

GHANA INSTITUTIONAL FRAMEWORK FOR WATER PROVISION

GHANA COUNTRY OVERVIEW (WORLD BANK, 2017)

Population (2018): **29.77 million**

Population growth rate (2018): **2.2%**

Urbanisation rate (2018): **3.4%**

13.3% of the population lives with **less than \$1.90/day**

Human Development Index (2017): **0.592**

This indicator has steadily increased for the last 20 years. Ghana ranks 14 out of 53 sub-Saharan countries, and 140 among 189 countries worldwide.

Ghana's GDP distribution (2016): **59% Services, 27% Industry, 14% Agriculture**

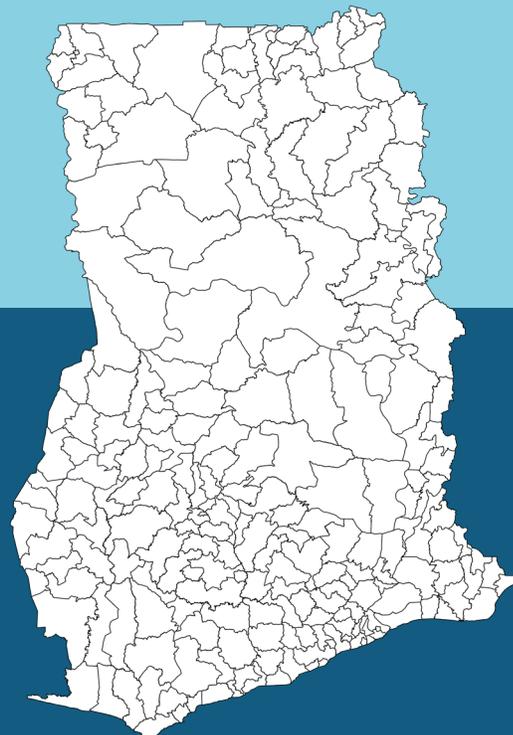


Figure 1: Map of Ghana

The Aquaya Institute is a non-profit research organization focused on water, sanitation and hygiene (WASH). In 2012-2016, Aquaya evaluated regulated water quality monitoring activities across sub-Saharan Africa with support from the Bill & Melinda Gates Foundation. Since 2017, Aquaya is supported by the Conrad N. Hilton Foundation (CNHF) to assist government agencies in selected districts of Ghana and Uganda in their efforts to achieve 100% coverage of safe, sustainable, and equitable drinking water supplies. As part of this work, Aquaya has developed detailed summaries of the institutional framework for water provision in the two countries.

COUNTRY OVERVIEW

The Republic of Ghana is located in West Africa with Togo to the east, Côte d'Ivoire to the west, Burkina Faso to the north, and the Gulf of Guinea to the south. Ghana is a young, fast growing and urbanizing lower-middle income country: 57% of the population is under 25, urbanization occurs at a rate of 3.4% per annum and gross national income (GNI) per capita based on purchasing power parity in 2018 was \$4,651 (World Bank, 2019). The country's Human Development Index (HDI) is 0.592, ranking 140 among 189 countries (UNDP, 2018). Economic growth forecast is 7.6% for 2019 (World Bank, 2020).

Ghana has a multi-party parliamentary democracy with a president elected for a four-year mandate (Government of Ghana, 2017). Since the country passed the Local Governance Act in 1993, deconcentrated government entities called

Metropolitan, Municipal, and District Assemblies (MMDAs) are responsible for the development of essential services, including water and sanitation. The country has 260 MMDAs. To date, MMDAs retain the responsibility of advancing water access in rural areas. Following Ghana's decentralization in 1993, the country established Ghana Water Company Limited, a state-owned limited liability company, responsible for delivering water supply in urban areas.

Between 1990 and 2015, access to improved water sources increased from 84% to 96% in urban areas and from 39% to 81% in rural areas (WHO/UNICEF, 2015). Accelerating the provision of safe water was a policy priority expressed in Ghana's most recently published medium-term national development policy framework covering the period 2014-2017.

GHANA'S LEGAL FRAMEWORK FOR WATER SERVICE PROVISION

The key legal instruments governing water service provision in Ghana are:

1. National Redemption Council Decree 173 - Standards Authority Act, 1973

- Creates the Ghana Standards Authority (GSA) to establish and promulgate national standards promoting public welfare, health, and safety across all sectors.
- Gives the GSA the responsibility to set drinking water quality standards and determine testing requirements.

2. Act 462 - Local Government Act, 1993/Act 936 - Local Governance Act, 2016

- Replaces previous local governance acts from 1993 and 2003 and consolidates them into a single local governance regulation.
- Defines Metropolitan, Municipal, and District Assemblies (MMDAs) and outlines their detailed functions and mandates in accordance with the Constitution of Ghana.
- Designates MMDAs as the legal owners of public water infrastructure.

3. Act 490 – Environmental Policy Act, 1994

- Establishes the Environmental Protection Agency (EPA) as the principal environmental regulatory body in Ghana.
- It gives EPA the power to enforce compliance with environmental impact assessment procedures and the responsibility to protect water resources from environmental and industrial pollution.

4. Act 522 – Water Resources Commission Act, 1996

- Establishes the Water Resources Commission (WRC) to regulate and manage the sustainable use of Ghana's water resources.
- The act allows WRC to grant water rights and abstraction permits, conduct water quality investigation, propose plans for the utilization, conservation and development of water resources, and coordinate activities related to the use of water resources.

5. Act 538 - Public Utilities Regulatory Commission Act, 1997

- Establishes the Public Utilities Regulatory Commission (PURC) regulate public utilities, including urban water supply and electricity.
- Described activities include developing guidelines on rate setting, approving rates set by GWCL, monitoring GWCL performance, and conducting surveillance of GWCL.

6. Act 564 – Community Water and Sanitation Act, 1998

- Establishes the Community Water and Sanitation Agency (CWSA) with a mandate to facilitate and oversee the delivery of safe water to rural communities and small towns.
- The act requires CWSA to support District Assemblies (DAs) to promote sustainable safe water and sanitation services, provide technical assistance to DAs for water development projects, formulate strategies for resource mobilization in the rural water sector, and develop standards and guidelines for safe water supply in rural communities.

7. Legislative Instrument 1648 – Statutory Corporations Act (461) Amendment, 1999

- Converts the Ghana Water and Sewerage Corporation (established under Act 461) into a 100% state-owned limited liability company, Ghana Water Company Limited (GWCL), responsible for Ghana's urban water supply.

8. Legislative Instrument 2007 – Community Water and Sanitation Regulations, 2011

- A legislative instrument that outlines the national norms and standards for water supply schemes in rural areas and small towns. It also sets the DA as the approving authority for all water service provision in rural areas and small towns.
- The regulations require that:
 - Each person in a community have access to a minimum of 20 liters of water per day.
 - The walking distance to a water facility not exceed 500 meters for any household.
 - Each hand pump or standpipe serve no more than 300 persons.
 - Water facilities provide water for at least 95% of the year.
 - Water quality meet standards set by the Ghana Standards Authority (Tables 1 &2).

TABLE 1: Ghana Drinking Water Standards – primary parameters for routine water quality monitoring

	Parameter	Unit of Measurement	GSA Standard
Physical Characteristics	pH	n/a	6.5-8.5
	Color	Hz	15
	Turbidity	NTU	5
	Temperature	°C	25-30
	Dissolved oxygen	mg/L	n/a
Water treatment related chemicals (if used)	Aluminum	mg/L, max	0.2
	Residual free chlorine	mg/L, min	0.2
	Copper	mg/L, max	2
Inorganics	Iron	mg/L, max	0.3
	Manganese	mg/L, max	0.4
Bacteriological	<i>E. coli</i>	CFU/100 mL*	0.00

Source: (MWRWH, 2015)
*CFU – Colony Forming Units

TABLE 2: Minimum frequency of sampling for drinking water sources in Ghana

Type of Water Supply	Minimum Number of Samples
Point Sources	At least 2 tests per year for 5 years; additional tests are required if there are environmental changes or suspected contamination events
Piped Supplies	
< 5,000	1 sample every month
5,000 to 100,000	1 sample per month per 5,000 population
100,000 to 500,000	1 sample per month per 10,000 population plus 10 additional samples per month
>500,000	1 sample per month 50,000 population plus 50 additional samples per month

Source: GSA Water Quality – Specification for Drinking Water FDGS 175-1:2013

GHANA'S WATER AND ENVIRONMENTAL POLICIES

1. The National Water Policy (NWP) (2007) provides the institutional framework for the sustainable development of Ghana's water resources. It is divided into three sections: an overview of the water sector priorities, obligations, and principles; a summary of priority policy issues related to water resource management, urban water supply, and community water and sanitation; and guidelines for implementing policies. The NWP is centered around a recognition of the “fundamental right of all people without discrimination to safe and adequate water to meet basic human needs.”

2. The Ghana Shared Growth and Development Agenda II (GSGDA II) 2014 is the fifth in a series of medium-term national development policy frameworks published by the Government of Ghana (GoG). It sets policy objectives, details strategies for achieving development goals, and directs donor coordination. The GSGDA II states that advancing infrastructure for human settlements development, including water and sanitation systems, is a key development priority.

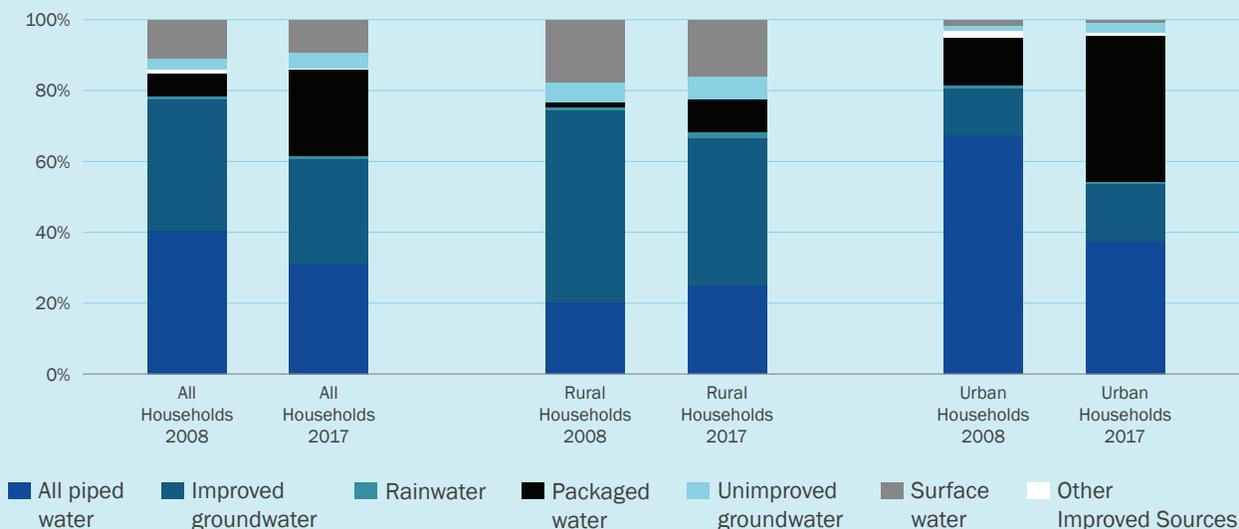
3. The Water Sector Strategic Development Plan (WSSDP)

2014 builds off the NWP to provide a framework for implementing Ghana's vision for the water and sanitation sector. It identifies key challenges, strategic priorities, and investment requirements to achieve complete national coverage of sustainable water services and integrated management of Ghana's water resources by 2025.

4. National Community Water and Sanitation Strategy (NCWSS) 2014. The National Community Water and Sanitation Program (NCWSP) 1994

launched after decentralization began in Ghana as the blueprint for water service delivery in rural communities and small towns. The NCWSS guides the implementation of the NCWSP and aims to advance the provision of WASH services to rural communities and small towns. It promotes sustainability of services through community ownership and management, involvement of women and the private sector, and local government facilitation. It also seeks to maximize health benefits by integrating hygiene promotion into water and sanitation activities.

FIGURE 2:
Evolution in primary drinking water sources in Ghana during the 2008-2017 period



Sources: UNICEF/WHO Joint Monitoring Program (JMP) database (UNICEF and WHO 2008); Ghana Statistical Service (2018)

5. The National Drinking Water Quality Management Framework (NDWQMF) 2015

is a policy guide of best practices for meeting operational and surveillance monitoring requirements for drinking water supplies and drinking water quality requirements for the entire sub-sector. It focuses on systematic and preventative measures to reduce the risk of contamination to water supplies and advises on how to respond when the quality of drinking water systems is compromised.

GHANA'S WATER ACCESS, UTILIZATION, AND INFRASTRUCTURE MANAGEMENT

DRINKING WATER SOURCES

Between 2008 and 2017, household reliance on unimproved sources (14%) for drinking has largely remained constant (Figure 2). Reliance on piped systems for drinking water sources has decreased by ten percentage points nationally, largely driven by the increasing consumption of packaged “sachet water” by urban dwellers (+ 28 percentage points). Nationally, approximately 31% of households rely on piped water as a primary source of drinking water, 30% rely on improved groundwater supplies, and 24% rely on sachet water (Figure 2).

According to WHO/UNICEF Joint Monitoring Program (JMP) data, approximately 35% of schools and 3% of health care facilities lack access to any water supply. Among health care facilities, 71% have access to basic water (on premises), while 26% have access to only limited water service (off premises).

Water quality remains a challenge in Ghana. Data collected by the JMP in 2017 found that 41% of households relying on

improved water sources had fecal contamination in their source water and 73% of the same households had fecal contamination in their drinking water in the home (reference JMP report).

WATER INFRASTRUCTURE, MANAGEMENT, AND TARIFFS

Since Ghana launched the NCWSP, Community Ownership and Management (COM) has been the primary model for governance and implementation of rural and peri-urban water services. Under this model, DAs retain formal asset ownership of water infrastructure. The DAs ensure that communities form Water and Sanitation Management Teams (WSMTs) to operate and maintain the community water systems and have the power and responsibility to approve community tariffs and ensure that WSMTs comply with the guidelines and regulations set forth by CWSA. In consultation with communities, DAs may also develop service contracts with private operators to manage rural water systems. Recently, CWSA has entered service agreements with several MMDAs to manage piped water systems in small towns, though this activity represents a deviation from the NCWSS.

In 2016, CWSA estimated that Ghana had 32,756 community point source water systems, comprised of boreholes (86%), hand dug wells (12%), and rainwater harvesting systems (2%), as well as 1,409 community-based piped systems serving rural and peri-urban areas (CWSA, 2016). In urban areas, GWCL, the national water utility, operates 88 piped water systems.

Water tariffs in urban areas served by GWCL are designed to recover the costs of operations and maintenance, including depreciation. Once a GWCL branch achieves ongoing cost

FIGURE 3:
Overview of water provision dynamics in Ghana

		Municipal and Metropolitan Areas	Small Towns	Rural Communities
Water Service Provision	Responsibility for water supply & infrastructure ownership	GWCL		District Assemblies
	Management and operation of water systems	GWCL	CWSA	WSMTs Private Operators
Water Quality Monitoring	Operational monitoring	GWCL	CWSA	WSMTs Private Operators
	Surveillance monitoring	PURC		District Assemblies

recovery, tariffs can be increased to recover the initial capital cost. The tariffs are based on PURC guidelines and are approved by PURC prior to implementation. In rural areas and small towns, tariffs are proposed by communities or WSMTs and approved by the DAs. CWSA publishes guidance on tariff settings that DAs can use to guide tariff setting discussions.

GHANA'S EVOLVING FRAMEWORK FOR WATER SERVICE PROVISION AND MONITORING

In 2017, Ghana established the Ministry of Sanitation and Water Resources (MSWR) to consolidate WASH development under a single ministry. Subsequently, GWCL, CWSA, and WRC were reassigned to the MSWR.

Today, GWCL continues to function as the primary supplier for water in urban areas (Figure 3). Its primary focus is to reduce non-revenue water, expand its customer base, and improve operating performance (GWCL 2017). PURC ensures enforcement of urban water quality regulations through a Water Quality Inspectorate, which reserves the right to audit water quality compliance. No water quality audits by the Inspectorate are publicly available. Sachet water, which has exploded as a primary source of drinking water for urban dwellers in recent years, is regulated by Ghana's Food and Drug Administration (FDA) and GSA. However, many sachet water manufacturers are not legally registered or monitored.

Prior to 2017, CWSA, funded primarily through external development grants and loans, acted as a rural water infrastructure project implementer, while conducting rural water sector monitoring and capacity building activities. Following Ghana's reclassification by development finance institutions from low-income to lower-middle-income status in 2007, CWSA reported a decline in the availability of funding for these activities.

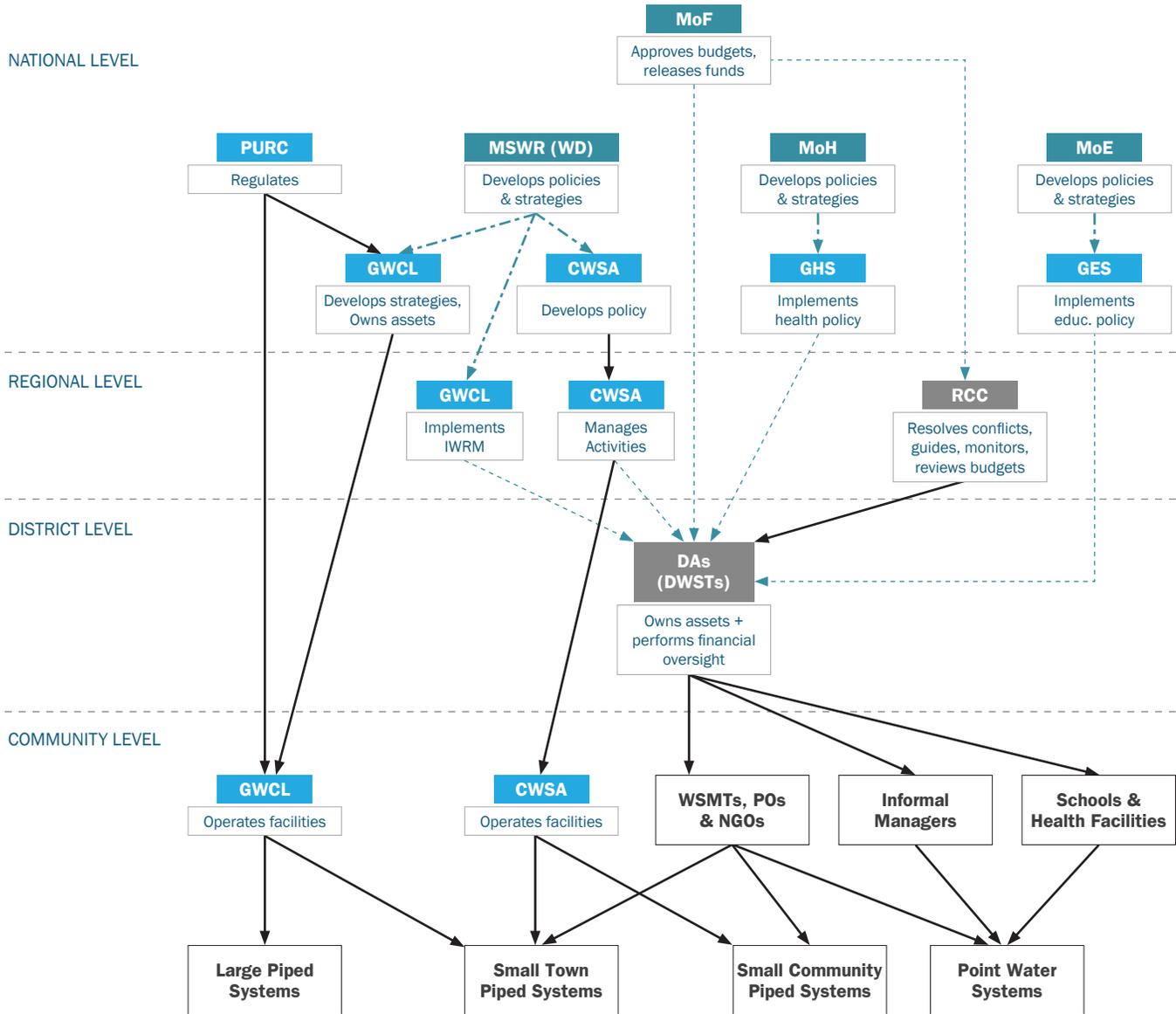
At the same time, CWSA identified that the rural water sector continued to struggle with persistent capacity gaps, poor operation and maintenance, and high rates of water system breakdowns. In response to the funding shortfalls and broader sector challenges, CWSA began a major reform in 2017 to transform itself into a utility organization for small towns (Figure 3). To date, CWSA has assumed management for 125 piped systems from DAs, many of which they rehabilitated and upgraded with water treatment technologies.

Though CWSA's organizational shift has occurred rapidly, policy has not yet caught up. There are currently no legal provisions for regulating CWSA activities as a utility and the mechanism for DAs and CWSA to settle water disputes is unclear. Technically, CWSA is the primary agency with the power to craft regulations for the rural water sector. Furthermore, CWSA has not officially relinquished its role as a technical advisory agency for the rural water sector, even though its activities in this area have significantly reduced in practice. Finally, it is important to note that still no regulatory body exists to hold DAs accountable and ensure that they fulfill their responsibilities with respect to service delivery and water quality at non-CWSA water systems. As a result, routine rural water quality monitoring rarely occurs, and many rural water systems fall into disrepair for long periods.

Responsibilities for water service provision in schools and health care facilities fall within the jurisdictions of their respective line ministries, the Ministry of Education (MoE) and the Ministry of Health (MoH). Employees from the ministries' technical agencies are embedded within the MMDAs to manage water service priorities and improvements. The MSWR does not have staff representation at the District level to liaise health or education staff on water needs.

1.DETAILED GHANAIAN WATER SERVICE PROVISION FRAMEWORK

Institutions	Roles and Responsibilities in Water Service Provision
Ministry of Sanitation and Water Resources (MSWR)	The Ministry of Sanitation and Water Resources (MSWR) is the primary body responsible for crafting guidelines and legislation guiding the water sector. Its goal is to ensure the sustainable management of the country's water resources so as to increase access to safe, adequate, and affordable water. The MSWR was created to focus on water, sanitation, and hygiene issues in Ghana as the national bodies responsible for these topics were previously not consolidated.
Directorate for Water (WD)	The Directorate for Water is an internal division within MSWR that coordinates, monitors, and evaluates water related activities of key sector institutions, including CWSA, GWCL, and WRC. It is responsible for implementing the WSSDP and identifying additional funding sources for water related initiatives.
Ghana Water Company Limited (GWCL)	Ghana Water Company Limited (GWCL) is the national public water utility responsible for urban water supply. GWCL is responsible for recovering operational expenses and capital improvements through tariffs.
Community Water and Sanitation Agency (CWSA)	The Community Water and Sanitation Agency is the lead agency mandated to facilitate the provision of safe water to rural communities and small towns. It has historically provided technical assistance, authored policy, guidelines, and regulations and developed infrastructure for the rural water sector. It is now transitioning into a water utility for small towns.
Water Resources Commission (WRC)	The Water Resources Commission regulates and manages Ghana's water resources and co-ordinates government water policies. It has a mandate to adopt and facilitate Integrated Water Resource Management (IWRM) at the local level with assistance from the DAs.
Public Utilities Regulatory Commission (PURC)	The Public Utilities Regulatory Commission (PURC) is an independent regulatory agency in charge of regulating public service provision, including the provision of water supply. PURC regulates GWCL's tariffs and has the right to perform surveillance of GWCL's water quality. PURC does not regulate the rural water sector.
Ministry of Health (MoH)	The Ministry of Health's (MOH) mission is to contribute to the socio-economic development and the development of a local health industry by promoting health and vitality through access to quality health for all people living in Ghana.
Ghana Health Service (GHS)	The Ghana Health Service (GHS) is an autonomous agency within the MOH. Its mandate is to provide and prudently manage comprehensive and accessible health services. GHS seeks to increase access to good quality health services which include the provision of safe drinking water on the premises of health care facilities.
Ministry of Education (MoE)	The Ministry of Education (MoE) is responsible for all policies on education in Ghana. Its vision is to provide education to all Ghanaians to facilitate poverty reduction and promote socio-economic growth and development.
Ghana Education Service (GES)	The Ghana Education Service (GES) is responsible for the implementation of pre-tertiary educational policies of the Government. It houses the School Health Education Program (SHEP) unit, which promotes the provision of adequate, safe and sustainable water and sanitation facilities in pre-tertiary schools.
Ministry of Finance (MoF)	The Ministry of Finance (MoF) reviews district budgets and disperses funding that MMDAs use for implementing and programs, including water projects. It also provides budgetary guidance on allocations for water activities at the ministerial and district levels.
Regional Coordinating Council (RCC)	Regional Coordinating Councils (RCCs) are responsible for coordinating, monitoring, and evaluating the performance of DAs in the country's 16 regions and monitoring the use of all funds allocated to DAs by any central government agency. They also serve as the arbiter of inter-district disputes, but hold little regulatory leverage.
District Assemblies (DAs)	District Assemblies (DAs) are autonomous local governments with executive and legislative powers. They are responsible for monitoring and regulating the safe provision of drinking water in line with the sector guidelines and policies developed by CWSA and the MSWR. DAs also have a District Water and Sanitation Team (DWST) that directs and monitors water related activities in the district.
Water and Sanitation Management Teams (WSMT)	Water and Sanitation Management Teams (WSMTs) are the most common management structure for community water systems in rural areas. WSMTs are usually volunteers appointed or elected by their communities. The composition and activity of WSMTs is described in detail in CWSA policy documents, but most WSMTs are not in compliance with these guidelines.
Private Operators (POs)	Private Operators (POs) can be contracted by DAs or communities to manage water infrastructure. There are also a growing number of private small water enterprises (SWE) in Ghana, currently serving an estimated ~1 million people. Though they are subject to district bylaws and regulations, most are not registered or regulated. In 2019, a group of SWEs issued a call to be formally recognized and regulated
Non-Governmental Organizations (NGOs)	Non-Governmental Organizations (NGOs) also provide water infrastructure and sometimes operate water facilities in small towns and rural areas. They are largely unregulated and usually work either directly with communities or with District Assemblies.
Informal Managers	While DAs are supposed to ensure all water systems are managed by WSMTs, many community point sources are managed by Informal Managers who have no formal training.



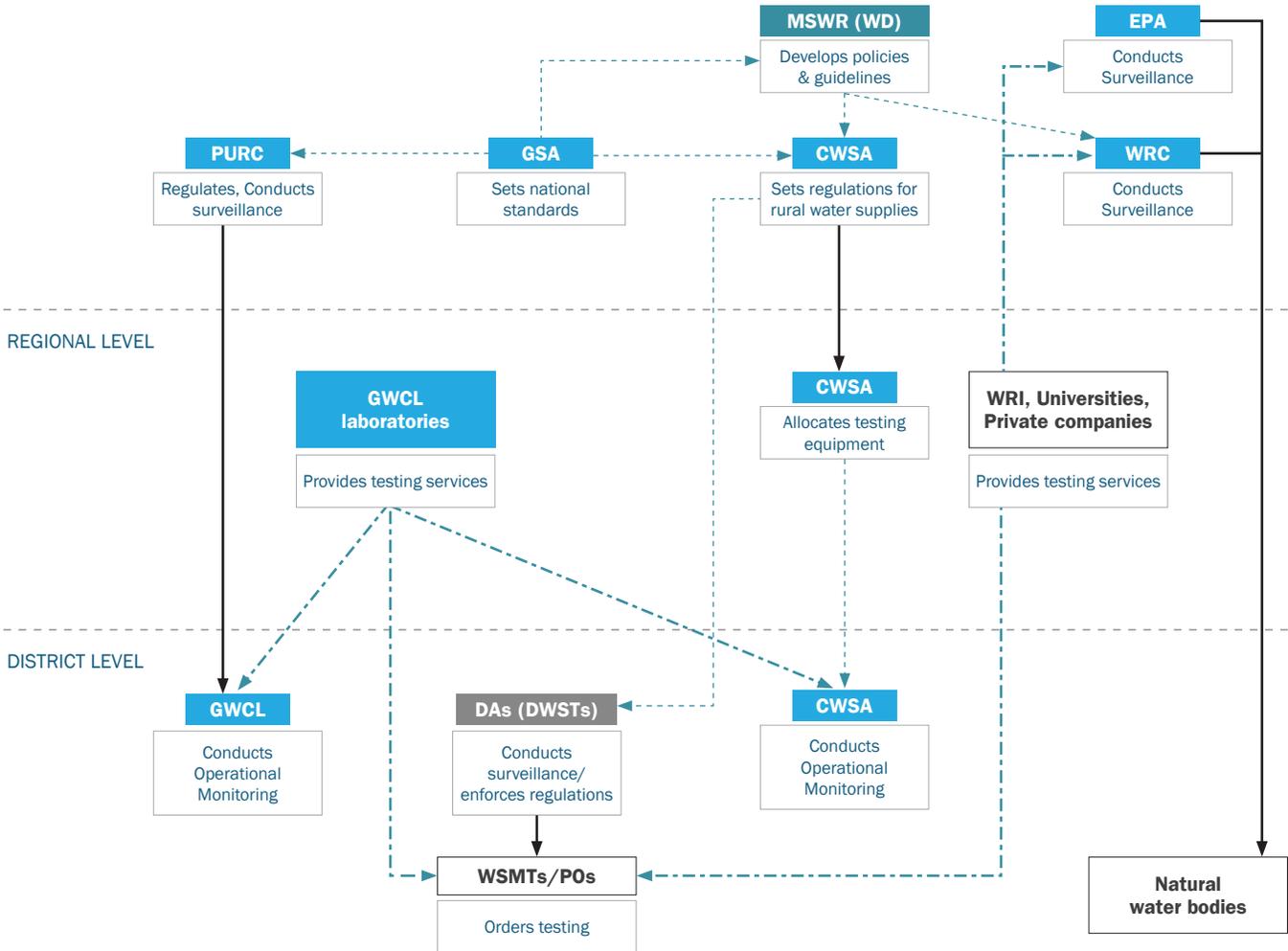
LEGEND

- Government Ministry
- Central Government Agency
- Local Government
- Non-Governmental
- Oversight
- Coordinates
- Guides/Supports

2. DETAILED GHANAIAN WATER MONITORING FRAMEWORK

Institutions	Roles and Responsibilities for Water Quality Monitoring
Ministry of Sanitation and Water Resources (MSWR)	The Ministry of Sanitation and Water Resources (MSWR) develops and advocates policies for safe management and monitoring of water systems.
Environmental Protection Agency (EPA)	The Environmental Protection Agency (EPA) conducts surveillance of water bodies when it suspects major environmental or health threats. It commonly surveys water bodies that could be impacted by mining operations.
Ghana Water Company Limited (GWCL)	Ghana Water Company Limited (GWCL) is responsible for conducting routine monitoring of its water supplies to ensure compliance with water quality standards and regulations.
Community Water and Sanitation Agency (CWSA)	The Community Water and Sanitation Agency develops the regulations for water quality monitoring in rural areas and small towns. It also conducts monitoring of its own water systems.
Water Resources Commission (WRC)	The Water Resources Commission investigates water quality of watersheds when it suspects there are any major water quality issues.
Public Utilities Regulatory Commission (PURC)	The Public Utilities Regulatory Commission (PURC) has the right to perform surveillance of GWCL's water quality, but has not published public records of GWCL's level of compliance.
Ghana Standards Authority (GSA)	The Ghana Standards Authority (GSA) composes water quality standards and establishes acceptable methods for water quality monitoring in Ghana. CWSA and PURC use GSA's standards to form regulations for the rural and urban water sectors respectively.
Water Research Institute (WRI)	The Water Research Institute (WRI) offers water quality testing services for some private operators in Ghana. It is often contracted by both private companies and governmental organizations to conduct independent testing as surveillance of water supplies.
District Assemblies (DAs)	District Assemblies (DAs) are responsible for ensuring that WSMTs are conducting water quality monitoring. They also have the mandate to perform surveillance of district water systems.
Water and Sanitation Management Teams (WSMT)	Water and Sanitation Management Teams (WSMTs) are responsible for ensuring that water quality monitoring occurs either by contracting external testing services or performing testing themselves.
Private Operators (POs)	Private Operators (POs) are responsible for conducting water quality testing in line with district by-laws and national regulations.
Non-Governmental Organizations (NGOs)	Non-Governmental Organizations (NGOs) sometimes provide water quality testing for local governments and WSMTs.

NATIONAL LEVEL



REFERENCES

- Community Water and Sanitation Agency. (2014b). National Community Water and Sanitation Strategy.
- CWSA. (2010f). Water Safety Framework.
- CWSA. (2014). CWSA District Operational Manual.
- CWSA. (2016). National Coverage Statistics Potable Water (Community Based Water Systems), (September), 2015.
- Ghana Statistical Service, 2018. Multiple Indicator Cluster Survey (MICS2017/18), Survey Findings Report. Accra, Ghana: GSS.
- Government of Ghana. (1973). Standards Authority Act.
- Government of Ghana. (1993). District Assemblies Common Fund Act (Act 455). Accra Ghana.
- Government of Ghana. Environmental Protection Agency Act (1994).
- Government of Ghana. (1994b). National Development Planning Commission Act.
- Government of Ghana. (1996). Water Resources Commission Act, 4001(I), 4001–4012.
- Government of Ghana. (1997). Public Utilities Regulatory Commission Act (Act 538).
- Government of Ghana. (1998). Community Water and Sanitation Agency Act, 20.
- GWCL. (1999). Ghana Water Company Limited: Customer Charter.
- GWCL. (2016). History of Water Supply in Ghana.
- MWRWH. (2007). National Water Policy.
- MWRWH. (2014). Water Sector Strategic Development Plan (2012-2025).
- MWRWH. (2015b). National Drinking Water Quality Management Framework, (June).
- Public Utilities Regulatory Commission. (2005a). Social Policy and Strategy for Water Regulation.
- Public Utilities Regulatory Commission. (2005b). Social Policy and Strategy for Water Regulation, (February).
- Republic of Ghana. (2016a). Local Governance Act.
- Republic of Ghana. (2016b). Local Governance Act, 1–124.
- UNICEF and WHO. (2019.) Joint Monitoring Programme Estimate on the uses of water, sanitation, and hygiene in Ghana.
- WHO/UNICEF. (2015). *Progress on Sanitation and Drinking Water: 2015 Update and MDG Assessment*.
- World Bank. (2017b). *World Development Indicators: Ghana Country Profile*.
- WRC. (2014). Annual Report. <https://doi.org/10.1002/ejoc.201200111>