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**MINISTRY OF WATER AND ENERGY**  
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## Terms of Reference for the development of the “Mainstreaming CR-WASH guideline”

Federal PMU for Water, Program Management Unit



  
Tadele Gezhegne  
National Wash Program  
Management Unit Coordinator



**MOWE**  
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# 1. Introduction

## 1.1. Background

Despite the progress made in recent years in terms of water supply, sanitation and hygiene service provision, Ethiopia is encountering complex challenges of recurrent drought, variability in groundwater and surface water resources for decades, putting its vision of joining middle-income countries by 2025 at risk. Scholars are expressing their concerns that Ethiopia would be water stressed by 2025 due to the high population increase and limitations in efforts to make its WASH development climate resilient, specifically within its arid and semiarid areas, which cover more than 40% of its territory. There are critical challenges facing the sector in the drought-affected areas of the country, including first, how to incentivize the private sector to work well in these challenging lowland areas. Second, the need to establish and improve the governance of water schemes to be recognized and given equal weight to technical solutions and, last, a lack of adequate site-specific information that has been triggered either by a lack of substantive site-specific studies or poor documentation of available studies.

Recorded reports on drought reveal that Ethiopians have been affected by droughts for more than a century since 1888. The intensity of these droughts has increased since 1972. Accordingly, approximately 1.2 million people and millions of livestock died between 1972 and 1984 alone, while the number of people affected varied from 13.2 million people in 2003 to 260,000 in 2006. Although Ethiopia is double-digit economic growth has been able to absorb the risks of drought during the past decade, climate-resilient sustainable WASH development has increasingly become an agenda for survival, specifically in arid and semiarid areas. This is because the impact of climate change significantly challenges the water supply system, particularly for shallow wells, small springs and small river intakes, through variations in precipitation patterns, increased frequency of extreme weather events, drying of shallow ground water sources and rising temperatures, which can affect water availability and quality.

Accordingly, this final version of the Climate Resilient Water Supply, Sanitation and Hygiene program was developed after addressing the constructive comments given during the different consultative workshops at various levels with different stakeholders on May 4, 2018. The program was then formally included as a component of the One WASH National Program II and is considered a part of GoE's flagship program to address WASH challenges in the country.

Hence, component implementation has two phases: the first phase spans from 2017–2020, and the second phase spans from 2021–2030. With these two phases, the program will require a total budget of 5 billion USD.

The development of the Sustainable Water Supply in Drought Prone Areas of Ethiopia (DSWSDPAE) is a major subprogram under the One WASH National Programme (OWNP) and is expected to bolster the success of OWP. The development of the water supply will not only be used for domestic consumption but also for livestock. These CR subproject activities are financed through the consolidated WASH account (CWA) and government treasury.

The subprogram focuses on water supply and sanitation as entry points and addresses the sensitization of communities in terms of building capacity at all levels and the use of sanitation and hygiene facilities



such as latrines. It also considers institutional WASH and recommends sanitation facilities in rural areas in line with OWNPN.

Therefore, the climate-resilient subprogram considers the following key strategic factors during the implementation period as strong and agreed-upon recommendations:

- ✓ Prioritize the Climate Resilient WASH development for chronically drought-prone areas.
- ✓ The focus must be on disaster risk reduction rather than disaster management.
- ✓ CR-WASH should be integrated with water conservation, catchment management and integrated water resource management to ensure sustainability.
- ✓ Post-construction support units such as those in OWNPN— particularly for multivillage water schemes (MVWSs) are established.
- ✓ Capacity development via regional universities, the EWTI and TVETCs
- ✓ The subprogram must be linked with livestock, fodder production and agro-industries to ensure the ability to pay for water.
- ✓ Promote and strengthen credit and savings institutions for smooth transition of implementation and management of facilities to be constructed
- ✓ Enhancing economies of scale for cost-effectiveness by using MVWS for clusters of villages
- ✓ Coordinated graduate youth groups were used for private engagement to support the management of MVWSs based on the recently approved Rural Water Utility Operation and Maintenance Management Manual.
- ✓ CSOs and development partners should mobilize their own resources and align with these projects wherever possible, ensuring joint reporting and monitoring.

The government of Ethiopia has developed National Policies for Rural Water Supply, Sanitation & Hygiene Service Provision. The Federal WaSH sector Ministries (MoWE, MoH, MoE, and MoF), with the support of development partners, have also developed the WaSH Implementation Framework (WIF), the Program Operation Manual (POM) for activities financed through the Consolidated WASH Account (CWA), and the WaSH National Program Documents (OWNPN) to facilitate the implementation of CR WASH interventions. The established guidelines and framework are intended to ensure the implementation and management of CR WASH interventions in a more integrated and harmonized manner aligned with the sector policies and targets, as the existing sector guidelines lack provisions to mainstream the impact of climate change in the feasibility study, detail design, project implementation and delivery of WASH services.

The development of the CR-WASH mainstreaming guideline is essential for offering comprehensive guidance for establishing and sustaining a WASH framework. The guidelines aim to address the impacts of current and future climate change proactively, integrate scientifically sound measures to increase resilience, minimize risks, and optimize water resource management across diverse climatic conditions.

## 1.2. Rationales

Climate-resilient mainstreaming in WASH guidelines is driven by the need to proactively address the impacts of climate change, enhance community resilience, and ensure the sustained provision of essential water, sanitation, and hygiene services in a changing climate. It aligns with global sustainability goals and promotes holistic, adaptive approaches to WASH planning and implementation.



The rationale for implementing climate-resilient mainstreaming in WASH guidelines originates from the recognition of the intricate interplay between climate change and the WASH sector. Integrating and mainstreaming climate resilience into WASH guidelines is essential for various reasons:

1. **Climate change impacts WASH services:** Climate change poses significant challenges to the availability and accessibility of water resources. Changes in precipitation patterns, increased frequency of extreme weather events, and rising temperatures can affect water availability and quality. Mainstreaming climate resilience ensures that WASH services can adapt to and cope with these changes effectively.
2. **Risk Reduction and Vulnerability Management:** Integrating climate resilience into mainstream WASH guidelines allows a systematic approach to identify, assess, and address climate-related risks. This includes anticipating the potential impacts of extreme weather events on the water supply and sanitation infrastructure and developing strategies to reduce vulnerabilities in communities.
3. **Community Health and Well-being:** Climate change can exacerbate health risks associated with waterborne diseases. Mainstreaming climate-resilient WASH guidelines, helps protect public health by ensuring the continuous provision of safe drinking water, adequate sanitation, and hygiene promotion even in the face of climate-related challenges.
4. **Climate change impacts socioeconomic-related WASH services:** This impact is directly related to the water supply and sanitation services. Often, people are forced to buy water at an inflated cost from a distance, attempt to fetch from a distance or even may be forced to evacuate. Addressing the issue through mainstreaming could at least reduce or address the issue.
5. **Long-Term Sustainability:** Climate-resilient mainstreaming enhances the sustainability of WASH interventions. By considering the long-term impacts of climate change, guidelines can support the development of infrastructure that withstands environmental changes, reducing the need for frequent repairs and ensuring continuous service delivery.
6. **Alignment with Global Climate Goals:** Mainstreaming climate resilience in WASH aligns with global climate goals, including commitments outlined in international agreements such as the Paris Agreement. It contributes to broader efforts to mitigate climate change impacts and build adaptive capacity at the community level.
7. **Community Empowerment and Participation:** Integrating climate resilience into mainstream WASH guidelines involves engaging communities in the planning, implementation, and management of climate-resilient interventions. This approach empowers communities to actively participate in building their resilience and adapting to changing climatic conditions.
8. **Effective Resource Utilization:** Mainstreaming climate resilience ensures the efficient allocation of resources by considering climate risks from the outset of WASH projects. This reduces the likelihood of investments becoming obsolete or inadequate in the face of evolving climate conditions.
9. **Regulatory Compliance:** Mainstreaming climate resilience in WASH guidelines helps ensure compliance with evolving regulatory frameworks, fostering sustainable and climate-resilient infrastructure development.
10. **Ecosystem Sustainability:** Climate-resilient mainstreaming recognizes the interconnectedness of ecosystems and human activities. By considering the impacts of climate change on ecosystems, guidelines can promote sustainable practices that safeguard water sources and contribute to broader environmental conservation goals.
11. **Adaptation to uncertainty:** Climate change introduces uncertainties, and mainstream climate resilience allows WASH systems to adapt effectively to changing conditions and uncertainties. Flexibility in planning and implementation is key to building adaptive capacity.



## 2. Guideline objective

### 2.1.1. General objective

- To develop a CR-WASH mainstreaming guideline that will make a significant contribution to the comprehensive and sustainable WASH framework, we proactively address current and future climate change impacts on water supply systems on the basis of national and international experiences and climates. This guideline will integrate scientifically sound measures to increase resilience, minimize risks, and optimize water resource management across varying climatic conditions of the country.

### 2.1.2. Specific objectives

The following are the specific objectives for the climate-resilient WASH guideline:

1. A resilient and sustainable WASH infrastructure planning and implementation system that effectively addresses current and future climate change impacts should be established.
2. Integrating no/low regret measures and decisions into the design of the WASH system, taking into account climate risks and opportunities for both present and future services.
3. The current climate variability and the impacts of future climate change on water sources, WASH infrastructure, and the overall system should be considered.
4. Offering scientifically backed solutions to minimize and mitigate the impact of climate change on WASH services.
5. This study provides scientifically informed water resource management and source development options, particularly those focused on addressing challenges during periods of flooding and drought.

## 3. Scope and activities for the development of guidelines

The consultant responsible for developing mainstream climate-resilient water, sanitation, and hygiene (WASH) guidelines plays a crucial role in addressing the complex challenges posed by climate change. The major scopes and activities are as follows:

- 1) Stakeholder Engagement:
  - Facilitate consultations with key stakeholders, including government agencies, local communities, NGOs, and relevant experts.
  - Engage with communities to understand their specific climate-related challenges and priorities.
  - The government should collaborate with the Ethiopian environmental protection authority, Ethiopian metrology institute, and environmental experts for data and insights.
- 2) Legal and Regulatory Review:
  - Review existing national and local laws, regulations, and policies related to WASH services and climate resilience.
  - Alignments with climate change adaptation and mitigation goals should be ensured.
  - Gaps should be identified, and changes to enhance regulatory frameworks should be recommended.
- 3) Development of Guidelines:
  - Draft comprehensive guidelines for mainstreaming climate resilience in Project planning, design, implementation and operation.



- These measures include specific measures for adapting to climate change impacts, ensuring infrastructure resilience, and enhancing community preparedness.
- This study provides guidance for integrating climate considerations into WASH planning, design, implementation, and management.
- Provide guidance on how the resource-constrained environment should be solved and/or implement the phased modality to maintain the climate-resilient nature of the infrastructure through standardization of the scope of the CR WASH project in phases, adoption of standard design appraisal checklists to guide careful appraisal of available study and design documents;

4) Capacity Building:

- To develop training programs and materials to increase the capacity of WASH practitioners and relevant stakeholders.
- Conduct workshops, webinars, and training sessions to disseminate knowledge on climate-resilient WASH practices.
- The consultant could work closely with the Ethiopian Water Technology Institute (EWTI) to develop standard training curricula and programs that could then be integrated and regularized under the EWTI training program.

5) Technological Solutions:

- Explore and recommend appropriate technological solutions for climate-resilient WASH infrastructure.
- Innovations in water supply, sanitation, and hygiene promotion that can withstand climate-related challenges should be considered.
- Evaluate the feasibility and cost-effectiveness of the proposed technologies.

6) Assessment of climate risk:

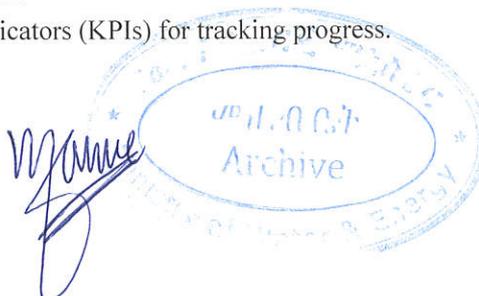
- A comprehensive assessment of current and future climate risks related to water, sanitation, and hygiene services should be conducted.
- Climate projections, including changes in precipitation patterns, temperature, and extreme weather events, are analyzed.
- Vulnerabilities in existing WASH infrastructure and services are identified.

7) Sustainable delivery of service:

- To ensure the sustainable delivery of services in large multivillage water supply schemes, which rely on the availability and implementation of a quality business, plans with appropriate tariff structures are needed to cover operating costs. In addition, the guidance should include sample business plans to be adopted by specific schemes.
- The consultant should review different manuals and related guides and provide guidance on the operation and management arrangement of CR-WASH schemes, what processes/steps to be followed to establish sustainable delivery of service arrangements, responsible actors and their roles.

8) Monitoring and evaluation framework:

- Develop a robust monitoring and evaluation framework to assess the effectiveness of climate-resilient WASH interventions.
- Define key performance indicators (KPIs) for tracking progress.



- Establish mechanisms for regular reporting and adaptive management.
- 9) Community involvement:
- Design strategies to involve local communities in climate-resilient WASH initiatives.
  - Foster community ownership and participation in planning, implementation and
  - Develop communication materials to raise awareness about climate change impacts and adaptative measures.
- 10) Alignment of financial planning and resource mobilization:
- Consider aligning with the overall sector financing strategy and mainstream planning with the sector plan.
  - Assess financial requirements for implementing climate-resilient WASH guidelines.
  - Identify potential funding sources, grants, and partnerships for project implementation.
  - Preparing sample project proposals that could be considered an independent output.
  - Assist in developing project proposals for resource mobilization.
- 11) Integration with Development Plans:
- Ensuring that climate-resilient WASH guidelines align with broader development plans at the national, regional, and local levels.
  - The WASH considerations should be integrated into climate change adaptation and mitigation strategies.
- 12) Documentation and Knowledge Sharing:
- Document the development process, methodologies used, and lessons learned.
  - The guidelines are compiled into accessible formats for widespread dissemination.
  - Share knowledge and best practices through publications, conferences, and online platforms.
- 13) Networking and Collaboration within the Contract Period:
- Establish and maintain networks with organizations, research institutions, and agencies working on climate-resilient WASH initiatives.
  - Foster collaboration to leverage expertise and resources for enhanced impact.
- 14) Visiting existing Projects:
- Data and feedback from initiatives should be collected to inform future scalability and improvements.
- 15) Final Documentation and Review:
- Produce a final version of the climate-resilient WASH guidelines incorporating feedback from stakeholders.
  - A comprehensive review is conducted to ensure that the guidelines are comprehensive, practical, and adaptable to diverse contexts.
- 16) Facilitate the sharing of experiences abroad: these will have the following purposes for both parties:
- Experience sharing provides a platform for crucial knowledge transfer, enabling the dissemination of best practices and lessons learned from successful implementations in similar contexts. The shared experiences serve as a powerful advocacy tool, influencing policy changes for better WASH implementation and leveraging global experiences for the sustainable CR-WASH subprogramme and hands-on for the development of the guideline. Team members with experience sharing play a vital role in increasing the quality of guidelines by providing insightful



comments for the principal consult. Their efforts will be coordinated to ensure a cohesive approach, and they will offer valuable technical support for the consultant along with suggestions aimed at improving the guidelines. Furthermore, the consultant will benefit from participant expertise, which will focus on the integration of best practices and experiences into the guidelines as well as working together to reduce the amount of time taken back-and-forth communication and maintain the schedule of guideline development.

#### **17) Other considerations and issues for the development of the guidelines**

- The consultant is expected to review sector policy and development strategy documents to be well acquainted with and align with the sector requirements in fulfilling the assignment.
- The consultant is expected to review CWA program documents, including the program operations manual, Project Procurement Strategy for Development (PPSD), financial manual, safeguard instruments, etc.
- The consultant is required to engage in consultations with the Ministry of Water and Energy (MOWE), regional water bureaus, and stakeholders in the water, sanitation, and hygiene (WASH) sector. These consultations focused on the water supply, sanitation, and hygiene outputs of the reconnaissance study. The objective is to reach an agreement on the integration of the Climate-Resilient WASH (CR-WASH) principles in the inception, prefeasibility, and feasibility studies. This integration should encompass available climate-resilient water source options and utilize multicriteria decision-making techniques. The aim is to assess the technical, financial, environmental, and operation and maintenance management viability of the proposed alternatives comprehensively.
- The consultant should incorporate how to conduct financial and economic cost benefit analyses to ensure that the project is financially sustainable and economically viable. This requires the identification and estimation of the revenue generated from service charges, the annual operational cost required to run the scheme, the periodic maintenance and asset replacement costs, and the estimation of the positive and negative externalities of the project.
- The consultant is expected to incorporate methodologies for conducting detailed technical assessments, encompassing activities such as hydrological surveys and topological profiling, among other applicable aspects. The consultant is granted discretion to deploy advanced technologies, including GIS and remote sensing from high-resolution platforms. To enhance the investigation of resilient water sources, robust techniques should be implemented, with the necessity for validation and justification through possible ground truthing.
- The consultant is tasked with outlining within the guideline the comprehensive process for conducting detailed designs of feasible options. This includes technical aspects such as analytical reports, technical drawings, the integration of standard designs to facilitate groundwater monitoring, pipe layout with pressure zoning, site planning, specifications, bills of quantities, engineering cost estimates, and tender documents. Additionally, the guidelines should address environmental studies, annual operational cost estimates, water tariff considerations for cost recovery and affordability, willingness to pay, project implementation plans, business plans, water safety plans, and bid documents. The social component should encompass gender-related risk assessments.



- The consultant is responsible for incorporating all Water, Sanitation, and Hygiene (WASH) service packages for institutions, including water supply and latrines for schools and water supply, latrines, placenta pits, incinerators, etc., for health institutions and social and environmental safeguards. These designs should align with the health and education sector standards.

**18) The process report should encompass the following elements:**

- The consultant must submit a detailed process report to aid in managing guideline development and document for revision when needed. This report should cover key components: an introduction outlining the report's purpose, scope, objectives, and considerations; a methodology section detailing methods, tools, and approaches used; contextual background information; stakeholder engagement description; challenges faced and solutions; significant milestones; data, findings, and trends; recommendations for improvement; lessons learned; and supplementary materials.

## 4. Methodology

The primary methods for data collection and analysis will include a comprehensive desk review, engaging in expert discussions at both the national and regional levels, and employing advanced data analysis techniques. Furthermore, the consultant is required to furnish a detailed and practical methodology, along with a well-structured work plan.

## 5. Deliverables of the assignment(s)

The consultancy services for the development of the Climate-Resilient Water, Sanitation, and Hygiene (WASH) guidelines yield the following deliverables:

1. **Inception Report (two volumes):** An initial report comprising two volumes—technical methodology and work plan—outlining the consultant's approach, methods, and a detailed plan for executing the project.
2. **Draft Guideline:** A preliminary version of the Climate-Resilient WASH guideline, presenting comprehensive insights, recommendations, and strategies for enhancing resilience in water, sanitation, and hygiene practices.
3. **Progress Report:** A comprehensive report detailing the methodologies, challenges, milestones, stakeholder involvement, data, findings, and recommendations throughout the development process of the guideline (60 pages without annex/supplementary material if any).
- b. **Final Guidelines:** The ultimate deliverable, presenting the refined and conclusive version of the mainstream climate-resilient WASH guideline, incorporating feedback, sharing insights, and finalizing recommendations for implementation, should have an implementation framework showing how the guideline will be implemented in the short, medium and long-term periods (60 pages).

## 6. Time schedule of the deliverables

The consulting firm is expected to prepare and submit separate reports for each project under the assignment at each milestone.

N/	Deliverable	Type	Duration/week/	Cumulative in
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S				weeks
1	Contract Signature			0
2	Inception report (Technical methodology and Work plan)	Draft	1	1
		Appraisal	0.5	1.5
		Final	0.5	2
3	Assessment report (desk review, site visit, and International review and Experiences)	Draft	0.5	2.5
		Site visit	1	3.5
		Appraisal	0.5	4
		Final	0.5	4.5
4	Draft guideline and Draft process report	Draft	12	16.5
		Appraisal	1	17.5
5	Final Guideline	Final	1	18.5
6	Validation Workshop	Appraisal	2	20.5
7	Finalized and closure of contract	Completion	2	22.5 (158 days)

## 7. Qualification, expertise and team composition

The consulting firm shall be legally established and committed to putting together a team of the required qualifications with direct experience and excellent understanding of technical, economic, financial and environmental and social issues related to the water supply, sanitation and hygiene. The qualifications and experience of the key experts of the team constitute the key criteria used to evaluate proposals. The firm is required to attach the professional certificate of key experts as indicated below.

### 1) Team Leader

- Minimum BSc or above in water supply, water resources, civil/hydraulic and environmental (sanitation) engineering.
- 10 years of general engineering experience in water supply, water resource and infrastructure projects,
- Proven a minimum of 8 (eight) years of similar experience in study, design supervision and construction work on water resource and infrastructure projects;

### 2) Water supply engineer

- Minimum BSc or above in water supply, water resources, civil/hydraulic and environmental (sanitation) engineering.
- 8(eight) years of general engineering experience in water supply, water resource and infrastructure projects,
- Proven minimum of 6 (six) years of similar experience in study, design, supervision and construction works on water supply, water resource and infrastructure projects;

### 3) Structural Engineer

- Minimum BSc. degree in Civil or Structural Engineering
- 6(six) years of general engineering experience, in Civil and structural design of Water of water supply structures and infrastructure projects,.
- Proven minimum of 3 (three) years of similar experience in the design of water supply structures



**4) Hydrogeologist**

- Minimum BSc. degree in hydrogeology/geology fields,
- 6 (six) years of general engineering experience in water supply projects
- A minimum of 4 (four) years of similar engineering experience, in reconnaissance and feasibility studies of the ground and subsurface of urban and rural water supplies

**5) Electro-Mechanical Engineer**

- Minimum of BSc. degree in electrical or mechanical engineering,
- 6(six) years of general experience in water supply projects
- A minimum of 3 (three) years of similar studies and designs of electromechanical equipment (pumps, generators and solar energy sources) for infrastructure projects and supervision of testing and commissioning of EM water supply projects are needed.

**6) Socio-Economist**

- Minimum of BSc. Degree in Economics, sociology, Law and/or Development Studies.
- 6 years of general experience in socioeconomic assessment studies of infrastructure projects
- Provide a minimum of 3 (three) years of similar experience in the study of water supply projects, including business plan development, demonstrable experiences with government-based guideline development (ability to check alignment with policies, strategies, frameworks and proclamations).

**7) Environmental health and safety**

- Minimum BSc degree in environmental health/public health or related fields
- Six years of general experience in Environmental Health and Safety
- Proven minimum of 3 (three) years of similar experience in project safety, community and institutional hygiene and sanitation project management

**8) Climate change experts:**

- A minimum of a bachelor's degree in a relevant field such as atmospheric science, climatology, environmental science or a related discipline.
- Six years of general experience in climate change science
- Proven a minimum of 3 years of similar practical experience in fieldwork, data collection, and observational studies related to climate change, climate policy and impact assessment. Specialized knowledge: A strong understanding of climate systems, meteorology, and atmospheric processes.

Knowledge of climate modeling, statistical analysis, and data interpretation.

Familiarity with climate change science, impacts, and adaptation strategies.

Experience in designing and conducting climate-related research projects.

Ability to work across disciplines, collaborating with experts in related fields such as WASH sector experts and hydroclimatology experts

**9) Disaster risk management expert:**

- Master's degree in disaster risk management, emergency management, or a closely related field to gain specialized knowledge and skills.
- 6(six) years of general experience in disaster risk management
- Proven a minimum of 3 years of similar experience in disaster-prone areas and in complex disaster emergency response and management



Training programs and workshops offered by recognized institutions and organizations involved in disaster risk management should be offered.

Ability to work across disciplines, collaborate with experts in related fields such as WASH sector experts and WASH emergency/disaster responses

Note: All team experts should have demonstrative knowledge and skills in the development of manuals, working papers, guidelines, strategies and official reports and must have renewed professional licenses.

Table: No. of experts and Man-month workload

S/N	Name of Expertise/responsibility	No of person	Man-month
1	Team Leader/manager	1	5
2	Water supply Engineer	1	4
3	Structural Engineer	1	0.5
4	Hydrogeologist	1	1
5	Electro Mechanical Engineer	1	1
6	Socio-Economist	1	1
7	Environmental Health and Safety	1	1
8	Climate change experts	1	3
9	Disaster Risk management Expert:	1	3

## 8. Reporting and communication

The consultant firm is accountable to the Ministry of Water and Energy. One WASH program, the project management unit (PMU), and the CR-WASH coordinator facilitate the execution of the assignment as a project coordinator.

## 9. Client's input for the assignment

The client will:

- 1) Arrange a kick off meeting with stakeholders
- 2) Support the consulting firm team throughout the performance of the services with the stakeholders while undertaking the assignment
- 3) Playing a facilitating role for the consultant to have access to data and documents that exist at his custody is deemed necessary and important for the assignment
- 4) A team of experts is available for review of the deliverables for timely feedback and submission of respective final reports by the firm.
- 5) Facilitate an appraisal workshop at every stage required

## 10. Logistic and budgets of the assignment

The consultant's firm is committed to covering all project costs, with the exception of workshop-related expenses. This encompasses the salaries of consultant team members, daily allowances, stationery, transportation, and materials and equipment required for in-house assignments. Additionally, the consultant's firm will bear the reimbursable costs associated with sharing experiences abroad for 10 participants from Africa, Europe, or Asia for 7 days. This includes daily allowances, transportation, and other logistical requirements for the overseas component of the project.



## 11. Payment modality for the consultant

Payment for the consulting firm is effected in two stages as per the following modality:

- a. Advance payments of up to 10% upon presenting an unconditional equivalent Bank guarantee to be settled proportionally at each payment.
- b. On Submission of the final approved inception report and Experience Sharing Proposal: 10% of the contract amount
- c. On Submission of the draft guide and process report: 30% of the contract amount
- d. On the submission of the final accepted detail design report: 30% of the contract amount.

## 12. Ethical consideration

The consultants involved in developing the technical guidelines need to adhere to ethical considerations throughout the process. Some key ethical considerations are as follows:

1. Transparency: Ensure transparency in all aspects of the guideline development process. The methodologies, data sources, and decision-making processes are clearly communicated.
2. Inclusivity: Involve all relevant stakeholders in guideline development, including communities, experts, and representatives from diverse groups. The perspectives of all stakeholders should be considered.
3. Confidentiality: Protects sensitive information and data. Safeguard the confidentiality of individuals and organizations involved in the guideline development process.
4. Conflict of interest: Disclose and manage any potential conflicts of interest among consultants, experts, or stakeholders involved in the development process. Ensure that personal or financial interests do not unduly influence decisions.
5. Equity: Ensure that the guidelines promote equity and do not disproportionately benefit or harm specific individuals or groups. The potential impacts on vulnerable populations are considered.
6. Quality and accuracy: Strive for high-quality, accurate, and evidence-based guidelines. Clearly, uncertainties and limitations in the available evidence are communicated.
7. Cultural sensitivity: culturally sensitive and respecting local customs, practices, and beliefs.
8. Communication and feedback: Provide opportunities for feedback and address concerns raised by stakeholders promptly.
9. Accountability: Take responsibility for the consequences of the guidelines. We would like to acknowledge and rectify errors if they were identified after the guidelines were published.

## Annex

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### Proposed outline of the guideline

1. Introduction
  - 1.1. Background



2. Overview of Climate and WASH
3. CR-WASH technical guidance
  - 3.1. General consideration of climate change for the construction of WASH systems, services and maintenance
    - 3.1.1. Inception report and preliminary study
    - 3.1.2. Feasibility and preliminary design
    - 3.1.3. Water source securing (surface and groundwater)
    - 3.1.4. Detailed design
    - 3.1.5. Construction supervision and postconstruction plan
  - 3.2. CR-WASH siting
  - 3.3. CR- Ground water
    - CR- Spring water source
    - CR-borehole source
    - CR-Aquifer source
    - CR-Groundwater source/Regional and subregional GW/source
  - 3.4. CR-surface water source
    - CR- Spring water source/flow/
    - CR-augmented catchment surface water source.
    - CR-ungagged surface water source.
    - CR- seasonal river source
    - CR-Reservoir supply system
    - CR-Rainwater harvesting source
- 3.3. CR-Water supply systems
  - Urban water supply system
  - Rural water supply system
- 3.4. CR-water safety plan and water quality
- 3.5. CR-water demand management plan.
  - Worst time (emergency) and disaster risk management for the water supply system
  - CR-water resource management plan.
  - CR-post construction system management plan
4. CR – WASH infrastructure minimum requirements
5. CR-WASH sustainable service delivery and O&M

#### Annex

- CR-WASH - Checklists, assessment questioners and indicators.

Note: the outline is subjected to modification: the outlined structure above is a preliminary or suggested framework, and there is room for adjustments or modifications. It is not final and may be altered based on further discussions, feedback, or any necessary changes. This allows for flexibility and adaptation to better suit the needs, requirements, or objectives of the guideline it pertains to.

