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MINISTRY OF WATER AND ENERGY
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FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF WATER AND ENERGY

Terms of Reference
For
The Selection Consulting Services for The Feasibility Study and Detail
Design Water Supply and Sanitation Project of Megado Town, and
Dugda Dewa Town WSSP

September 2025

ADDIS ABABA, ETHIOPIA

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1. Background Information

Ethiopia has set an ambition of becoming a middle-income country by 2030. In order to achieve this, huge attention has been given for the overall development of all sectors. Promoting drinking water and sanitation, and energy development; are among the key areas for the government's contribution in the achievement of this vision. The Ministry of Water and Energy (MoWE), as a key ministry of the FDRE, will provide the construction and expansion of the necessary infrastructures for the advancement of the daily life of the society. Due to high population and increasing demand for water supply, the Ministry of Water and Energy have been challenging by interruption of water supply services.

As a precondition for human life as well as human health, well-being, and economic development, access to drinking water is a major global concern and a key priority. In 2010, the United Nations recognized access to drinking water as a human right the provision of water supply services has far-reaching significance for all socio-economic and human development. However, a significant portion of the population has yet to access it globally in general or in developing nations in particular. Ethiopia is among the nations far behind in this respect. Likewise, the Amhara region has such low coverage in water supply access that the existing water supply provision is either not in adequate quantity or there is no provision for protected supply.

The consultancy will conduct a packaging feasibility study and detailed engineering designs for water supply and sanitation project in Megado Town and Dugda dewa Town. The study will ensure financial sustainability and a strong return on investment, supported by institutional and management assessments, policy and legal reviews, and evaluations of water security and sanitation, climate change resilience, and greenhouse gas (GHG) emissions assessment. The scope also includes engineering detailed design surveys, preparation of tender documents, and the development of optimal institutional and financing models to improve operational efficiency and enable timely procurement of contractors during the main project implementation.

The specific scope and scale of interventions will be defined based on the results of a Pre-Feasibility Study. Following this phase, a stakeholder workshop will be held to inform the final Feasibility Study and the preparation of detailed engineering designs for the water supply and sanitation project. The goal is to address the existing shortage of potable water and sanitation challenges. The program aims to deliver reliable water supply systems and improved sanitation facilities for both urban communities, thereby enhancing living conditions, boosting productivity,

and contributing to the country's overall development. The Consulting Firm will prepare all deliverables in alignment with the Terms of Reference (ToRs).

This initiative, led by the Government of Ethiopia through the Ministry of Water and Energy in collaboration with the African Development Bank (AfDB) under the African Water Facility program, aims to improve water supply and sanitation services in urban communities, contributing to better health and socioeconomic development.

The program will address the Bank's Water Policy (May 2021) and the Bank Water Strategy (2021-2025), which provides for improved access to water services, the African Development Bank Group's Strategy for Addressing Fragility and Building Resilience in Africa (2022-2026) and the Bank Group's Gender Strategy (2021-2025). It is aligned to the Bank Group's Climate Change Policy, which seeks to boost resilience and adaptation to climate change and reduce fragility.

Currently, the country is implementing GTP-2 plan of the water supply sub-sector since 2015/16, which runs up to 2020. The main objective of this plan is to contribute to the realization of the country's overarching vision to become middle income country by 2025 through provision of access to safe, sustainable, inclusive and climate change resilient water supply, Sanitation and hygiene service to the people. Accordingly, the plan envisages to provide access to safe water overall for 37 million people of which 29.3 million are rural dwellers. The water supply service standard for GTP-2 period is elevated. The water supply service standard for rural water supply is 25 l/c/day within 1 km distance while the urban water supply service standard is formulated based on the population of the towns divided into 5 categories. Accordingly, the urban service standard is 100 l/c/day for category-1 towns/cities, 80 l/c/day for category-2 towns/cities, 60 l/c/day for category-3 towns/cities, 50 l/c/day for category-4 towns/cities, up to the premises and 40 l/c/day for category-5 towns/cities within a distance of 250m with piped system. Based on these water supply service standards the GTP-2 plan envisages to increase overall water supply access coverage to 83% of which 85% for rural and 75% for urban by 2020. In addition to improvement of water supply access, the plan includes various targets to enhance the efficiency and sustainability of the service.

Besides the national plan, there are also international goals set for nations to mainstream in their national plans. In this regard, MDG was the international plan for the period of 1990 to 2015. Ethiopia has met the MDG target for 2015 in water supply. Currently, Sustainable Development Goal (SDG) for the period of 2016-2030 is the leading International Plan. Regarding water supply, this plan has set goal to achieve universal and equitable access to safe and affordable drinking water for all by 2030 (SDG 6.1). The service level for safe water supply under the SDG emphasizes on accessibility of water to the premises, availability of water when needed and safety on quality.

Hence, to deal with this problem potable water supply The Ministry of Water and Energy in collaboration with Oromia Region Water and Energy bureaus and has done the feasibility study and detailed engineering Design of the urban Water Supply and Sanitation project was conducted.

1.1. Geographical location

1. Geographical location for Megado town

The project area which is one of the areas selected for development in Borena zone is accessible through asphalt road from A.A/ Finfinnee to Megado town for 670km, then following some 28km dry weather road to the southern direction up to Megado town.

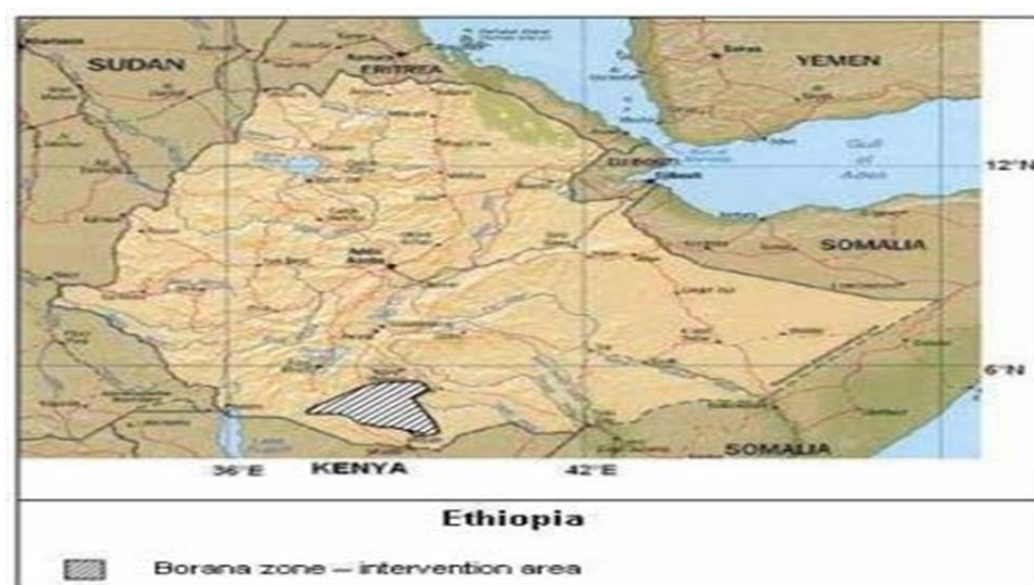


Fig.1. Location map for Megado town

2. Geographical location for Dugda dewa Town

Dugda dewa Town found in the Guji zone of Oromia National Regional State, at a distance of 100-150 kilometers far from the Guji Zone and about 600 km from Addis Ababa (capital city of Ethiopia) and Guji Zone is located in the south of Ethiopia, while Dugda Dewa is further north in the Oromia region and the geographically located between latitudes 5.05420-5.67250 and longitudes 37.73910-38.85860.

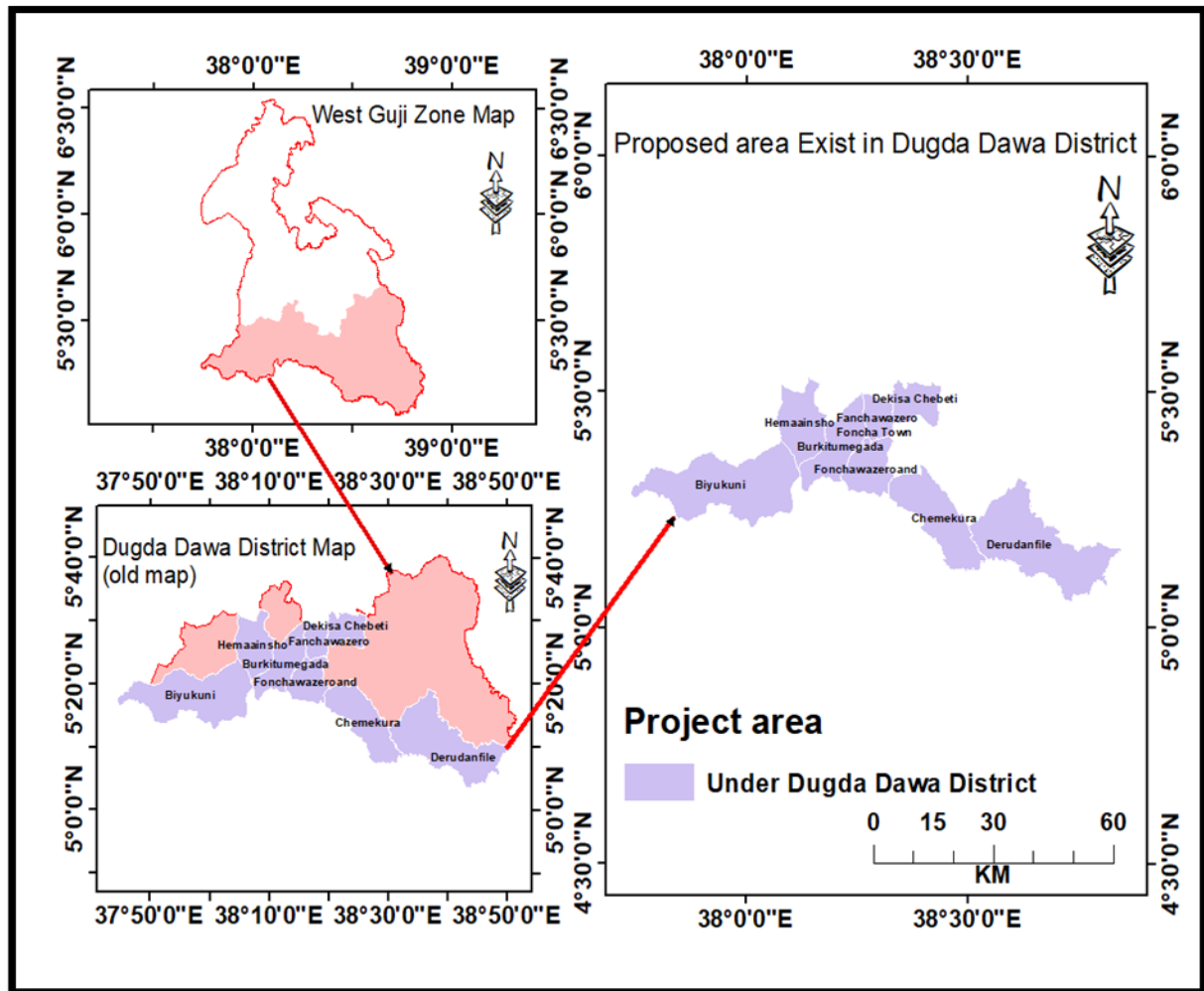


Fig.1. Location map for Dugda dewa Town

1.2. Existing Water Supply System

3. Existing Water Supply System and Sanitation Facility of Megado Town

Existing Water Supply System

With regard to the existing problems of the system, an effort was made to find out the major drawbacks of the water supply system and found that the main problems observed in the existing water supply systems. Based on the collected information some of the major water supply system problems are presented as follows:

- Severe water shortage that can't cover the water demand of the town
- Poor quality water, from spring, shallow and hand dug well the society used without disinfection
- There is limited piping, reservoirs and electromechanical system in the town.

Requirements to Improve Existing Water Supply Problems

In order to handle the aforementioned problems of the water supply system the following improvement in the water supply schemes are required and going to be incorporated in our design.

- Development of additional water source intake system with proper treatment to which is sufficient for the community
- New piping, reservoirs and electromechanical system based to be design to upgrade the efficiency.
- Introduce proper financial management and customer-oriented services
- Build the capacity of utility operators

Existing Sanitation Facility

Proper sanitation facilities (for example, toilets and latrines) promote health because they allow people to dispose of their waste appropriately. Throughout the developing world, many people do not have access to suitable sanitation facilities, resulting in improper waste disposal.

Provision of water supply system without due consideration of sanitation facilities may not be sufficient for community health development. Accordingly, this report will take into consideration about the existing situation of sanitation services in reference to human excreta, domestic waste water and solid waste collection and disposal experience of the Town. Information has been collected through site visits, sample survey and direct consultation of the concerned officials in Megado Municipality, kebele Water supply Office and kebele Health Office.

The overall sanitation of the town is poor and sanitation associated diseases are prevalent. There is no system for collecting, transporting, and dumping waste in the town. The sanitation condition in the town is discussed in the paragraphs that follow.

Solid Waste Management

The majority of households have no containers for storing garbage. There are few garbage collection facilities located in the community, therefore, residents of the kebele dispose of domestic waste in any open spaces especially on the road verge and in drainage ditches.

Liquid Waste Disposal

There is no liquid waste disposal system in the kebele or villages. Waste resulting from bathing and other domestic washing activities is almost entirely thrown out into the streets. There is no specific site for liquid waste disposal.

Toilet Facilities

Most of the excreta disposal facilities in Dollo Ado comprise pit latrines which are frequently poorly constructed, offensive and over filled. According to the town's municipality the majority of households use toilets in their own compound.

4. Existing Water Supply Problems Dugda dewa Town

Dugda Dawa is as part of Genale-Dawa Basin it is characterized as intermittent river tributaries and the main /perineal river has a limited amount of discharge in the dry season. In Dugda Dawa there is no perineal river exist. Furthermore, there are many challenges including high spatial and temporal variability in hydrogeological and hydro climatic features, global climate change, land degradation, lack of sufficient rainfall amount and high population growth rate/ high water demand and this area is affected by drought redundantly. These challenges put immense pressure on investigation of groundwater resources for existing community. Lack of surface water my forces the local communities to use subsurface water not only for drinking but also for non-domestic and in some cases for irrigation purposes therefore, investigation of groundwater potential in the area is crucial.

Water supply schemes existing in Dugda Dawa Woreda the cause of problem is: -

- Drying of shallow wells and Hand dug wells during peak dry season
- Lack of supply of Electro mechanical devices during break down (pump, generator, switch board)
- Lack of water supply scheme management
- Lack of skilled man power etc

Possible or Potential future water supply source- In the area there is no surface water and other option sources of water supply therefore proposed water supply for the area is groundwater

2. General Objective

To assess the WASH situation and prepare feasibility studies and detail engineering designs for sustainable water supply and sanitation systems in Megado town and Dugda dewa town considering the national design criteria.

3. Specific Objective

- Asses and review the existing water supply and sanitation system
- Conduct source identification, technical, socio-economic, financial, institutional, and environmental assessments
- Prepare detailed designs, specifications, BOQs(both priced and unprized) and tender

documents.

- Develop Climate Resilient Water Safety Plan (CR-WSP).
- Prepare ESIA, ESMP and RAP in line with AfDB safeguards.
- Develop business and financial plans to ensure cost recovery and sustainability.
- Strengthen local institutional and technical capacity.

4. Methodology

The assignment will adopt a participatory and integrated approach. It will include community engagement, technical surveys, stakeholder workshops, gender-sensitive planning, climate-resilient design, and alignment with AfDB procurement and safeguard policies.

5. Scope of the Consulting Firms Services

The Consultant shall provide comprehensive services covering feasibility, design, environmental and social safeguards, institutional strengthening, and business planning for **Megado town and Dugda dewa town Water Supply and Sanitation Projects**. The scope of services shall include, but not be limited to, the following:

5. Inception phase

- Upon the start of the assignment, the consultant shall familiarize itself with available the situation on the ground and relevant stakeholders in the project areas. The consultant will update and refine the methodology and work planning elaborated in the Terms of Reference. Upon completion of the Inception Phase the consultant is expected to submit an “Inception Report”. This report will be presented and discussed with the client.

6. Feasibility Study

- Conduct baseline studies (technical, socio-economic, institutional, and environmental).
- Assess existing water supply and sanitation systems, service coverage, demand, and gaps.
- Analyze water source options (surface and groundwater) through hydrogeological and hydrological investigations.
- Undertake technical assessments of treatment, transmission, storage, and distribution systems.
- Identify and evaluate sanitation options (on-site and off-site solutions).

- Perform financial and economic analyses (cost-benefit, affordability, willingness-to-pay, and tariffs).
- Carry out institutional and management capacity assessments.
- Conduct gender and social inclusion analysis.
- Prepare preliminary design alternatives and recommend feasible options.
- Facilitate stakeholder consultations and validation workshops.

7. Detailed Engineering Design

- Conduct detailed topographic, geotechnical, hydrogeological surveys and energy source.
- Prepare detailed hydraulic, civil/structural, and electromechanical designs for:
 - Water sources (wells, intakes, spring development).
 - Transmission mains, pumping stations, treatment facilities, storage reservoirs.
 - Distribution networks (including public taps, yard connections).
 - Sanitation facilities (decentralized/off-site and on-site).
- Develop detailed drawings and specifications in accordance with national standards and AfDB requirements.
- Prepare Bills of Quantities (BOQs) and cost estimates.
- Develop an Operation & Maintenance (O&M) plan, manual and asset management framework.

8. Tender Document Preparation

- Prepare technical specifications, BOQs, and bidding documents in accordance with Ethiopian procurement law and AfDB standard bidding documents.
- Provide confidential cost estimates.
- Support the client during procurement (clarifications, addenda, evaluation assistance etc...).

9. Environmental and Social Safeguards

- Conduct Environmental and Social Impact Assessment (ESIA) in line with Ethiopian law and AfDB's Integrated Safeguards System.
- Prepare Environmental and Social Management Plan (ESMP).
- Develop Resettlement Action Plan (RAP).

- Prepare Occupational Health & Safety Plan and Emergency Preparedness & Response Plan.
- Integrate gender mainstreaming strategies and prepare a Gender Action Plan.

10. Climate Resilience and Risk Management

- Conduct Climate Risk Assessment (CRA).
- Prepare a Climate Resilient Water Safety Plan (CR-WSP), including risk identification, hazard mitigation, emergency planning, and monitoring.

11. Business Plan & Financial Sustainability

- Conduct financial and tariff studies (affordability, cost-recovery, subsidies if applicable).
- Prepare a business plan for the water utilities, including:
 - Revenue projections, O&M cost recovery strategies.
 - Institutional and governance arrangements.
 - Investment and financing plan for short-, medium-, and long-term.
- Propose models for Public-Private Partnerships (PPPs) or community-based management where applicable.

12. Capacity Building & Knowledge Transfer

- Train staff from MoWE, regional bureaus, and local utilities in:
 - O&M of water supply and sanitation systems.
 - Financial and tariff management.
 - Gender mainstreaming and community engagement.
 - Climate resilience and CR-WSP implementation.
- Organize workshops and experience-sharing sessions with stakeholders.

13. Reporting & Documentation

- Prepare and submit the following reports:
 - Inception Report.
 - Draft and Final Feasibility Study.
 - Draft and Final Detailed Engineering Design Reports.
 - Draft and Final ESIA, ESMP and RAP Reports.

- CR-WSP Report and Business Plan.
- Tender Documents.
- Ensure separate reports are submitted for each project area (Megado town and Dugda dewa town).

6. Expected deliverables

S/N	Report/Document	Time in weeks	No. Copy (soft and hard)	Remark
1	Final Inception Report	6	8 HC + 8 SC	Before final inception report submit draft report for review
2	Final Feasibility study	18	8 HC + 8 SC (separately for each site)	Before final feasibility submit draft feasibility report for review
3	Final and acceptable Detailed Engineering Design, ESIA, ESMP and RAP, CR-WSP Report and Business Plan Reports	20	18 HC + SC (separately for each site)	Before final detailed Engineering Design, ESIA, ESMP and RAP, CR-WSP Report and Business Plan Reports submit draft report for review (18 Doc. For draft and 18 for final)
4	Final Tender Documents and capacity building	4	8 HC + 8 SC	Before final Tender Documents 2 Doc. Draft report submit for review

7. Consulting Firms Team Expert Composition

The Consulting firm shall be legally established firm and committed to put together a team of the required qualification with direct experience and excellent understanding of technical, economic, financial and environmental and social issues related to water Supply, Sanitation and hygiene.

Resumes of the qualifications and experience of the key members of the team will be the key criteria used to evaluate proposals.

Composition of the consultant's staff Table Consulting Firms Team Expert Composition

S/N o.	Position	No of person	Qualification and Experience	Person Month
1	Project manager	1	MSc or above in Hydraulic, Water Resource, Civil and Environmental Engineering or related field of study MSc 13 years or PHD and 11 years and above/ minimum years' experience in the water supply sub-sector	12

S/N o.	Position	No of person	Qualification and Experience	Person Month
			Experience as design team leader for more than one a high credit to experiences in study & design and construction supervision of water supply projects.	
			Projects Skill on AutoCAD and Water CAD is also a credit.	
			Renewed professional license	
2	Water supply	2	MSc/BSc or above in hydraulic, water supply and environmental engineering	
			Experience 8 and 10 (and above) years respectively in the water supply sub-sector	
			High credit to experiences in study & design and construction supervision of water supply projects.	
			Skill on CAD and · Water CAD is also a credit.	
			Renewed Professional license	12
3	Water Treatment expert	1	MSc or above in Hydraulic, Water Resource, Civil and Environmental Engineering or related field of study with MSc and 10 years or PHD and 8 years and above/ minimum years' experience in the water supply sub-sector	
			High credit to experiences in study & design and construction supervision of water supply projects.	
			Experience as design water treatments plant for town more than one projects	
			Skill on AutoCAD and Water CAD is also a credit.	
			Renewed professional license	4
4	Structural/Civil	1	M.Sc. / BSc. degree in structural or Civil related fields and	
			Experience 8 and 10 (and above) respectively, in Civil and structural design Buildings and Water of water supply projects with similar scope and complexity.	
			Renewed Professional license	4
5	Geotechnical Engineer	1	BSc and 11 years, MSc and 9 years or PHD and 7 years/	
			Respectively, in Civil and structural design Buildings and Water of water supply projects with similar scope and complexity.	4
6	Hydro geologist	2	M.Sc. / BSc. degree in Hydrogeology/ Geology or related fields and a	
			Experience 8 and 10 (and above), respectively, in reconnaissance and feasibility study of subsurface water Supply project management with similar scope and	4

S/N o.	Position	No of person	Qualification and Experience	Person Month
			complexity.	
			Renewed Professional license	
7	Geophysics	1	M.Sc./BSc. Degree in Geophysics/Hydrogeology/ Geology or related fields and a	
			Experience minimum of 8 and 10 years' respectively, in reconnaissance and	4
			Feasibility geophysical study of subsurface water supply project with similar scope and complexity.	
			Renewed Professional license	
8	Hydrologist /Water Resources Engineer/	1	resources engineering/water resources management field and · Experience minimum of 8 and 10 years' respectively, on water resources	
			assessment, analysis & management, geotechnical investigations for the water supply system in similar scope and complexity	4
			Renewed Professional license	
9	Electro-Mechanical	2	MSC/BSC degree in Electrical/ mechanical/electro	
			Experience minimum of 8 and 10 years 'respectively, in study & design of electromechanical equipment (pumps, generators or other renewable energy sources) for water supply system	4
			Renewed Professional license	
10	Socio-economist	2	MSc or above in sociology and/or economics	
			Experience minimum of 6 years' experience in socioeconomic assessment	4
			study of infrastructure projects with accreditation for water supply projects	
11	Environmentalist	2	MSc or above in environmental science or related fields with · Experience of minimum of 6 years' in	
			Environmental impact assessment studies of infrastructure projects with a high credit to water supply and sanitation sub-sector.	4
			Renewed Professional license	
12	Surveyor	2	Minimum diploma in surveying technology	
			Experience of minimum 8 years in water supply system.	4
			Skill in AutoCAD · Skill on use profile and layout preparation · Renewed Professional license	

S/N o.	Position	No of person	Qualification and Experience	Person Month
13	Water Quality Expert	1	· MSc or above in Applied chemistry or related fields with · Experience of minimum of 10 years' in	3
			Experience minimum of 8 years' experience in water quality	

8. Consulting Firms Responsibility

- The Provide all logistics, equipment, and professional staff.
- Ensure compliance with AfDB and Ethiopian standards.
- Conduct all assessments, surveys, and consultations.
- Submit deliverables according to schedule.
- Maintain coordination with MoWE, regional bureaus, and stakeholders.

9. Clients and Donors Input

- MoWE will provide existing studies, facilitate access to data, and ensure coordination among stakeholders.
- MoWE will provide guidance on safeguard policies, procurement standards, and review deliverables.
- Regional water bureaus and local utilities will support fieldwork and consultations.

14. Payment modality

The contract for the consultant should be lump-sum type and the Payment is effected as per the following modality:

- On Submission of final accepted Inception Report: 10% of the contract fee
- On Submission of Final accepted Feasibility Study Reports 20% of the contract fee
- On submission of Draft accepted Detail Design Engineering Design, ESIA, ESMP and RAP, CR-WSP Report and Business Plan Reports Report 20% of the contract fee
- On submission of final accepted Detail Design Engineering Design, ESIA, ESMP and RAP, CR-WSP Report and Business Plan Reports Report 30% of the contract fee
- On Submission of Final accepted Tender Documents Report and capacity building 20% of the contract