

GOVERNMENT OF GHANA
MINISTRY OF SANITATION AND WATER RESOURCES



COMMUNITY WATER AND SANITATION AGENCY

TERMS OF REFERENCE
(REFERENCE NO.: CWSA/REOI/01-21)

FOR

**CONSULTANCY SERVICES FOR THE DEVELOPMENT OF A
FRAMEWORK TO OPTIMIZE THE OPERATIONS OF PIPE
WATER SYSTEMS UNDER CWSA MANAGEMENT
AND REFORMS**

1. BACKGROUND AND CONTEXT

1.1 OVERVIEW

The Community Water Services Sub-sector has since 1994, operated under the guidance of the National Community Water and Sanitation Programme (NCWSP). The NCWSP was launched in 1994 and temporarily facilitated by the Community Water and Sanitation Division, of the then Ghana Water and Sewerage Corporation. In 1998, The Community Water and Sanitation Agency (CWSA) was established by an Act of Parliament, Act 564 with the mandate to facilitate the provision of safe drinking water and related sanitation services to rural communities and small towns and to coordinate all stakeholders and interventions towards the implementation of NCWSP.

One of the major tenets of the NCWSP is the concept of Community Ownership and Management (COM) which was meant to instill a sense of ownership in the communities and enable them take charge of the operation and maintenance of water facilities. As part of implementation requirements of this strategy, a new institutional arrangement evolved, assigning different responsibilities to various stakeholders, from the national to the community level. CWSA was to function as the lead public Agency charged with the facilitation and coordination of the NCWSP. The District Water and Sanitation Teams (DWSTs) were to be advisory bodies and links between the communities, the District Assemblies and external actors. At the community level, Water and Sanitation (WATSAN) Committees and Water and Sanitation Management Teams (WSMTs) were constituted to see to the operation and overall management of point sources and small towns pipe systems respectively.

Since the launch of the NCWSP in 1994, access to water supply in rural communities and small towns in Ghana has risen from 27% in 1990 (World Bank, 2010) to 62.29 % in 2019 (CWSA, 2019), while water related sanitation and hygiene in communities has improved significantly. There is currently a total of 32,871 boreholes fitted with hand pumps and 1,022 piped water systems across the country.

In spite of the modest achievements made under the NCWSP, there are a number of challenges that threaten the sustainability of the huge investments made in the WASH Sub-sector by government and its development partners. These include high non-revenue water, high indebtedness by water systems to electricity companies, unacceptable water quality, frequent breakdown of water systems, consistent government borrowing of funds to rehabilitate poorly managed water systems, lack of technical skills and capacity of communities and district assemblies to manage complex water systems, and high indebtedness by customers to the water systems.

As a result of the threats posed by these challenges to water supply in rural communities and small towns, the CWSA initiated policy reforms in 2017 to restructure the Community Water and Sanitation Sub-sector to be more efficient and responsive to the adaptation of technology and innovation to deal with the sustainability challenges. The ultimate objective of the policy reforms is to sustain WASH interventions through the transformation of CWSA into a Utility Organization, with responsibility for the provision and management of community water systems, while providing support to communities in the management of water related sanitation

services. CWSA will manage all pipe water systems while providing support to communities in the management of point water systems.

Key objectives of the policy reform include the following:

- a. Professionalize the operation and management of small towns piped water supplies.
- b. Improve on the operational efficiency of water systems.
- c. Mobilize revenue from water system management for maintenance, expansion and construction of new facilities.
- d. Increase water access towards meeting Sustainable Development Goal (SDG) 6.
- e. Create decent jobs for unemployed water management professionals to meet the skill gap.
- f. Apply appropriate technology to reduce non-revenue water.
- g. Adopt state-of-the-art technology to address water quality challenges.
- h. Create a support mechanism for sustained operation and maintenance of point water systems
- i. Improve access to Sanitation and Hygiene Services to maximize health benefits.

The policy reform was piloted with 100 pipe water systems, 5 per region, between 2018 and 2019. By mid-2020, the number had been scaled up to 149 water systems across the country, after recording some reasonable successes in the pilot phase. A total of 645 professional and 431 auxiliary staff have been engaged to manage the water systems.

Much of the outstanding electricity bills left by the erstwhile community managers have been paid, non-revenue water has been reduced to an appreciable extent, and rehabilitation works were carried out on most of the systems to bring them up to optimally operational levels.

In spite of the modest gains recorded since the operationalization of the policy reforms, there still remain some inherited challenges as well as emerging ones which need resolution to further enhance the success of the policy reform.

1.2 FRAMEWORK FOR MANAGEMENT OF PIPE WATER SYSTEMS UNDER THE POLICY REFORM

1.2.1 Engagement with Relevant Stakeholders

The existing NCWSP places the responsibility of managing the water supply systems on the MMDAs and the communities. To change this role without resistance, especially at the community level, extensive engagements with key stakeholders is critical to the successful implementation of the reforms. Key stakeholders at the sub-national level which were engaged from initiation through to the execution of the reform programme

include the Regional Coordinating Councils, District Assemblies, WSMTs, Chiefs, Private Operators and other opinion leaders. The objective of the engagement is to explain the context and the rationale of the reform and solicit for understanding and support for the programme. The engagements also sought to discuss the procedures for the selection of the water supply systems and the transition arrangements for the pilot phase and subsequent upscaling.

1.2.2 Recruitment, Training and Deployment of Professional Staff

A nationwide recruitment programme was embarked on to engage the services of professionals to efficiently manage the water systems. On the average, 5 staff comprising a Water Systems Manager, Community Relations Officer, Accounts Officer, Technician Engineer and Revenue Officer are deployed to each water system. These positions are filled with professionals with backgrounds in engineering, finance, public relations, marketing and the social sciences with minimum educational qualifications of Higher National Diploma (HND) and first or second degree depending on the position and complexity of the water system.

1.2.3 Staffing structure for Water Systems Management

Staffing for Single Unit Pipe Water Systems

Staffing for an average size single unit water system comprise five (5) professional staff made up of Water Systems Manager, Technician Engineer, Accounts Officer, Community Relations Officer and Revenue Officer. The number increases depending on the size and complexity of the water system. In the case of Limited Mechanized Water Systems (LMS), two (2) professional staff made up of a Water Systems Manager and an Accounts Officer or Revenue Officer are engaged.

Staffing for Clustered Pipe Systems

Some water systems are clustered under one management team if they are fairly close to each other. Where two or more water systems are clustered, a Water Systems Manager and an Accounts Officer manage the cluster while each of the systems within the cluster gets a Community Relations Officer, Revenue Officer and a Technician Engineer. The experiment with this approach has not yielded the expected results due to the scarcity of logistics and weak coordination.

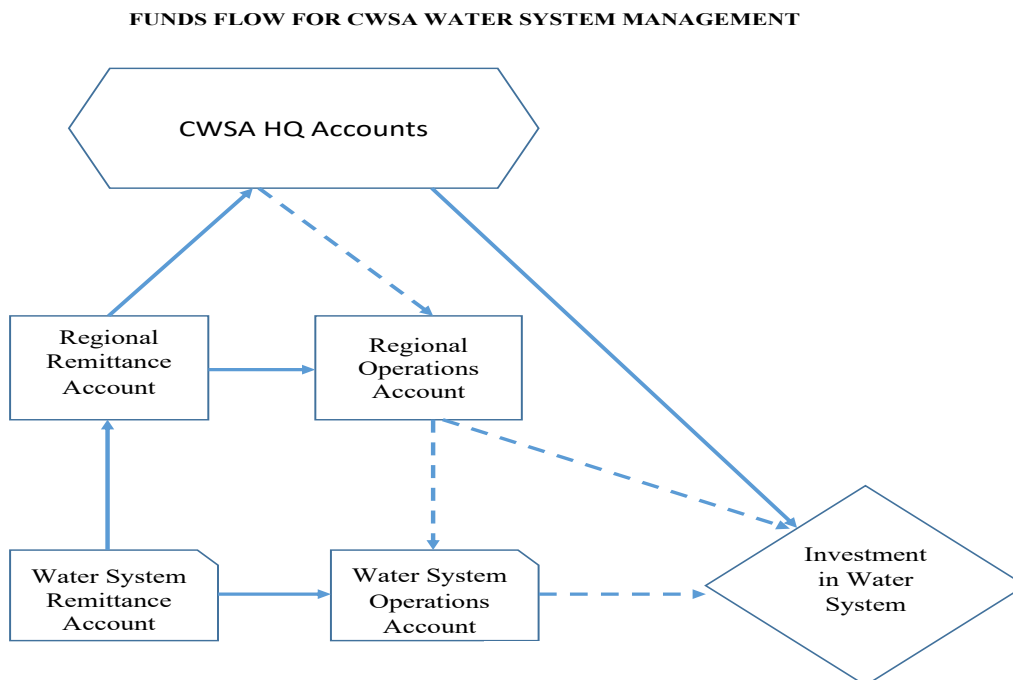
Auxiliary Staff

The Water System Management Staff constitute the professional management body responsible for the management of the water supply systems in the community. In order to create a sense of community involvement, auxiliary staff comprising community members are employed to support the core water system management staff for the day-to-day operation of water supply systems. These staff include technical operators, water

vendors, security personnel, plumbers and cleaners. The WSMS and the auxiliary staff, led by the Water Systems Manager and supervised by CWSA Regional Offices are expected to ensure that the water systems operate efficiently and sustainably in compliance with prescribed standards and guidelines.

1.2.4 Funds Transfer Model

Two main accounts have been opened at both Regional and Water System level offices. These are the remittance and operational accounts. The remittance accounts at the water systems level receives payment of gross proceeds of all water sales and other receipts. Based on an agreed retention ratio, a proportion of the revenue in the Water System Remittance Account is transferred into a Water System Operational Account for the cost of operations and the rest remitted into the Regional Remittance Account. The regional offices in turn, retain an agreed proportion of the aggregated transfers from water systems remittance accounts in an operational account to meet the cost of operation and the rest transferred into the Head Office Central Account. The cost of capital investments is financed from the head office central account either directly to the service provider at the water system level or through the regional operational account for payment of the service providers by the regional office. The funds flow mechanism is shown in figure 1.



Withdrawals are not permitted from the regional and water systems remittance accounts. There is a minimum of two signatories for the Regional and Water Systems Operational Accounts and the Central Bank Account at the CWSA Head Office.

All water systems submit monthly returns supported with Bank Statements to CWSA Regional Offices. Consolidated returns are submitted to CWSA Head Office quarterly, showing break down according to each managed water system.

2. OBJECTIVES OF THE ASSIGNMENT

The ultimate objective of the consultancy assignment is to develop a scientific and data-based risk management and benchmarking model that supports informed decision-making on key operational areas towards profitability of the various water systems. Specifically, the benchmarking model is expected to determine the following:

- (1) Categorize pipe water systems based on complexity, size and other relevant factors
- (2) Develop key performance indicators for benchmarking water systems performance
- (3) Develop a tool for measuring the risks that come with a water system, in areas of water quality and the impact of the external environment in which the water systems operate.
- (4) The risks associated with each category of water systems and develop reliability risk assessment for the water systems in selected towns.
- (5) Development human resource requirements for each category of water systems, with linkages to financial sustainability, detailing the skills required to achieve maximum productivity.
- (6) The skills and capacity of staff needed for the various water systems to achieve optimum productivity (optimum productivity means the water system should at least break even).
- (7) Train staff on the use of risk tools developed and reliability tool/plans for the selected water systems.
- (8) Train staff on the use of tools for the human resources requirements for the categories of water systems.

3. OUTPUTS

- i. A computerized based software benchmarking model (both online and offline) to aid management in making informed decisions on the categories of the water systems, related risks with each category and estimation of the human resource requirements to achieve optimum productivity.
- ii. A technical manual for training
- iii. A user guide for operationalization of the software suite
- iv. CWSA staff trained on the model.
- v. A final report on the assignment.

4. PLAN OF WORK

The assignment demands a strong multi-disciplinary team with a mix of engineering, statistics, risk assessment, reliability assessment, Planning and finance backgrounds. The assignment must also engage key stakeholders including partner communities, Water System Management Staff, Regional Office staff and departments at the Head

Office, using diverse range of tools and techniques. For the minimum, the following approach is suggested for the evaluation:

- Clarify all requirements and expectations with the CWSA Counterpart Team in reference to the TOR
- Review all relevant background documents including the Community Water Services Policy; the Community Water Services Policy Reform Framework, the Reform Strategy Paper; Monthly, Quarterly and Annual Reports; Water Systems, Regional Offices and CWSA National Performance Contracts; Performance Contract Evaluation Reports; Strategic Investments Plans etc.
- Conduct data collection and field consultations using appropriate methodology.
- Develop the draft Risk Management and Benchmarking Model taking into consideration relevance, efficiency, flexibility and sustainability of the model.
- Facilitate stakeholder fora to discuss the findings and recommendations of the evaluation
- Finalize and submit report to Plan.

5. DURATION AND REPORTING

The assignment is expected to be completed in twelve (12) months after the signing of the contract. The consortium of experts will seek the full participation and collaboration of the client and other key stakeholders during the execution of the assignment. The consortium is expected to produce the following reports in the course of the assignment:

- Review of the ToR and consolidation with the client to agree on the outcomes.
- An inception report outlining the work plan for the assignment.
- A mid-term report after 6 months of inception report.
- A draft report after the completion of the assignment to be reviewed by the client in a workshop.
- A final report taking into consideration all the agreed proposals from the workshop.

The report shall be in the following formats: five (5) hard copies and soft copy. The final report shall also be emailed to the Chief Executive of CWSA. All reports will be produced in a format that will be agreed between the consultant and the client.