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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 Dollo ado Town, and Chume Town WSSP

September, 2025

ADDIS ABABA, ETHIOPIA

Contents

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 is engaged to undertake a comprehensive packaging assignment for two towns: Dollo Ado and Chume Town. Although both towns are part of the overall project, the scope of work for each is distinct, reflecting their specific developmental and infrastructural needs.

In Dollo Ado Town, the consultancy's role centres on reviewing existing design documents. This task involves a thorough examination of current technical plans, engineering drawings, and project specifications related to water supply and sanitation systems. The goal is to ensure that the designs are technically sound, compliant with applicable standards, and ready for implementation without significant revisions. This review process helps identify potential issues early, ensuring project feasibility and reducing risks during execution.

For Chume Town, the consultancy's assignment is more extensive. It will conduct a detailed feasibility study alongside the preparation of comprehensive engineering designs for a new water supply and sanitation project. This feasibility study will evaluate various critical factors, including financial sustainability and return on investment, institutional capacity, policy and legal frameworks, and technical aspects such as water security and sanitation needs. Additionally, it will

assess climate change resilience and include a greenhouse gas (GHG) emissions evaluation to ensure environmental sustainability.

The scope further includes detailed engineering design surveys and the preparation of tender documents to facilitate a transparent and efficient procurement process. The consultancy will also develop optimal institutional and financing models tailored to improve operational efficiency and ensure timely procurement of contractors during project implementation. By addressing technical, financial, institutional, and environmental dimensions, this consultancy assignment aims to deliver robust, sustainable solutions that enhance water and sanitation services in both Dollo Ado and Chume rural woreda.

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 enhancethe 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 Somali and Sidama 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

- Geographical location for Dollo ado Town

The project area, Dollo ado town Water Supply Project, found in the Liban Zone of Somali National Regional State, at a distance of 969km far from the regional capital town of Jigjiga and about1594km from Addis Ababa (capital city of Ethiopia) and it can be accessed by well align asphalt and Gravel Road. As per the information from the town administration office the town is founded in the Geographically the project area is located at UTM WGS84 Zone38 173175.38 m E and 462325.03 m N, with an average Elevation of 181m a.m.s.l.

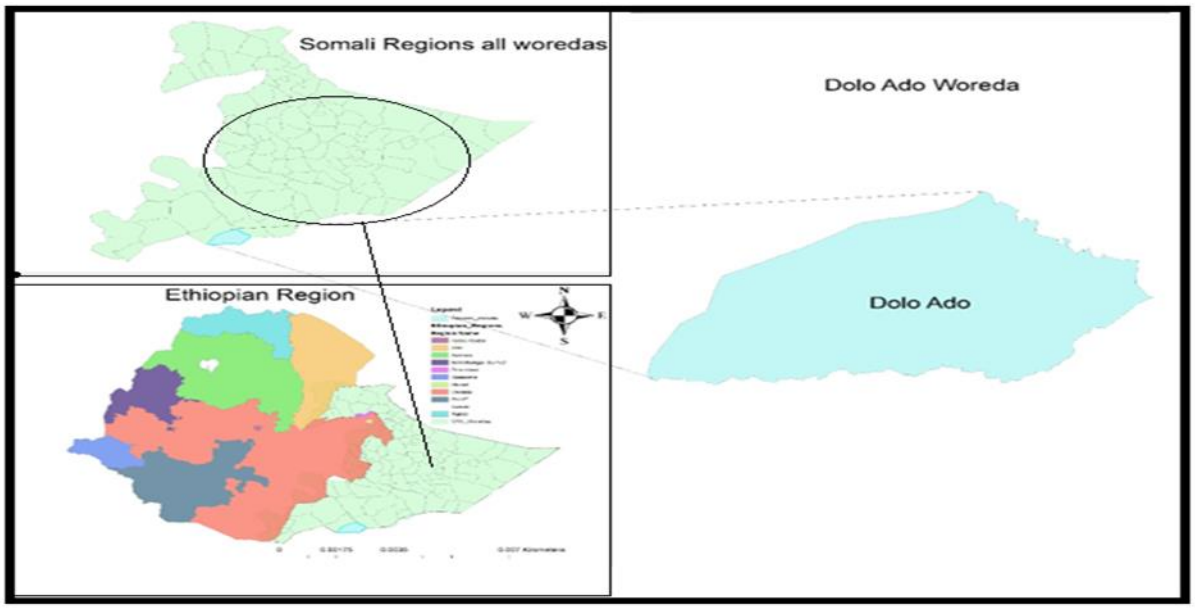

Fig.1. Location map Dollo ado Town

- Geographical location for Chume Rural woreda

Chume is one of the administrative kebeles found in Sidama regional state, Centeral Sidama zone, Dale woreda and is located of which is far from 317 km south east of Addis Ababa the approximate UTM geographically coordinate of the kebele area is (x) 0435684, and (y) 0754067, 1801 elevation. The kebele is located in SE from A.A at distance of 317 km Asphalt which connect A.A to Yigalem town. The project site is an average 6km far from Yirgalem town. All the roads are gravel. It is bordered with motto kebele in North, Semen mesenqela in South, Soyama in West and Ajjawa in East.

Physiographic features of flat plains are common in most part of mid-high land (Woina-dega) parts of the woreda. The lowest elevation is 1801masl. The majority of the kebele is mainly characterized by temperate zone (Woina- Dega) T mean annual temperature of the woreda is 23ºc-32ºc.

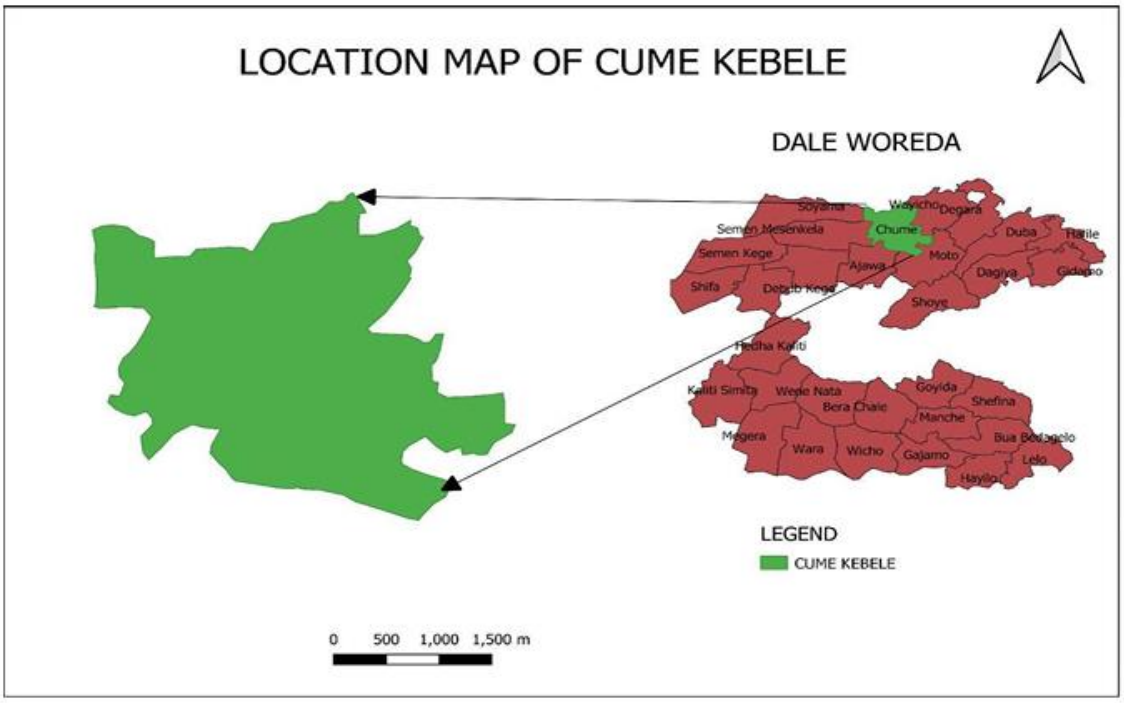

Fig.1. Location map Chume Rural woreda

1.2. Existing Water Supply System

- Existing Water Supply System and Sanitation Facility of Dollo ado Town

Existing Water Supply System

According 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 Dollo ado 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.

- Existing Water Supply Problems Chume Town

Chume kebele is mostly affected by scarcity of water. The total water supply coverage of the kebele is approximately less than that of most of the other kebeles found in Dale Woreda and the coverage is less than 22%.The kebele uses only two types of drinkable water source. These are Shallowell and spring water source. Most of the shallowell found in the kebele are non-Functional because of their service period is over and some less are non-functional because of maintenance problem. At this moment not more than three (3) shallowell are functional. The other problem the community facing is when dry season comes almost all shallowell become dry because of water table draw down.

The water consumption prevalent in rural Ethiopia is largely for domestic purposes and the mode of service is through public Taps. In the project under consideration, the settlement pattern of Chume kebele and the existing trend in the development of the people's water demand has been taken into account. The socio-economic survey reveals that the community currently relies on partially protected springs, rivers, unprotected springs, and ponds as their primary water sources. These sources are insufficient to meet the population's needs and pose serious health risks. As a result, the provision of a new, reliable water supply system is an urgent necessity. The lack of access to clean and safe water has led to widespread waterborne diseases in the area, including infections caused by amoebae, Giardia (referred to as "jarediya"), typhoid, and typhus. This situation stems from the absence of a proper water supply system and the poor protection and treatment of existing water sources, particularly in rural villages.

The modes of services which are commonly prevalent in most Ethiopian village, namely house connection, yard connection and public tap connection are also observed in the study of the present water consumption of the villages. As per the investigation and study on the field, ithas been realized that village dwellers are fetching water from far distance from unsafe water sources.

2. General Objective

To assess the WASH situation and prepare feasibility studies and detail engineering designs for stainable water supply and sanitation systems in **Dolo Ado Town and Chume Town Water Supply and Sanitation Projects** 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 **Dolo Ado Town and Chume Town Water Supply and Sanitation Projects**. The scope of services shall include, but not be limited to, the following:

1. 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.
2. 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.

3. 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.

4. 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…).

5. 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.

6. 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.

7. 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.

8. 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.

9. 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 (**Dolo Ado Town and Chume Town Water Supply and Sanitation Projects**).

6. Expected deliverables

S/N	Report/Document	Time in weeks	No. Copy (soft and hard)	Remark
1	Final Inception Report	6	8HC + 8SC	Before final inception report submit draft report for review
2	Final Feasibility study	18	8 HC + 8SC (separately for each site)	Before final feasibility submit draft feasibility report for review (3 Doc. For draft and 3 for final)
3	Final and acceptable Detailed Engineering Design, ESIA, ESMP and RAP, CR-WSP Report and Business Plan Reports	20	24 HC + 24SC (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	8HC + 8SC	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.

Table 1 Consulting Firms Team Expert Composition

S/No.	Position	No of perso-	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
			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	12
			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	
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	3
			High credit to experiences in study & design and construction supervision of water supply projects.	
			Experience as design water treatments planet for town more than one projects	
			Skill on AutoCAD and Water CAD is also a credit.	
			Renewed professional license	
4	Structural/Civil	1	M.Sc. / BSc. degree in structural or Civil related fields and	3
			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	
5	Geotechnical Engineer	1	BSc and 11 years, MSc and 9 years or PHD and 7 years/	3
			Respectively, in Civil and structural design Buildings and Water of water supply projects with similar scope and complexity.	

S/No.	Position	No of person	Qualification and Experience	Person Month
6	Hydro geologist	2	M.Sc. / BSc. degree in Hydrogeology/ Geology or related fields and a	3
			Experience 8 and 10 (and above), respectively, in reconnaissance and feasibility study of subsurface water Supply project management with similar scope and complexity.	
			Renewed Professional license	
7	Geophysics	1	M.Sc./BSc. Degree in Geophysics/Hydrogeology/ Geology or related fields and a	3
			Experience minimum of 8 and 10 years' respectively, in reconnaissance and	
			Feasibility geophysical study of subsurface water supply project with similar scope and complexity.	
			Renewed Professional license	
8	Hydrologist /Wat er 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	3
			Experience minimum of 6 years' experience in socioeconomic assessment	
			study of infrastructure projects with accredit 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.	3
			Renewed Professional license	

S/No.	Position	No of perso	Qualification and Experience	Person Month
12	Surveyor	2	Minimum diploma in surveying technology Experience of minimum 8 years in water supply system. Skill in AutoCAD · Skill on use profile and layout preparation · Renewed Professional license	3
13	Water Quality Expert	1	· MSc or above in Applied chemistry or related fields with · Experience of minimum of 10 years' in Experience minimum of 8 years' experience in water quality	3

8. Consulting Firms Responsibility

- 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 for the Service will:

- 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.

10. Payment modality

The contract for the consultant should be lump-sum 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