climate change and WASH	https://ctk.climatecentre.org/downloads/modules/training_downloads/2d Presentation Climate and WaSH JAN2021.pptx
WASAC WASH Vulnerability Assessment	https://washsystemsacademy.org/pluginfile.php/61169/mod_resource/content/1/Vulnerability%20assessment%20for%20climate%20strategy%20and%20action%20plan%20final.pdf
How Tough is WASH?	https://www.nature.com/articles/s41545-021-00130-5
WHO - Sanitary Inspections for Water Supply	https://wsportal.org/wp-content/uploads/2024/03/9789240089006-eng.pdf
WHO - Sanitary Inspections for Sanitation	https://www.who.int/publications/m/item/who-sanitary-inspections-for-sanitation-systems
Working with nature to protect people How nature-based solutions reduce climate change and weather-related disasters - IFRC	https://www.ifrc.org/sites/default/files/2022-05/IFRC_%26_WWF_V_6-LR.pdf
Nature based solutions to address Climate Change - Oxfam	https://www.oxfamwash.org/wp-content/uploads/Guidance-Note-9-Nature-based-Solutions-to-address-Climate-Change-in-WASH.pdf

ANNEX B - Training Agenda “as run”

	Monday 23.2.	Tuesday 24.2.	Wednesday 25.2	Thursday 26.2.	Friday 27.2.	
9:00-9:30		Recap		Recap	Recap (15min)	
9:30 - 10:00	1.1 introduction, welcome				PGI (45 min)	
		2.1 climate risk assessments intro (general and Lake Kivu specific)		4.1 designing climate resilient wash + nature based solutions introduction (general and Rwanda case)	5.1 advocacy for climate resilient WASH introduction	
10:00-10:30						
10:30 - 11:00	Coffee Break	Coffee Break		Coffee Break	Coffee Break	
11:00-11:30	1.2 definitions & introduction into the topic	2.1 climate risk assessments intro (general and Lake Kivu specific) cont.		3.1 Field visit (starting at 8:30)	4.1 designing climate resilient wash + nature based solutions introduction (general and Rwanda case) cont.	Introduction into PROTECT project
11:30-12:00						
12:00-12:30						
12:30-1:00		2.2 climate risk assessments practicals				5.2 advocacy for climate resilient WASH practicals
1:00-2:00	lunch	lunch	lunch	lunch	evaluation & closure	
2:00-2:30	1.3 our systems		3.2 Debriefing Field Visit	4.2 designing climate resilient wash + nature based solutions practicals	lunch (13:30) and departure	
2:30-3:00						
3:00-3:30		2.2 climate risk assessments practicals cont.				
3:30-4:00						
4:00-4:30		2.3 preparations for field visit				

ANNEX C – Comparison Pre- and Post-training knowledge & self assessment



ANNEX D – Final Evaluation Comments



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IS THERE ANYTHING THAT YOU LIKE TO TELL US ?

_index First Is there anything that you like to tell us ?

2	The project has to organize refresher training
3	To work closely with all domains in climate resilience
4	Improve more practical case studies.
5	To plan the training again with more field visit of WASH infrastructures
6	thank you for your training
7	thanks for preparing this training, it was very important for me
8	I truly thank you so much
9	Thank you a lot for your good methodology and facilitation
10	Sincerely the training were good 😊 and interesting but we won't documents which are traduce in t
11	More training based on climate change resilience based on achieved practically based on field studie
12	Thanks you!
13	Appreciation to you and when is cappable welcome again
14	it is better to insert the environmentalist in the other training ,
15	yes, thank you for all
16	I appreciate more and more.
17	It would be good if you could prepare a refresh training for us
18	I'm happy bcz i learned more . Thank you
Total	Appreciation to you and when is cappable welcome again

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_inde First How will you apply the learnings in your work?

18	I will use some of trained lessons
17	Advocate for policies that integrate climate and WASH priorities
16	As a private operator I will try to clean the water source we manage by facing, trenches and securing other related infrastructures.
15	I will apply for climate resilient and adaptation
14	in water and sanitation infrastructure
13	Sending message by attending community meeting, using social media like watsap and small content in group conversation
11	Share my knowledge and propose to my work mates solutions based climate change resilience
10	Before we begin identifying the issues about the climate resilient wash in the areas the project makes,system ,need of population and then we choose differents achieve our goalsakes intervetin, also we identify the system the
9	I will apply the knowledge gaigned by mobilizing others to prevent the risks that can affect Wash resilince. I will try also to promote Resilient Wash measures wf
7	take care of Wash infrastructure
6	wash infrastructure
5	I will apply the learnings from the Climate Resilient WASH training by integrating climate-resilient practices into water, sanitation, and hygiene (WASH) planning Enhance Project Design: Incorporate risk assessments for climate-related hazards such as floods, droughts, and extreme weather events into the design of WASH Implement strategies that increase the durability and sustainability of WASH facilities under changing climatic conditions. Community Engagement: Educate and WASH practices to ensure behavior change and resilience. Policy and Coordination: Advocate for climate-resilient approaches within local policies and coordina resilience into WASH programs. Overall, I aim to ensure that WASH services remain reliable, safe, and accessible, even in the face of climate variability and extre
4	Integrate climate and WASH considerations, promote community-led and inclusive approaches, Monitor, learn and improve.
3	Integrating climate risks into planning and implementation
2	As sometimes I take apart in design ,planning and monitoring of WASH infrastructures, I will consider all possible climate adaptation strategies!
1	Use the approach and tools for my current project

_index First How will you apply the learnings in your work?

1	Use the approach and tools for my current project
2	As sometimes I take apart in design ,planning and monitoring of WASH infrastructures, I will consider all possible climate adaptation strategies!
3	Integrating climate risks into planning and implementation
4	Integrate climate and WASH considerations, promote community-led and inclusive approaches, Monitor, learn and improve.
5	I will apply the learnings from the Climate Resilient WASH training by integrating climate-resilient practices into water, sanitation, and hygiene (WASH) planning and implementation. Specifically, I will: Enhance Project Design: Incorporate risk assessments for climate-related hazards such as floods, droughts, and extreme weather events into the design of WASH infrastructure. Promote Sustainability: Implement strategies that increase the durability and sustainability of WASH facilities under changing climatic conditions. Community Engagement: Educate and involve communities on adaptive WASH practices to ensure behavior change and resilience. Policy and Coordination: Advocate for climate-resilient approaches within local policies and coordinate with stakeholders to mainstream resilience into WASH programs. Overall, I aim to ensure that WASH services remain reliable, safe, and accessible, even in the face of climate variability and extreme weather events.
6	wash infrastructure
7	take care of Wash infrastructure
9	I will apply the knowledge gaigned by mobilizing others to prevent the risks that can affect Wash resilience. I will try also to promote Resilient Wash measures wherever I am
10	Before we begin identifying the issues about the climate resilient wash in the areas the project makes,system ,need of population and then we choose differents methods those could help us to achieve our goalsakes intervetin, also we identify the system the
11	Share my knowledge and propose to my work mates solutions based climate change resilience
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14	in water and sanitation infrastructure
15	I will apply for climate resilient and adaptation
16	As a private operator I will try to clean the water source we manage by facing, trenches and securing other related infrastructures.
17	Advocate for policies that integrate climate and WASH priorities
18	I will use some of trained lessons

ANNEX E – Post-Training-Evaluations

