

## Terms of Reference

# Development of a tool to enhance climate resilience and environmental impact of humanitarian sanitation technologies

### 1. Introduction/ Background

Climate change disasters and environmental pollution can have a negative impact on the provision of humanitarian water, sanitation and hygiene (WASH) services. More frequent and stronger extreme weather events, such as droughts and floods, can jeopardise the functioning of services, increase water scarcity and threaten hygiene. At the same time, poor WASH services contribute to environmental pollution, for example through unregulated disposal of faecal sludge. Climate resilient and environmentally sound WASH systems therefore play a central role in ensuring disaster resilient services, healthy living conditions and an intact environment. Such approaches are essential for effective long-lasting and cost-efficient service provision.

To address climate change risks and impacts in humanitarian contexts is a key priority of the German WASH Network, also in line with the strategies of the German Federal Foreign Office. Therefore, the network has established a working group on climate change to strengthen both members and partners, as well as the wider global WASH sector in this regard.

As a key actor in global humanitarian WASH knowledge management and capacity building the German Toilet Organization (GTO) also co-leads the Technical Working Group "Climate Change" of the Global WASH Cluster with IOM. Together with renowned international humanitarian partners, GTO has been developing humanitarian WASH reference publications and tools for several years, such as the "Compendium of Sanitation Technologies in Emergencies" and the "Compendium of Water Supply Technologies in Emergencies" also available as a clickable online version under [www.emergency-wash.org](http://www.emergency-wash.org). The following consultancy builds on these initiatives by adding a tool on the climate proofing of relevant technologies.

### 2. Goal & Objectives

The aim of this tender is to complement the Compendium of Sanitation Technologies in Emergencies with a tool that helps to make the practical implementation of humanitarian WASH projects more climate-resilient and environmentally friendly. More specifically, the tool aims to support the selection of appropriate technologies and sanitation systems, through a basic evaluation of their vulnerabilities to key climate risks, as well as their potential environmental impacts.

In a first step, it is intended to develop the tool for the technologies listed in the sanitation compendium, respectively its online version. An extension to the water supply technologies is tentatively planned once the tool has been implemented successfully and has proven its usefulness. The extension is not part of this tender.

### 3. Tasks & Methodology

The development of the tool could potentially follow the work steps listed below:

- a) Inception and Concept Refinement
  - Briefing / Inception meeting
- b) Develop criteria for technology assessment
  - Draft a lists of criteria for the following five areas
    - Relevant climate risks
    - Relevant climate impacts
    - Site-specific sensitivities that influence climate risks and environmental impacts
    - Climate risk mitigation measures
    - Climate impact mitigation measures
  - Agree in consultation with relevant experts on shortlists of criteria in the five areas
- c) Develop a format for evaluating the technologies based on the shortlisted criteria
  - Propose and facilitate decision on clear and easy-to-use format that ideally enables visually supported analysis (e.g., matrix)
  - Prepare a joint decision with the contractee on level of detail of the assessment and information provided (in order not to unnecessarily increase the complexity of the tool on the one hand, but on the other hand to ensure great practical value for humanitarian WASH planners and implementers).
  - Design format
- d) Evaluate [sanitation technologies](#) (61x) regarding their vulnerability to climate risks
  - Generic evaluation of technologies regarding their vulnerability to climate risks (=> pot. climate risks)
  - Identify site-specific sensitivities that affect the climate vulnerability of an individual technology (=> climate relevant sensitivities)
  - Based on site-specific sensitivities re-evaluation of technology vulnerability to climate risks (=> relevant climate risks)
  - Based on contextualised climate risks identify mitigation measures (=> relevant climate risk mitigation measures)
- e) Evaluate [sanitation technologies](#) (61x) regarding their potential environmental impacts
  - Generic evaluation of technologies regarding their environmental impacts (=> pot. environmental impacts)
  - Identify site-specific sensitivities that affect the environmental impact of an individual technology (=> environmental relevant sensitivities)
  - Based on site-specific sensitivities re-evaluation of technology impact to the environment (=> relevant climate impacts)
  - Based on contextualised environmental impacts identify mitigation measures (=> relevant environmental protection measures)
- f) Write brief report, including recommendations for the technical implementation if possible

## Way forward

Based on the results of this work package the development of an evaluation algorithm, the conception of user flows and the technical realisation of the tool are foreseen as part of a second work package.

- g) Development of an evaluation algorithm
- h) Conception of the user flows
- i) Decision on development and technical realisation (design, implementation) of the tool as part of the emergency-wash.org online platform

Please note: Only the first work package is part of the contract to be awarded here.

## 4. Timeline and Duration

	Tasks	Timeframe	Duration (estimates)
a)	Inception and Concept Refinement	Dec 2024	2 days
b)	Develop criteria for technology assessment.	Jan – Feb 2025	3 days
c)	Develop a matrix of sanitation technologies and criteria for technology assessment	Feb 2025	3 days
d)	Evaluate sanitation technologies (61x) regarding their vulnerability to climate risks	March-April 2025	8 days
e)	Evaluate sanitation technologies (61x) regarding their potential environmental impacts	March-April 2025	8 days
f)	Write brief report	May	1 day
			25 days in total

**Please note:** the working days estimate are based on assumptions on the number of criteria and the level of detail of the information provided per technology and criteria. There are overlaps between some of the 61 technologies listed (especially within the same functional group, e.g. different types of pit latrines) and for others the climate risks and impacts are less relevant and do not require much elaboration (e.g. urinal, or urine application).

## 5. Qualification and Expertise

- Proven experience of delivering high quality evidence, learning and knowledge management products related to WASH in humanitarian assistance and development contexts.
- Strong knowledge and understanding of current best practice in relation to (emergency-) sanitation technologies and systems
- At least 5 years of experience in planning, implementing and managing humanitarian and development WASH programmes
- Practicable experience in delivering WASH projects in humanitarian and climate affected contexts

- Master's degree (or equivalent diploma / post graduate studies) in relevant subjects like engineering or environmental and social sciences
- Strong analytical and conceptual thinking
- The ability to communicate technical subject matter (in oral and written form) to people with varying technical knowledge/skills and from different educational and cultural backgrounds.

## 6. Contractual Aspects

<b>Duty Station:</b>	Home Based
<b>Time frame:</b>	December 2024 – May 2025
<b>Management &amp; Supervision:</b>	German Toilet Organization (secretariat of German WASH Network) for the provision of services and works on behalf of the GTO
<b>Reporting</b>	The consultant will report to the responsible project coordinator of the German Toilet Organization, which will update the GWC TWIG Climate Change on progress and success.
<b>Remuneration:</b>	proposed as follows (negotiable) <ul style="list-style-type: none"><li>- 50 % of the fee on the award of the contract (payment against invoice)</li><li>- 50 % of the fee after completion of all deliverables (payment against invoice upon completion and review of deliverables)</li></ul> Travel expenses (if applicable) related to the assignment, will be reimbursed by GTO against original receipts.
<b>General Terms &amp; Conditions:</b>	The consultant must comply with the <a href="#">General Terms and Conditions of Contract (GTCC)</a> .

## 7. Submission of bids

The offer should consist of the following:

- Technical offer incl.
  - Brief concept including an example evaluation of a technology based on your understanding of the assignment,
  - a summary of relevant expertise related to the topic
  - a summary of relevant experience with designing and publishing key evidence and knowledge management products (guidance, tools etc)
- Financial offer with budget according to the schedule (incl. daily rate)
- CV

➔ The bid must be submitted by **January 5, 2024** to Thorsten Reckerzügl: [thorsten.reckerzuegl@germantoilet.org](mailto:thorsten.reckerzuegl@germantoilet.org) & Johannes Rueck: [johannes.rueck@germantoilet.org](mailto:johannes.rueck@germantoilet.org)