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An AMCOW Country Status Overview

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Water Supply and Sanitation in Ghana

Turning Finance into Services for 2015 and Beyond

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The first round of Country Status Overviews (CSO1) published in 2006 benchmarked the preparedness of sectors of 16 countries in Africa to meet the WSS MDGs based on their medium-term spending plans and a set of 'success factors' selected from regional experience. Combined with a process of national stakeholder consultation, this prompted countries to ask whether they had those 'success factors' in place and, if not, whether they should put them in place.

The second round of Country Status Overviews (CSO2) has built on both the method and the process developed in CSO1. The 'success factors' have been supplemented with additional factors drawn from country and regional analysis to develop the CSO2 scorecard. Together these reflect the essential steps, functions and results in translating finance into services through government systems—in line with Paris Principles for aid effectiveness. The data and summary assessments have been drawn from local data sources and compared with internationally reported data, and, wherever possible, the assessments have been subject to broad-based consultations with lead government agencies and country sector stakeholders, including donor institutions.

This second set of 32 Country Status Overviews (CSO2) on water supply and sanitation was commissioned by the African Ministers' Council on Water (AMCOW). Development of the CSO2 was led by the World Bank administered Water and Sanitation Program (WSP) in collaboration with the African Development Bank (AfDB), the United Nations Children's Fund (UNICEF), the World Bank and the World Health Organization (WHO).

This report was produced in collaboration with the Government of Ghana and other stakeholders during 2009/10. Some sources cited may be informal documents that are not readily available.

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An **AMCOW** Country Status Overview

Water Supply and Sanitation in Ghana

Turning Finance into Services for 2015 and Beyond

Strategic Overview

Since the early 1990s, Ghana's water and sanitation sector has seen major reforms to address weaknesses. Appropriate institutional, legal, and regulatory structures are now largely in place, particularly for the urban and rural water supply subsectors. The Ministry of Water Resources, Works, and Housing (MoWRWH) has provided leadership in the area of drinking water supply, kept to policy formulation, and encouraged and supported the agencies under it to perform their roles. There are clear lines of responsibility and all subsector policies have been consolidated into the National Water Policy (NWP) and the National Environmental Sanitation Policy. The Environmental Health and Sanitation Directorate (EHSD) within the Ministry of Local Government and Rural Development (MLGRD), recently upgraded to a directorate, has taken on a leadership role for sanitation in Ghana. Yet considerable efforts are still required in the sanitation subsectors, not the least of which is to strengthen EHSD's capacity. Whilst the enabling environment has been largely created, developing and sustaining service delivery presently needs greater emphasis.

Data reported by the 2010 UNICEF/WHO Joint Monitoring Programme (JMP) for Ghana put the use of improved water sources at 82 percent of the population, as of 2008. This would mean Ghana has already exceeded its water supply Millennium Development Goal (MDG) target of 77 percent coverage. However, provider-based figures differ significantly from those of the JMP. The Community Water and Sanitation Agency (CWSA) reports rural coverage of 57 percent in 2008, while the Ghana Water Company Ltd (GWCL) reports 58 percent as the urban water coverage. For sanitation the survey data demonstrate very low access to improved sanitation, with the JMP reporting coverage at 13 percent in 2008, up from 7 percent in 1990 (implying an MDG target of 54 percent). Ghana will very likely miss the target for sanitation, given the predominant use of shared facilities (54 percent), which are considered unimproved according to definitions used by the JMP. By far the greatest challenge is in eliminating open defecation, which is high—20 percent nationally and 34 percent in rural communities.

An estimated US$237 million in capital investment (CAPEX) is required annually for water supply. Estimated requirements for sanitation are higher, at US$406 million per year, a substantial part of which the government expects to be borne by households. It is clear that anticipated spending will not be enough to achieve the sector targets and that increased and more innovative financing, sector planning, better targeting, greater efficiency, and cost recovery approaches will be needed to address identified gaps.

This second AMCOW Country Status Overview (CSO2) has been produced in collaboration with the Government of Ghana and other stakeholders.

Agreed priority actions to tackle these challenges, and ensure finance is effectively turned into services, are:

Sectorwide

- Empower District Assemblies to take full ownership of service delivery through capacity building and funding support.
- Ensure greater synergy between the CWSA and GWCL in implementation of projects to benefit from economies of scale and avoid under- or over-laps in service areas.
- Urgently pursue the development of comprehensive sector investment plans.
- Ensure better linkage between sector targets and funding allocations.
- Increase domestic allocations and disbursements to sector institutions and ensure prompt utilization of funds.
- Provide greater visibility for sanitation by further defining and disaggregating sanitation budget lines.
- Develop innovative approaches to financing, particularly for sanitation.
- Undertake regular monitoring of the equity of access to services.
- MoWRWH should collaborate with Ghana Statistics Service to conduct a water-, sanitation-, and hygiene-specific survey to provide needed data not captured under the national representative surveys.
- Agree to definitions and a set of national indicators for water supply and sanitation.
- Implement the District Monitoring and Evaluation System nationally.
- Undertake consolidated annual sector reporting.

Rural water supply

- Close the funding gap for rural water supply.
- Revisit implications on sustainability of removing the 5 percent community contribution to capital costs.
- Identify innovative ways of providing drinking water to challenging hydro-geological areas.

Urban water supply

- Set a clear roadmap on actions to be taken after expiry of management contract for urban water supply.
- Bring tariffs in line with full-cost recovery, in parallel with successful achievement of efficiency targets.
- Ensure greater participation of existing consumers and potential consumers in investment and supply decisions of the GWCL.
- Mainstream independent value-for-money studies in all loans/grants for urban water supply projects.
- Institute a system of incentives and penalties for management of urban water supply.
- Give greater visibility to pro-poor unit within the urban utility.

Rural sanitation and hygiene

- Prepare a national sanitation program to address the rural sanitation deficit if the MDG is to be achieved.
- Declare a clear policy direction on how to deal with the high proportion of shared facilities.
- Make vigorous efforts to establish microfinance schemes to support sanitation delivery.

Urban sanitation and hygiene

- Develop innovative approaches to urban sanitation, including microfinance schemes, to support building of household sanitation facilities.
- Develop a clear policy for increasing access among peri-urban and low income communities in cities.
- Strengthen institutional capacity for the management of sewerage treatment system since metropolitan, municipal, and district councils as currently structured and staffed cannot do this.

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Acronyms and Abbreviations

AFD	*Agence Français de Développement*
AfDB	African Development Bank
AMCOW	African Ministers' Council on Water
AVRL	Aqua Vitens Rand Ltd
CAPEX	Capital expenditure
CLTS	Community-Led Total Sanitation
CONIWAS	Coalition of NGOs in Water and Sanitation
CSO2	Country Status Overviews (second round)
CWSA	Community Water and Sanitation Agency
DA	District Assemblies
DWD	District Works Department
DWSP	District Water and Sanitation Plan
EHSD	Environmental Health and Sanitation Directorate
EU	European Union
EUWI	EU Water Initiative
GDP	Gross domestic product
GNI	Gross national income
GoG	Government of Ghana
GPRS	Ghana Poverty Reduction Strategy
GPRSII	Ghana Growth and Poverty Reduction Strategy
GWCL	Ghana Water Company Ltd
HH	Household
JICA	Japan International Cooperation Agency
JMP	Joint Monitoring Programme (UNICEF/WHO)
LIC	Low-income country
m^3	cubic meters
M&E	Monitoring and evaluation
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MoLGRD	Ministry of Local Government and Rural Development
MMDAs	Metropolitan, Municipal and District Assemblies
MoE	Ministry of Education
MoFEP	Ministry of Finance and Economic Planning
MoH	Ministry of Health
MoWRWH	Ministry of Water Resources, Works and Housing
NCWSP	National Community Water and Sanitation Programme
NESSAP	National Environmental Sanitation Action Plan and Investment Plan
NGOs	Nongovernmental organizations
NWP	National Water Policy
O&M	Operations and maintenance
OPEX	Operations expenditure
PURC	Public Utilities Regulatory Commission
PWD	Public Works Department
RSH	Rural sanitation and hygiene
RWS	Rural water supply
SEC	State Enterprises Commission
SIP	Sector investment plan
SWAp	Sector-Wide Approach
UNICEF	United Nations Children's Fund
USH	Urban sanitation and hygiene
UWP	Urban Water Project
UWS	Urban water supply
WASH	Water, Sanitation and Hygiene
WB	World Bank
WHO	World Health Organization
WRC	Water Resources Commission
WSMP	Water Sector Monitoring Platform
WSP	Water and Sanitation Program
WSS	Water and sanitation sector

Exchange rate: US$1 = GHC 1.43.[1]

1. Introduction

The African Ministers Council on Water (AMCOW) commissioned the production of a second round of Country Status Overviews (CSOs) to better understand what underpins progress in water supply and sanitation and what its member governments can do to accelerate that progress across countries in Sub-Saharan Africa (SSA).[2] The African Ministers' Council on Water (AMCOW) delegated this task to the World Bank's Water and Sanitation Program and the African Development Bank who are implementing it in close partnership with UNICEF and WHO in over 30 countries across SSA. This CSO2 report has been produced in collaboration with the Government of Ghana and other stakeholders during 2009/10.

The analysis aims to help countries assess their own service delivery pathways for turning finance into water supply and sanitation services in each of four subsectors: rural and urban water supply, and rural and urban sanitation and hygiene. The CSO2 analysis has three main components: a review of past coverage, a costing model to assess the adequacy of future investments, and a scorecard which allows diagnosis of particular bottlenecks along the service delivery pathway. The CSO2's contribution is to answer not only whether past trends and future finance are sufficient to meet sector targets, but what specific issues need to be addressed to ensure finance is effectively turned into accelerated coverage in water supply and sanitation. In this spirit, specific priority actions have been identified through consultation. A synthesis report, available separately, presents best practice and shared learning to help realize these priority actions.

2. Sector Overview: Coverage and Finance Trends

Coverage: Assessing Past Progress

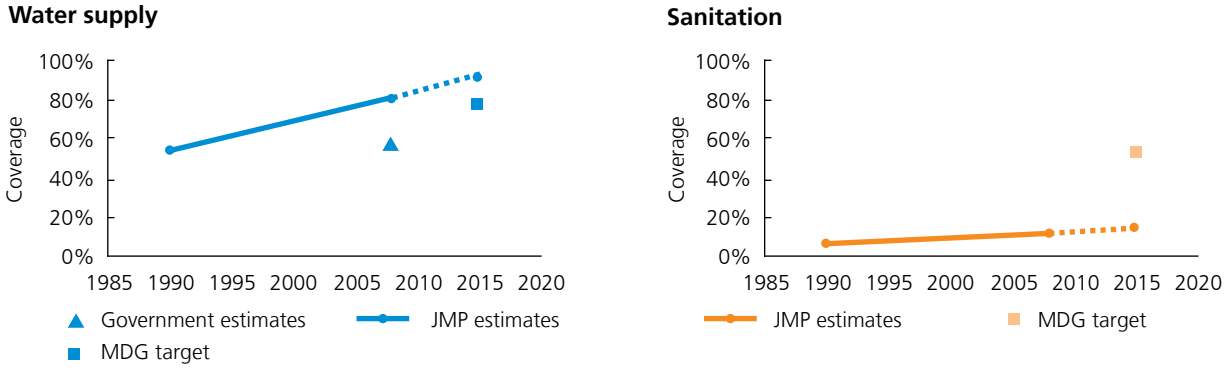
Stakeholders in Ghana's water, sanitation and hygiene (WASH) sector generally perceive provider-based data to be a better reflection of the status of water supply and sanitation delivery in the country than household surveys.[3] Coverage reported for 2008 for rural and small town water supply by the Community Water and Sanitation Agency (CWSA) was 57 percent, whilst the Ghana Water Company Ltd (GWCL) reported 58 percent as the urban water coverage, giving a national coverage rate of 58 percent. Both the CWSA and GWCL plan their interventions to achieve targets of 76 percent for rural water and 80 percent for urban water supply by 2015 (described as 'MDG+'). For water supply planning and decision-making purposes such provider-based estimates from the CWSA and GWCL have been used. In addition to the different data collection methods, differences exist in definitions between provider-based data and household surveys: for example, an acceptable per capita consumption for urban water supply ranges from 80–140 liters/capita in provider estimates, whereas household surveys generally do not quantify consumption per capita.[4]

In the case of sanitation, there are no credible provider-based data for access and coverage estimates provided by national surveys undertaken by the Ghana Statistical Service (GSS) are the reference point.

The CSO2 also compares countries' own estimates of coverage with data from the UNICEF/WHO's Joint Monitoring Programme (JMP), which are themselves based on GSS national household surveys.[5] The impact of these different coverage estimates on investment requirements is then assessed. The JMP reports the use of improved water sources in Ghana at 82 percent as of 2008 with 17 percent of the population receiving water piped into premises, and 65 percent relying on other sources such as standpipes and water points. If these estimates are accepted, then the MDG target of 77 percent has already been reached (the MDG target, as derived from the latest JMP report, differs from Ghana's 'MDG+').[6]

The JMP coverage estimate for sanitation, derived from household surveys, is that 13 percent of the population have improved access, with a further 54 percent using shared facilities and 20 percent practicing open defecation. The issue of shared toilet facilities in Ghana is a thorny one, given its widespread incidence. A nationwide study has been commissioned to determine the number of households sharing facilities, and the adequacy and cleanliness of such facilities. This is in recognition of the fact that under the JMP definition of improved sanitation, there is very little chance that Ghana can attain the MDG target of 54 percent coverage. Coverage estimates and targets are depicted in Figure 1 (Ghana's MDG+ targets are set for urban and rural water supply separately—see Sections 7 and 8).

Figure 1
Progress in water supply and sanitation coverage



Sources: For JMP estimates and MDG targets, JMP 2010 Report; for Government estimates, CWSA and GWCL.

From the perspective of stakeholders at the CSO2 consultation, harmonization of definitions between GSS, JMP, and provider agencies requires further attention, to gain a truer picture of what is required in investments, regional allocations, and technology options.

Investment Requirements: Testing the Sufficiency of Finance

Investment requirements for Ghana to achieve its sector targets were estimated using the CSO2 costing model. In the case of urban and rural water supply, the required investment was estimated relative to the provider-based coverage estimates and the MDG+ targets; while for sanitation, the JMP's survey-based estimates and MDG target were used. Other input data included population projections from the United Nations Population Division, unit costs from sector agencies, and a technology distribution based on the 2008 demographic and health survey and provider estimates. The resulting investment requirements are compared against anticipated investments from the Government of Ghana (GoG) (indicated in the Medium-Term Expenditure Framework, or MTEF, budget estimates) and donors, alongside expected user contributions, to establish the gap in sector financing.

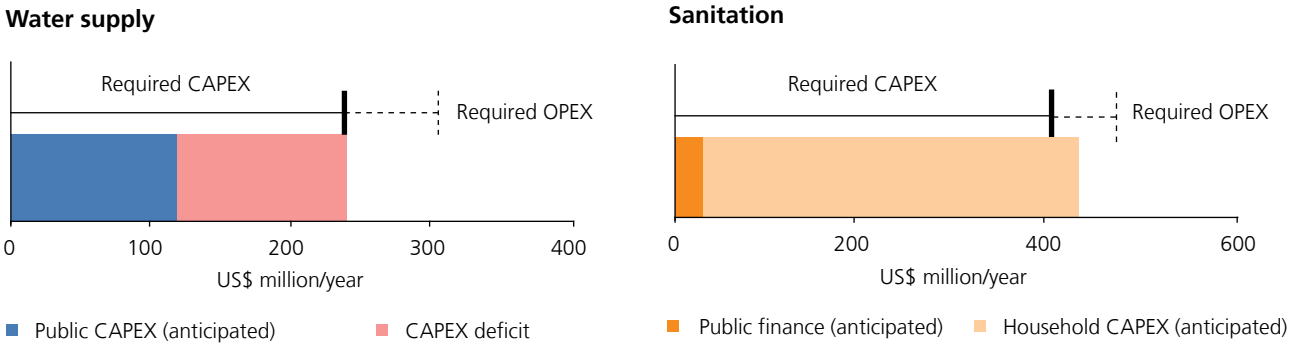
An estimated US$237 million in capital investment (CAPEX) is required annually to meet the water supply MDG+ targets (Table 1), which is assumed to come entirely from public sources (that is, a 0 percent user contribution). A long-standing 5 percent community contribution to capital costs of rural water supply was abolished by the current government. Anticipated public investments are 50 percent of what is required, leaving a deficit of US$119 million per year.

Both the CWSA and GWCL have undertaken assessments of CAPEX requirements in their Strategic Investment Plans (SIPs). For rural and small town WSS an annual total funding requirement of US$63 million has been estimated for the period 2008–15, to meet the MDG+ target of 76 percent. For urban water supply, the GWCL estimates an annual requirement of around US$171 million to meet a subsector MDG+ target of 80 percent. A consolidated sector investment plan is needed to establish under- and over-laps that may exist between these two subsector investment plans.

The investment required to attain the water supply MDG target, relative to JMP data, is lower—due to higher current estimates of coverage and, in the case of rural water supply, the share of the MDG target being lower than the national (MDG+) target.

With respect to sanitation, the total CAPEX (hardware) requirements to meet the MDG target are estimated at US$402 million per year, using the CSO2 model. With the shift to Community-Led Total Sanitation (CLTS), households are expected to meet the full costs of sanitation hardware. It must be noted, however, that the policies in respect of sanitation have only recently been clarified (2010), and it is not yet clear how far the mechanisms and finance for promoting nationwide uptake of household sanitation are in place. Without sufficient software (for example, promotion, marketing and, potentially, innovative microfinancing arrangements), the substantial assumed household CAPEX depicted in Figure 2 is deceptive. Such activities will present a not-insignificant burden to the public purse, in terms of manpower and materials, and CLTS cannot therefore be

Figure 2
Required vs. anticipated (public) and assumed (household) expenditure



Source: CSO2 costing.

Table 1
Coverage and investment figures—CSO2 data with provider-based coverage data for water supply[8]

	Coverage		Target	Population requiring access	CAPEX requirements		Anticipated public CAPEX			Assumed HH CAPEX	Total deficit
	1990	2008	2015		Total	Public	Domestic	External	Total		
	%	%	%	'000/year	US$ million/year						
Rural water supply	37%	57%	76%	461	123	123	20	38	58	0	65
Urban water supply	84%	58%	80%	587	115	115	6	55	61	0	54
Water supply total	**54%**	**58%**	**77%***	**1,141**	**237**	**237**	**26**	**93**	**119**	**0**	**119**
Rural sanitation	4%	7%	52%	849	165	0	0	8	8	165	–
Urban sanitation	11%	18%	56%	778	237	0	0	20	20	237	–
Sanitation total	**7%**	**13%**	**54%**	**1,627**	**402**	**0**	**0**	**28**	**28**	**402**	**–**

Sources: JMP 2010 Report; CSO2 costing.

* Note: While the overall water supply target for 2015 depicted in Table 1 is the MDG, the urban/rural subsector targets are the 'MDG+' national targets.

viewed as removing the need for public finance for the sanitation subsectors.[7] The current anticipated annual public finance depicted in Figure 2 is largely external, and it is not possible to determine how much is for hardware (that is, continuing subventions in some donor projects) vs. software. For progress in the sector, the significant poverty in parts of the country (especially the northern regions) may still require continuation of subventions for household sanitation. Overall, the apparent availability of household finance for sanitation capital shown in Figure 2 should be treated with caution.

Table 2 presents the annual OPEX requirements associated with facilities. As in many countries, in Ghana there is an implicit assumption that operations and maintenance (O&M) costs (OPEX) will be recovered from users. In urban water supply this is often the case, whilst in rural Ghana many of the systems also cover their O&M in line with policy. However, in cases where annual OPEX has to be subsidized this will increase the burden on public finance. The requirements for public financing (O&M and eventually capital costs) will be considerably reduced as the policy on full cost recovery is fully implemented.

The preparation of a Sector Investment and Strategy document is under way. This will pull the subsector investment plans together (including water resources management) and will address current weaknesses of the existing SIPs. This is a major requirement for the move to a Sector-Wide Approach (SWAp). Among issues that should be tackled are: agreement on technology mix for both water supply and sanitation; removal of ambiguity around subsector targets; determining a realistic mix of public and HH/consumer contributions to both OPEX and CAPEX; addressing identified policy gaps such as responsibility for post-construction rehabilitation and major repairs of water infrastructure in small towns and how CLTS can be supported and promoted nationwide. All these will have an impact on the final costing.

Table 2
Annual O&M, CSO2 estimates

Subsector	O&M US$ million/year
Rural water supply	21
Urban water supply	46
Water supply total	**66**
Rural sanitation	13
Urban sanitation	54
Sanitation total	**68**

Source: CSO2 costing.

These considerations are only part of the picture. Bottlenecks can, in fact, occur throughout the service delivery pathway—all the institutions, processes, and actors that translate sector funding into sustainable services. Where the pathway is well developed sector funding should turn into services at the estimated unit costs. Where it is not, the above investment requirements may be gross underestimates. The rest of this report evaluates the service delivery pathway in its entirety, locating the bottlenecks and presenting the agreed priority actions to help address them.

3. Reform Context: Introducing the CSO2 Scorecard

To achieve the broad objectives set in Ghana's 'Vision 2020' (1995–2020) and the Ghana Poverty Reduction Strategy (GPRS I and GPRS II), the WASH sector in Ghana had to undergo significant reforms beginning in the 1990s. The recent history puts the service delivery pathway in context, which can then be explored in detail using the CSO2 scorecard, an assessment tool providing a snapshot of reform progress along the whole pathway. The CSO2 scorecard assesses the building blocks of service delivery in turn: three building blocks which relate to enabling services, three which relate to developing new services, and three which relate to sustaining services. Each building block is assessed against specific indicators and scored from 1 to 3 accordingly.[9]

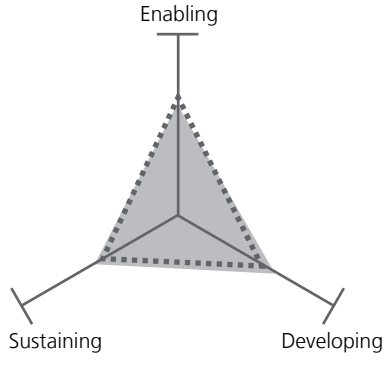
At the time the reforms commenced, the rural population's access to safe drinking water was low (30 percent) and the supply-driven top down approach was seen as unsuitable for rapid expansion in coverage. In urban water supply, rapid urbanization, old and dilapidated water infrastructure, poor management, high levels of unaccounted-for water, low tariffs and lack of investments, all combined to create the need for extensive reform. The thrust of the reforms involved: (a) transformation of the role of the public sector from that of service provider into a facilitator of decentralized (especially for rural and small town water supply and sanitation), demand-driven service delivery; (b) the establishment and strengthening of regulatory bodies for water resources management and economic regulation of urban water supply; (c the entrenchment of community ownership and management; (d) highlighting the role of water and sanitation services in poverty reduction; and (e) the introduction of private sector participation (PSP) into urban water supply. Various subsector policies were consolidated into a National Water Policy (NWP), which is currently in operation.

The sanitation subsector has also seen modest transformation and attention given to it. The recent upgrading of the Environmental Health and Sanitation Division to a Directorate (EHSD) of the Ministry of Local Government and Rural Development (MoLGRD), and approval of the National Environmental Sanitation Policy in 2009 are significant developments. Support is being provided by DANIDA, UNICEF and The Netherlands Government to strengthen and empower the Directorate to take up the numerous challenges that confront the sanitation subsector. A National Environmental Sanitation Action Plan and Investment Plan (NESSAP) has been launched to accelerate sanitation delivery at national, district, and community levels. CLTS is now seen as a viable approach for sanitation.

A private operator, Aqua Vitens Rand Ltd. (AVRL), has been introduced in the urban water supply subsector under a management contract, whilst local private operators are partnering some communities to operate and manage small town water systems, with mixed results.

More recently, processes for harmonization and the acceleration of the SWAp have resulted in a clear roadmap, and discussions are ongoing on the need for a sectorwide monitoring and evaluation (M&E) system with the establishment of a Water and Sanitation Monitoring Platform (WSMP).

Figure 3
Average scorecard results for enabling, sustaining, and developing service delivery, and peer-group comparison



■ Ghana average scores
⁝⁝ Averages, LICs, GNI p.p.>US$500

Source: CSO2 scorecard.

Table 3
Key dates in the reform of the sector in Ghana

Year	Event
1928	Hydraulics Department of Public Works Department (PWD) pioneers delivery of urban water supply
1948	Rural Water Department created within PWD to deal with rural water supply
1958	Hydraulics Department and Rural Water Department merged into Water Supply Division (WSD) of PWD
1965	Ghana Water and Sewerage Corporation (GWSC) established to produce and distribute urban and rural water supply
1994	Kokrobite Conference endorses the National Community Water and Sanitation Programme (NCWSP)
1994	Separation of urban and rural water supply. Community Water and Sanitation Department (CWSD) created within GWSC
1995	Study on Restructuring of the Water Sector; National Stakeholders Workshop endorses PSP in urban water supply
1997	GWSC converted into a limited liability company, the Ghana Water Company Limited (GWCL) with responsibility for urban water supply
1997	Public Utilities Regulatory Commission (PURC—economic regulation) and Water Resources Commission (WRC—management of water resources) established
1998	Autonomous agency—Community Water and Sanitation Agency (CWSA) created by Act 564
2003	Establishment of Coalition of NGOs in water supply and sanitation (CONIWAS)
2005	Private operator (Aqua Vitens Rand) selected for a five-year management contract for urban water supply
2009 (Apr)	Announcement of abolition of community contribution to capital cost of rural and small town water projects
2009	1st Ghana Water Forum, an annual event to raise visibility of water security issues and place them on political agenda

Source: CSO2 analysis.

Simultaneous to these reforms, the sector agencies put together subsector investment plans aimed at marshalling resources to address corporate targets, although in the 1990s these were not effectively aligned with set national targets. In recent years both the CWSA and GWCL have developed SIPs that have taken into account the country's coverage targets—structured into medium-term and long-term—and there has been a more open discussion of these documents by sector stakeholders. Whilst there is still some disconnect between targets and resource allocation, there is evidence to suggest that these are increasingly being aligned,[10] whilst the MTEF has been a useful tool for capturing sector financial allocations and performance.

The reforms have raised the visibility and importance of water and sanitation in the respective ministries (Ministry of Water Resources and Works and Housing for water supply; MoLGRD for sanitation) not least by elevating the responsible units to Directorates.

The majority of these reforms relate to the enabling environment—the service delivery pathway building blocks of policies, plans, and budgets. However, as Figure 3 indicates, this has laid a strong platform for developing and sustaining services also, for which Ghana's scores are also in line with economic peers (low-income countries with a GNI per capita above US$500[11]). For instance, in relation to the pricing of water services, there has been a positive direction towards achieving cost recovery in the urban water sector whilst in rural areas, the requirement to meet O&M costs through user fees (as a minimum) is well-established, driven in large part by the community ownership and management (COM) concept.

Sections 4 to 6 highlight progress and challenges across three thematic areas—the institutional framework, finance and monitoring and evaluation (M&E)—benchmarking Ghana against its peer countries based on a grouping by gross national income. The related indicators are extracted from the scorecard and presented in charts at the beginning of each section. The scorecards for each subsector are presented in their entirety in Sections 7 to 10.

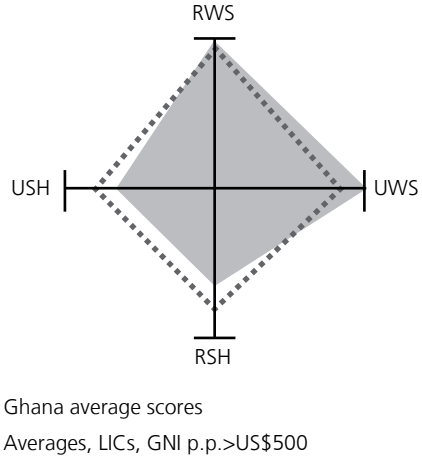
4. Institutional Framework

Priority actions for institutional framework

- Undertake assessment of current sector institutional weaknesses and their possible impact on delivery through the Sector-Wide Approach.
- Empower District Assemblies to take full ownership of service delivery through capacity building and funding support.
- Ensure greater synergy between the CWSA and GWCL in implementation of projects to benefit from economies of scale and avoid under- or over-laps in service area.

Ghana's water and sanitation sector has a well-established institutional set-up with clear lines of responsibility. All subsector policies have been consolidated into the NWP and the National Environmental Sanitation Policy, both of which were approved by Parliament and are now in the public domain. Whilst sanitation suffered challenges in relation to institutional leadership in the recent past, this has now been addressed with the elevation of the Environmental Health and Sanitation Division into a Directorate, and strengthening of manpower and logistical support through DANIDA, UNICEF and the Dutch Government. Figure 5 sets out the institutional architecture. For related scorecard indicators Ghana scores above the peer-group average for the water supply subsectors, but slightly below the average for the sanitation subsectors (Figure 4). A number of institutional issues and challenges impacting on sector progress are discussed in the following paragraphs.

Figure 4
Scorecard indicator scores relating to institutional framework compared to peer group (see endnotes)[12]

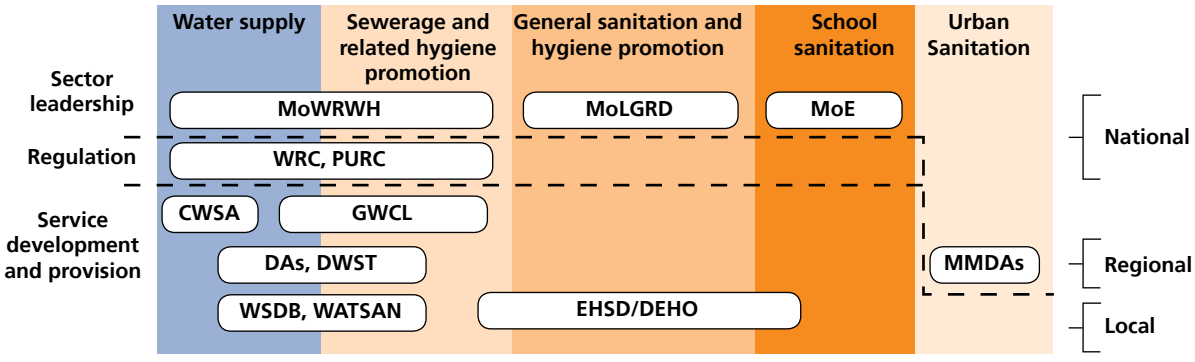


Source: CSO2 scorecard.

Regulation of the sector. Economic regulation of the urban water supply subsector has been reasonably well regarded, with the GWCL's tariff decisions subjected to public consultation before approval. This notwithstanding, the Public Utilities Regulatory Commission (PURC) has been unable to penalize the utility when efficiency targets are missed, which has often been the case. The PURC has developed guidelines for tanker service, and is working with various parties to regulate the quality of service of secondary and tertiary providers in urban water supply. PURC responsibilities do not extend to community-managed water systems, giving rise to a vacuum since District Assemblies (DAs) do not have the capacity to play this role effectively. Currently, there is no well-defined institutional responsibility for: (a) monitoring and enforcement of drinking water quality for community water supply, and (b) the registration, licensing, certification, and monitoring of the operations of private sector firms in the water business. A positive development during 2010 was the approval by Parliament of regulatory charges to be built into tariffs, to fund the PURC's activities and make it truly independent.

Decentralizing the effective delivery of water and sanitation services. Institutional and financial capacities at the local level are improving but require further development. Capacity improvement—training, logistical support, and financial empowerment—is a prime focus of

Figure 5
Institutional roles and relationships in the water supply and sanitation sector



MoWRWH (Ministry of Water Resources, Works, and Housing) is responsible for setting the water policies for the country—resource management, and supply of drinking water (both urban and rural). Within MoWRWH the **Water Directorate** (not shown) oversees sector policy formulation and review, monitoring and evaluation of the activities of the agencies, and coordination of the activities of donors
MoLGRD (Ministry of Local Government and Rural Development) is responsible for policies and programs for the efficient administration of local government structures—metropolitan, municipal, and district assemblies (MMDAs). Within MoLGRD, the **Environmental Health and Sanitation Directorate** (EHSD, not shown) is responsible for coordinating the activities of all the key sector institutions involved in the sanitation sector
MoE (Ministry of Education) and **MoH** (Ministry of Health, not shown) have responsibilities with respect to sanitation and hygiene education and hand washing
Ministry of Environment, Science, and Technology (not shown) ensures that WSS activities are consistent with the country's environmental policies and objectives
(MM)DAs (Metropolitan, Municipal and District Assemblies) are responsible for rural and small town water and sanitation delivery using the private sector for infrastructure delivery and communities or private operators for management. They have responsibility for preparation of District Water and Sanitation Plans. They also play roles as regulators, for example, approving tariffs. MMDAs are also responsible for providing urban sanitation services
DWSTs (District Water and Sanitation Teams) are three-person teams comprising members from Works, Health and Planning which implement the District's water and sanitation program
NDPC (National Development Planning Commission, not shown) is the main body responsible for broad policy formulation on which basis ministries formulate their sectoral policies
WRC (Water Resources Commission) is responsible for the regulation and management of the utilization of water resources
PURC (Public Utilities Regulatory Commission) is an independent body that undertakes economic regulation for water (in addition to electricity and gas)
CWSA (Community Water and Sanitation Agency) provides support to District Assemblies in promoting the development and sustainability of safe water and related sanitation services in rural communities and small towns
GWCL (Ghana Water Company Limited) provides, distributes, and conserves water for domestic, public, and industrial purposes in urban communities
DEHOs (District Environmental Health Officers, not shown) educate communities on sanitation and hygiene and enforce regulations regarding the construction, use, and management of public as well as institutional and household facilities
The **private sector** is responsible for the provision of goods and services
WSDB (Water and Sanitation Development Boards) are responsible for the management of small town water and sanitation facilities, while **WATSAN** Committees play the same role in rural communities.

Source: CSO2 analysis.

many donor projects as DAs are now in the driving seat for their implementation.[13] Many DAs now have District Water and Sanitation Plans (DWSPs) in place and these serve as a basis to seek implementation support. However, allocation of funds dedicated to water and sanitation at the local level is still centrally driven and many DAs do not have the means to steer their own water and sanitation agenda.

Specific pro-poor units/initiatives. In the rural and small town water subsector, the dual concepts of demand-driven approaches and community ownership and management have improved coverage. However, service improvements necessary to support the poor and unserved fall short in urban water supply subsector. In major cities such as Accra, pilot projects to serve the urban poor have been undertaken through collaboration between the PURC, GWCL/operator and communities. These projects have remained as pilots and their full impacts and lessons are yet to be developed into knowledge products or replicated in other communities. A visible pro-poor unit within the utility is required.

Private sector participation. PSP in urban water supply still struggles to make the expected impact, in spite of considerable financing that has gone into the subsector. The absence of specific performance indicators at the initiation of the management contract constrained monitoring of the operator's performance. In community water supply the participation of local private operators through management contracts has been slow even though a promising start was made some eight years ago.

5. Financing and its Implementation

Priority actions for financing and its implementation

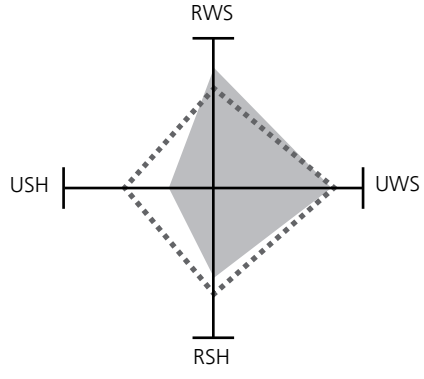
- Urgently pursue the development of comprehensive sector investment plans.
- Ensure better linkage between sector targets and funding allocations.
- Increase domestic allocations and disbursements to sector institutions and ensure prompt utilization of funds.
- Provide greater visibility for sanitation by further defining and disaggregating sanitation budget lines.
- Develop innovative approaches to financing, particularly for sanitation.
- Undertake regular monitoring of the equity of access to services.

The water and sanitation sector receives funding from a number of sources, which are captured in the government's MTEF framework. The sector has enjoyed considerable support from donors—principally as grants to the rural and small town subsector and mixed grant/loan financing for the urban water subsector (Figure 7)—in addition to government and user contributions. The sector has also been able to mainstream user payment for water services at both rural and urban levels. These sources, however, remain inadequate to meet the set targets. Of particular concern is the relative shortage of funding for urban sanitation. Urban sanitation scores notably worse than other subsectors across the range of related scorecard indicators, which look beyond the adequacy of funds to include clarity of budgets and levels of utilization. A number of issues and challenges are discussed below:

Sector strategy and investment plans. A NESSAP for sanitation was released in 2010. It constitutes a first attempt at providing strategic proposals and action plans with a countrywide scope, which have hitherto been lacking as interventions have been undertaken through discrete projects. For water service delivery in urban and rural areas there are well-developed subsector investment plans, which are to be further consolidated into a harmonized Water Sector Investment Plan (WSIP). This aims to prevent duplication of efforts and ensure that locations such as peri-urban areas are not left out. However, the plans—particularly in the case of the urban water subsector—lack clear strategies for obtaining revenue, and are still expenditure wish lists. The plans could also go further in adequately establishing O&M costs, so as to give a full picture of the required financing and ensure the sustained delivery of services. Additionally, the plans could be informed by the GoG's policy directions on cost recovery and private sector participation, and seek more innovative financing.

Investment planning—linking inputs, outputs, and needs. The investment plans prepared by the GWCL and CWSA have not benefited fully from the national

Figure 6
Scorecard indicator scores relating to financing and its implementation, compared to peer group[14]



Ghana average scores
Averages, LICs, GNI p.p.>US$500

Source: CSO2 scorecard.

budgeting process. The plan targets are neither linked to the three-year rolling MTEF nor the annual budget estimates. In addition, performance indicators are settled in meetings between the sector agencies and the State Enterprises Commission (SEC), which is a body mandated to oversee the performance of state organizations based on their investment and corporate plans. But the SEC has no control over, or significant input into, the budgeting process. The apparent disconnect between the investment plans, national budgeting, and performance appraisal means that performance targets agreed between the state agencies and the SEC are rarely achieved, with lower-than-envisaged budgetary allocations used as alibi. The heavy reliance on donor funding and the absence of a link between their timing and the budgeting process also presents its challenges.

Adequacy and transparency of sector funding. Committed funds for water supply constitute only half of the capital investment required according to the CSO2 costing—less in the case of sanitation, if user contributions are not leveraged—even assuming finance were optimally allocated between subsectors. Government contribution to investment has historically been low (about 5–10 percent of the capital investment) and stakeholders have questioned GoG commitment to the sector on this basis, exacerbated by the fact that while nominal GDP has grown in the last several years, the allocation per capita to the water sector has dropped (Table 4).

The budget structure allows disaggregation of urban and rural water supply, and clearly spells out what is provided by the GoG and what is provided by donors. Donor funding as a proportion of total sector finance has increased in the most recent five years (48 percent in 2006, 69 percent in 2007, 78 percent in 2008 and 2009, and 83 percent in 2010).

In the case of sanitation the budget covers a broad interpretation of the subsectors and includes solid waste and drainage. It is therefore difficult to separate the provision and promotion of toilet facilities from the overall sanitation budget, and also to separate urban from rural spending. Funds allocated to the CWSA for sanitation activities as well as donor projects with sanitation components are all captured under the budget allocation to the MoWRWH and described as water supply interventions. Thus the true allocation to sanitation may be underestimated by looking at the budget of MoLGRD alone.

Utilization of budgets. The average rate of utilization of donor funds in the case of community water supply (CWS) has been quite high (over 80 percent) as a result of the many years of learning, the role played by the CWSA in supporting assemblies to procure and implement projects, and the existence of dedicated project teams to support the implementation of projects.

On the other hand, it should be conceded that there is a low utilization rate for domestic budget allocations within the rural subsector. For example, as of the third quarter of 2009, only 25 percent of the allocation for rural WSS had been released. This, however, compares with 88 percent for agriculture, 53 percent for education, 50 percent for health, 40 percent for roads and transport, and 57 percent for energy. This may indicate that the MoWRWH and its sector agencies have been slow in fielding projects for funding and the financing gap for WSS cannot be entirely

Table 4
Budget allocations to the water sector, 2006–2010

Description of fund type	Water sector annual budget amount (in US$ '000)[A]				
	2006	2007	2008	2009	2010
Grand total	191,366	170,236	102,802	173,395	102,124
Annual GDP (nominal)	12,553,611	15,100,151	17,055,342	16,365,700	19,622,194
WSS allocation as percent of GDP	1.52%	1.13%	0.6%	1.06%	0.52%

Source: MoFEP, annual budget statements.

attributed to neglect by the Ministry of Finance (MoF). The very low disbursement of funds allocated to the subsector in 2009 suggests a major weakness in planning and subsector readiness, with too much focus on projects rather than programs.

In the case of urban water supply, utilization has been mixed. The US$120 million Urban Water Project (UWP, funded by the World Bank, GoG, and the NORDIC Fund) saw considerable delay in the procurement of works and services, which negatively affected the delivery of improvements in service.

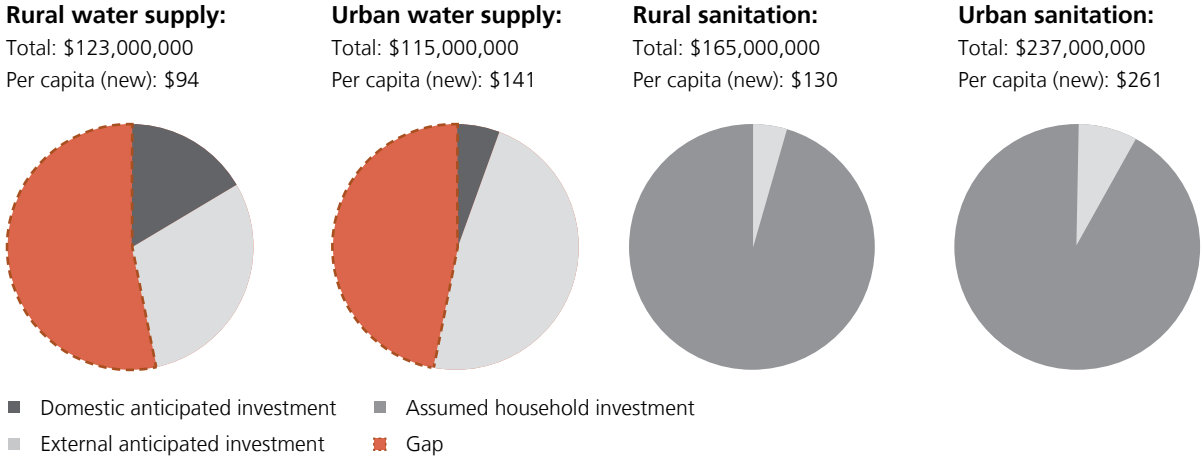
GoG contributions. As mentioned, government's own contribution to investment has historically been low. However, there were clear intentions to increase the GoG's own funding for WSS, as evidenced in the allocation of US$25 million for community water supply and sanitation alone in the 2009 budget: albeit that the utilization rate was low. In the 2010 budget US$44.8 million was allocated to rural water supply a 12 percent increase over the allocation for 2009. Given the CWSA reported an annual requirement of around US$60 million for rural and small town WSS, this is a welcome development.[15,16] The GoG's intention to further raise funding to the sector was also reaffirmed in the Ghana Sanitation and Water for All Compact.[17]

Sector-related special funds. As yet no WSS sector-specific trust funds have been established, despite previous discussions on the need for a Water Development Fund, which would be funded through allocations by the GoG, donors, levies on urban water supply and used for sector investments. The establishment of a Social Connection Fund to support the connection of low-income consumers to the utility's network, which is mentioned in the NWP, is yet to take place. One source of funding for rural water supply has been a Rural Water Levy, which represents 2 percent of the revenue generated from urban water tariffs, around US$0.5 million annually, and has usually been accumulated to fund the rehabilitation of nonfunctioning facilities.

Local government financing of WSS. DAs are required to pay 5 percent of the capital cost of many donor-funded projects and, whilst some have been able to meet these contributions, others have not. This may be due more to an unwillingness to prioritize water than an inability to pay.[18] Community contributions have also been a major feature of sector funding in the last decade and a half. With the abolition of the 5 percent community contribution to rural water supply projects it is as yet not clear whether the GoG or donors will fill the gap. The policy to move towards cost recovery for urban water supply will continue to make resources available to the sector via user tariffs, though it

Figure 7

Overall annual and per capita investment requirements and contribution of anticipated financing by source



Source: CSO2 costing.

has been followed with varying degrees of commitment. For rural and small town WSS, communities set tariffs to recover at least O&M and this will continue to be the rule. Domestic commercial credit is virtually absent for rural and small town WSS. For the urban utility only short-term bank facilities to meet working capital/overdraft requirements have been available. No attempt has been made by the GoG to raise financing for the sector through bonds or other nontraditional instruments, and Municipal, Metropolitan and District Assemblies do not have the expertise—legal or financial—to launch municipal bonds to raise financing for WSS projects.

Aid coordination and harmonization. Aid delivery is mostly undertaken in the form of discrete projects. However, plans to move towards a Sector-Wide Approach (SWAp) are now in place and an MoU to this effect was signed at the Second Ghana Water Forum (October 2010). A significant step is the agreement by all partners to deliver rural and small town WSS using the Project Implementation Manual (PIM). This means that the processes and procedures for WSS delivery, monitoring and evaluation are now uniform across all projects and all communities. At the Ministerial and Development Partner's Roundtable of the First Ghana Water Forum (October 2009), the representative of the MoF indicated that no project would be funded outside GoG's the MTEF Framework. Whilst this is a move to streamline public expenditure, it also implies that the sector must make a strong case for its investment program to be included in the MTEF.

Civil society engagement and participation. The coalition of NGOs in water and sanitation (CONIWAS) coordinates the work of NGOs in the WSS sector. Through CONIWAS, NGOs comply with NCWSP principles and implementation strategies. In the urban water supply subsector NGO investment and engagement is negligible. The establishment of CONIWAS has significantly improved sector dialogue; however, there remain issues, including monitoring equity, addressing the concerns of the urban poor and tariff setting, on which the various parties could engage.

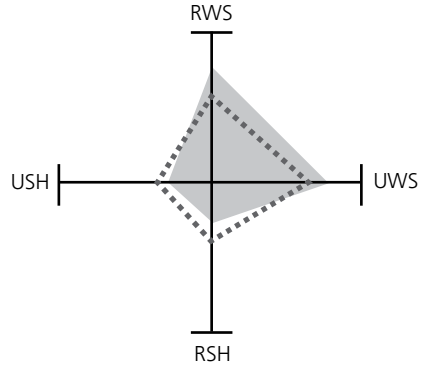
6. Sector Monitoring and Evaluation

Priority actions for sector monitoring and evaluation

- The Ministry of Water Resources, Works, and Housing should collaborate with Ghana Statistics Service to conduct WASH-specific survey to provide needed data not captured under the various representative surveys.
- Agree definitions and a set of national indicators.
- Implement the District Monitoring and Evaluation System (DIMES) nationally.
- Undertake consolidated annual sector reporting.

Ghana's WSS sector M&E would benefit from further strengthening as current systems for data capture, storage, consolidation and dissemination are not unified. Though a strong annual sector review process has been in place for several years, consolidated sector reporting of outputs is missing and data can only be obtained at agency level. Figure 8 shows that measured against its peers, Ghana's performs well for scorecard indicators related to M&E in the water supply subsectors, but scores very low in sanitation. The following points identify some of the crucial issues and challenges in sector M&E.

Figure 8
Scorecard indicator scores relating to sector M&E, compared to peer group[19]



Ghana average scores
Averages, LICs, GNI p.p.>US$500

Source: CSO2 scorecard.

Different sources of data. There are different sources of relevant sector data, including information on coverage, functionality, inputs and outputs and investments, which can be difficult to access. In most cases they have to be requested from subsector agencies (CWSA and GWCL), as they are not published or presented in a manner that is publicly available. This is, however, being addressed through the establishment of the Water and Sanitation Monitoring Platform (WSMP) discussed here. The sector does not have an annual publication that consolidates all information. Sector investment tracking is also a challenge and recent efforts to prepare Public Expenditure Reviews faced considerable bottlenecks in obtaining all the relevant data—particularly at the DA level.

District Monitoring and Evaluation System (DIMES). Established by the CWSA, DIMES is a useful tool for capturing relevant sector data at community level, including information on water and sanitation facilities from drilling works through to subsequent functionality. The tool can be used to gather information on urban systems as well but the sector has as yet been unable to adopt it for universal application. It is hoped that with the move towards a SWAp, this will be the tool of choice.

Improving information dissemination, participation, and sector learning. Deficiency in consolidation of sector information is being addressed with the establishment of the WSMP. The platform assembles, analyzes, repackages, and disseminates all relevant water and sanitation

data through regular media briefs, publications, and dissemination forums. The Platform has membership from all relevant stakeholders, including the sector ministries, development partners, GSS, civil society, academia, and the private sector. Harmonizing the data is still a challenge.

Sector agencies have functioning websites but key information on subsector performance is often missing. Annual reports are either missing (GWCL, AVRL, CWSA) or completely outdated (PURC). The sites for PURC and AVRL do, however, provide avenues for customer complaints. The MoWRWH recently launched a newsletter for the sector, but this does not present detailed sector data.

The Ghana **WASHCost Project** is collecting and collating information relating to the real disaggregated life cycle costs of WASH service delivery to poor people in rural and peri-urban areas in Ghana. The unit-cost information gathered will help in decision making and further aid transparency in the water sector. Unfortunately the project is not addressing urban water supply, where there is urgent need to obtain information on unit costs.

Agreeing to national definitions and indicators. In spite of the establishment of the WSMP, agreement on sector definitions and indicators has not been secured. Surveys (such as Demographic and Health Survey, Ghana Living Standards Survey, and Multiple Indicator Cluster Survey) undertaken by the GSS now apply MDG definitions in their interpretation of the data collected.[20] Because some of these surveys are externally supported and driven, GSS engagement with the sector has been limited. For example, during the CSO2 consultation process, it was indicated that GSS had refused to include in its 2010 Population and Housing Census a set of three questions requested by MoWRWH, citing additional cost. Meanwhile the adoption of the JMP definition of improved sanitation, which excludes shared facilities, continues to be a thorny issue in Ghana as shared facilities are the means of access for many households.[21]

7. Subsector: Rural Water Supply

Priority actions for rural water supply

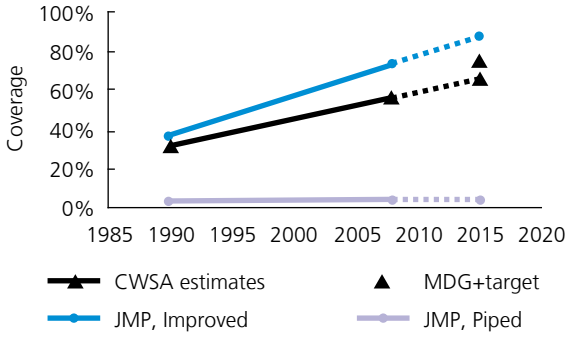
- Close the funding gap for RWS.
- Revisit implications on sustainability of removing the 5 percent community contribution to capital costs.
- Identify innovative ways of providing drinking water to *challenging* hydro-geological areas.

According to the CWSA, rural water coverage has increased at promising rates from 32 percent in 1990 to 57 percent in 2008, but acceleration is still required to meet the subsector MDG+ target of 76 percent. The agency indicates that an additional 2–3 percent of rural and small town dwellers gain access to safe drinking water supply on an annual basis. However, in their estimation, to achieve the national MDG+ target the annual increase in coverage would need to be around 6 percent, starting from 2009. The JMP meanwhile reports much higher coverage based on household surveys, reaching 74 percent in 2008, up from 37 percent in 1990.

The CWSA's 2008–2015 SIP sets the total investment requirements for achieving what it terms the MDG+ target of 76 percent for rural and small town WSS at US$505.3 million (US$63 million per year), distributed as US$360.5 million for hardware, US$108.8 million for sanitation, US$18.02 million for project management and US$18.7 million for software costs. Known commitments between 2008 and 2012 stand at US$175 million, implying an overall deficit of US$330 million. However, the CWSA costing underestimates requirements for rehabilitation, which are crucial for sustaining service delivery, and does not address OPEX requirements.

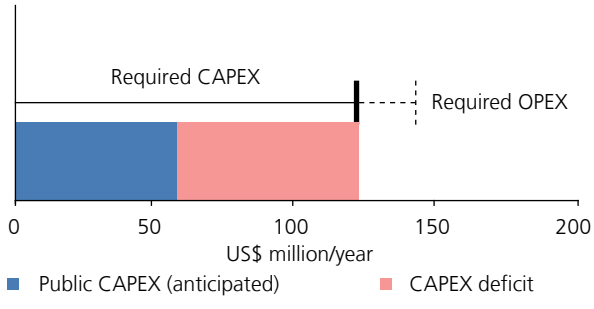
Based on the CWSA coverage figure of 57 percent for 2008 and the MDG+ 2015 target, the CSO2 costing model gives a higher estimate of capital investment requirements, at US$123 million per year (including rehabilitation of existing systems). Compared with anticipated annual public expenditure of US$58 million per year this leaves a deficit of US$65 million per year. Options for cost recovery from users are limited given the relative poverty and the already high tariffs (US$0.66–US$1 per m^3) in many rural and small town communities, which are required simply to meet O&M. Currently many community water supply schemes are able to meet O&M expenses (estimated as an additional US$21 million per year) without resort to public funds. However, they do not meet capital maintenance

Figure 9
Rural water supply coverage



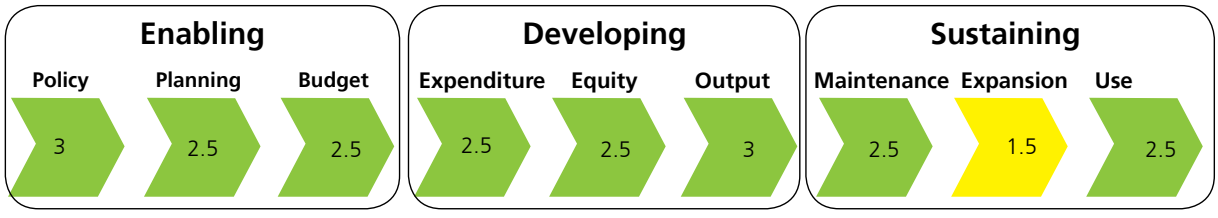
Sources: JMP 2010 Report and CWSA.

Figure 10
Rural water investment requirements



Source: CSO2 costing.

Figure 11
Rural water supply scorecard



Source: CSO2 scorecard.

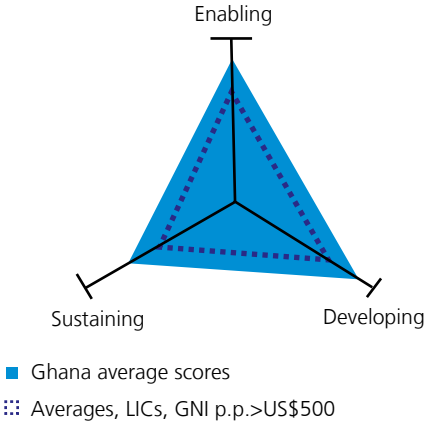
costs and this could compromise future sustainability and bring forward the need for rehabilitation, which is a deferred burden on public finance.

Figure 11 shows the subsector scorecard results, indicating that Ghana has largely put in place the building blocks of the service delivery pathway for rural and small town water supply. The scorecard uses a simple color code to indicate: building blocks that are largely in place, acting as a driver on service delivery (score >2, green); building blocks that are a drag on service delivery and require attention (score 1–2, yellow); and building blocks that are inadequate, constituting a barrier to service delivery and a priority for reform (score <1, red). Ghana scores higher than its economic peer-group throughout the service delivery pathway (Figure 12). However, there is still room for improvement.

An area of concern is the expansion of existing systems, given that many communities do not have the capacity and certainly cannot price water in the manner required to undertake this. Private management of water facilities is also an area to be further developed to ensure long-term sustainability of facilities.[22] Officially, only five small town water schemes are managed by private operators under a contract with Water Boards and respective MMDAs. In addition, backstopping requires improvement (particularly through the private sector).

Abolition of the 5 percent contribution on the grounds of equity did not take into account the existence of safety nets that allowed communities with high incidences of poverty, water-related diseases or facing emergencies to be provided with facilities. The wholesale abolition is beginning to result in a reintroduction of paternalism in the sector as communities willing and able to pay now

Figure 12
Average RWS scorecard scores for enabling, sustaining, and developing service delivery, and peer-group comparison



Source: CSO2 scorecard.

look to the government to finance all expenditures. In many communities this contribution was put into a fund to undertake needed capital maintenance. Thus the abolition of the community contribution may have drawbacks and could undo the sense of ownership, which had been a strong feature of the subsector.

Responsibility for monitoring drinking water quality in rural areas remains unclear. For now this is undertaken by the CWSA. Water quality tests are done before the commissioning of facilities based on standards set by the Ghana Standards Board. The difficult hydro-geological situation and problems associated with water quality in some parts of the country, particularly the Northern Region of Ghana, raise concern for increasing access in those regions.

8. Subsector: Urban Water Supply

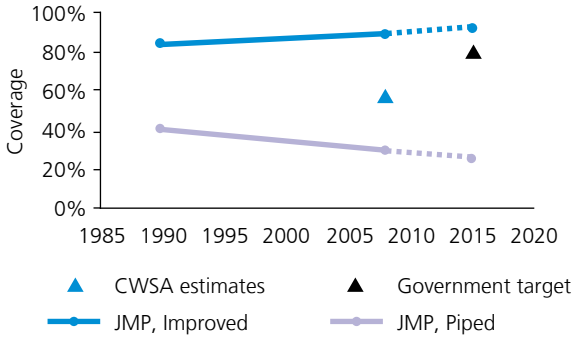
Priority actions for urban water supply

- Set a clear roadmap on actions to be taken after expiry of management contract for urban water supply
- Bring tariffs in line with full-cost recovery, in parallel with successful achievement of efficiency targets.
- Ensure greater participation of existing consumers and potential consumers in investment and supply decisions of the GWCL.
- Mainstream independent value-for-money studies in all loans/grants for urban water supply projects.
- Institute a system of incentives and penalties for management of urban water supply.
- Give greater visibility to pro-poor unit within the urban utility.

Urban water supply coverage, according to the GWCL, was 58 percent as of 2008. According to the service provider, coverage showed a consistent decline from the 1970s through to the '90s and only recently (2007) began to pick up again. The JMP on the other hand reports access in urban areas at 90 percent in 2008, though it also estimates that access to piped water has declined since 1990, to 30 percent in 2008, which may reflect the historic decline in access according to provider data. The significant difference between survey and provider data can be explained by the use of much higher per capita consumption thresholds by GWCL—80 to 140 liters per day depending on the supply area—and the different definitions of 'urban' applied in the water supply subsector and by GSS (population above 5,000). The per capita consumption rates used by GWCL to establish coverage may indeed underestimate access in big cities and towns where a substantial section of the population (up to 40 percent) may be using no more that 35 liters per capita per day.[23]

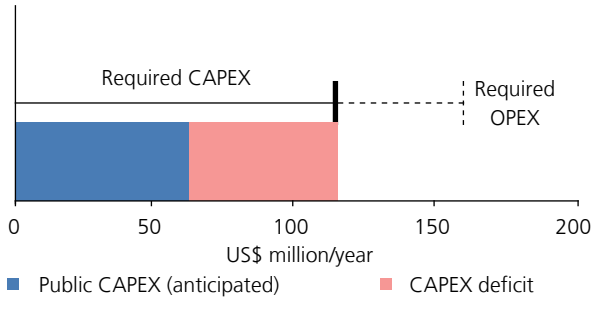
Urban water supply capital investment requirements estimated using the CSO2 costing model total US$115 million annually, with additional required OPEX (O&M expenditure) of US$46 million per year. Public financing for CAPEX is anticipated to be US$61 million per year, leaving a shortfall of US$54 million, which would need to be addressed through the tariff if public investments do not increase. Meanwhile, If the additional OPEX requirement is not fully met through user contributions, it will place additional burden on the public purse.

Figure 13
Urban water supply coverage



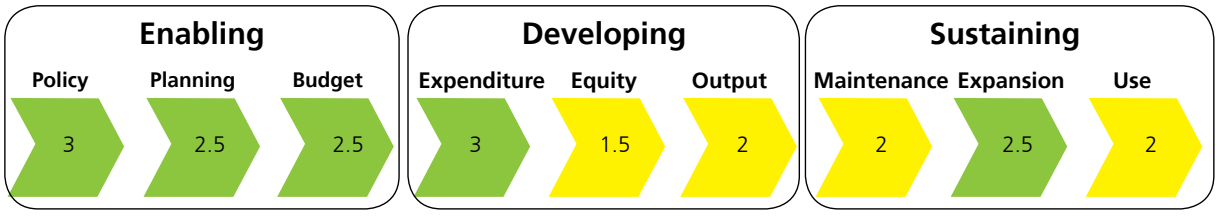
Sources: JMP 2010 Report and GWCL.

Figure 14
Urban water investment requirements



Source: CSO2 costing.

Figure 15
Urban water supply scorecard



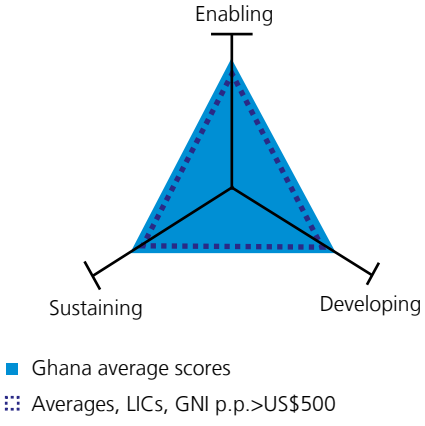
Source: CSO2 scorecard.

The GWCL's revised Sector Investment Plan estimates a total CAPEX requirement of US$1,373 million between 2008 and 2015, broken down into rehabilitation (US$452 million) and new facilities (US$921 million).[24] This equates to around US$170 million per year. No indication is given of OPEX in the GWCL's estimates.

Ghana's urban water subsector, whilst having its own challenges, scores quite well against its peers throughout the service delivery pathway (Figure 16). In large measure there are clear **policies** and strategies guiding the subsector, whilst mechanisms exist for **planning** with the regular preparation and revision of sector investment plans. Contrary to what has often been indicated by the GWCL, the sole urban water utility, the subsector has enjoyed substantial injections of capital investment, while regular reviews of tariffs have provided needed revenues to cover both O&M and some capital maintenance.

The utility attracted over US$614 million in grant and commercial funding between 2002 and 2008, and a further US$185 million worth of grant/loan projects are ongoing. However, the impact on coverage from these investments has not been significant. Over the period 2003 and 2008 data provided by the utility indicates that coverage moved from 59 percent in 2003 down to 55 percent in 2006, climbing back to 58 percent in 2008. This implies that recent investments have only been able to reverse the downward trend in coverage, given the state of infrastructure and the high growth in Ghana's urban population, particularly in the major cities of Accra, Kumasi, and Sekondi-Takoradi. It could also imply that some systems are over-designed, with consequent implications for tariffs. Overall, what is suggested is the need for greater scrutiny of the GWCL's investment decisions by the regulator and wider consultations with existing and future consumers whom these investments are to serve, and who have to bear the impact of increased tariffs.

Figure 16
Average UWS scorecard scores for enabling, sustaining, and developing service delivery, and peer-group comparison



Source: CSO2 scorecard.

The GWCL has a set of criteria for its investment decisions.[25] However, the lack of inclusiveness in the utility's decision making and absence of well-defined strategies to direct services to the poor have raised **equity** concerns, as reflected in the scorecard score for this building block (Figure 16). Indeed a significant proportion of the urban poor do not enjoy direct access to the utility's mains and have to depend on secondary and tertiary suppliers.

While the GWCL engages the public when it is seeking upward adjustments to its tariffs, it is of some concern that subsector **output** and performance are not in the public

domain: significantly, no annual report can be found on the utility's website. The full impact of PSP in urban water supply is yet to be assessed, but performance indicators such as nonrevenue water remain high (estimated at over 50 percent), four years into the management contract.

Over the years, the PURC has approved tariffs that have approached full cost recovery (including allowing for CAPEX replacement). Unfortunately, tariff increases have not been matched by efficiency gains, a situation which has led to considerable consumer discontent. So far there has been no occasion when the utility has been taken to task or penalized for the nonachievement of set performance targets.

Ghana scores well for the **expansion** building block, not least due to the consideration given to developing raw water storage and supply. Major expenditure for dam expansion is required to meet shortfalls in service delivery, particularly for Ghana's major cities. Most of these have already been planned or are under construction. Major projects for regional capitals include Accra (US$198 million for construction of a new 285,000 m^3/day intake, expansion of existing treatment plant to 250,000 m^3/day and transmission lines), Sunyani (US$85 million for a 44,000 m^3/day water treatment plant, laying of a 66.8 kilometer transmission and distribution network and construction of booster pump facilities and storage reservoirs to serve about 266,567 people), and Wa (€39 million for expanding supply). These costs of raw water storage and supply are additional to the estimate of investment requirements provided by the CSO2 costing—partly explaining the difference between the GWCL SIP and the CSO2 urban investment estimates.

9. Subsector: Rural Sanitation and Hygiene

Priority actions for rural sanitation and hygiene

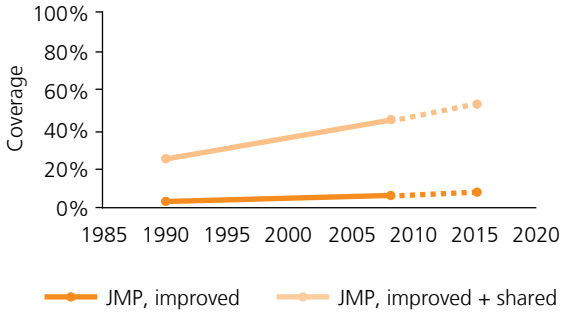
- Prepare a national sanitation program to address the rural sanitation deficit if the MDG is to be achieved.
- Declare a clear policy direction on how to deal with the high proportion of shared facilities.
- Make vigorous efforts to establish microfinance schemes to support sanitation delivery.

According to JMP data, access to improved sanitation in rural areas increased marginally from 4 percent in 1990 to 7 percent in 2008. When shared facilities are included, the figures are 25 percent and 45 percent, respectively. As much as 21 percent of the rural population use unimproved facilities, while an even more worrying phenomenon is the incidence of open defecation which was registered at 34 percent, having increased from 28 percent in 1990. The government's definition of improved sanitation is largely consistent with the JMP's; however, the relevant policy documents are silent on the issue of shared facilities.[26] The ESP and the accompanying NESSAP note that the "strategies and targets are not related directly to any specific MDG but rather considered as severally contributing to achieving aspects of the targets of all the MDGs, in particular Goal 7". NESSAP further indicates that home toilets will be promoted through emerging techniques such as CLTS "to achieve a modest countrywide target of 75 percent coverage by 2015".[27] This will be done through training of staff to manage a vigorous nationwide scaling-up campaign.

An estimated US$165 million is needed annually to meet the CAPEX ('hardware') requirements for rural sanitation. This is not surprising given the very low level of access to improved facilities. The subsector is aiming to transition to a CLTS approach, which would ordinarily entail users meeting the full hardware cost, without public subvention.

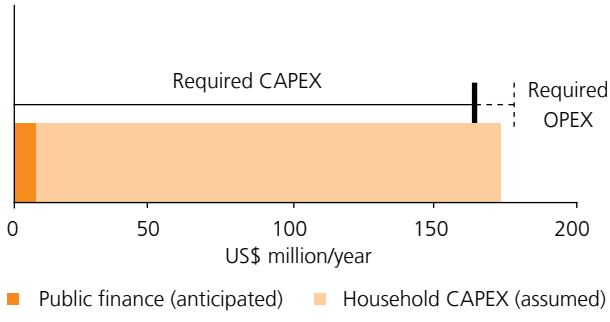
Figure 18 depicts this scenario, with assumed household CAPEX matching the CAPEX requirement. However, for this to be achieved, the government will need to significantly step up promotion and marketing efforts ('software') to encourage households to invest in their own facilities. There are also plans to support CLTS with innovative financing schemes, including (a) previously tested revolving fund (loan) schemes; and (b) relying on the enhanced presence and operations of microfinance institutions and rural banks to implement microcredit schemes, especially targeting women heads of families and community-based women's associations.[28]

Figure 17
Rural sanitation coverage



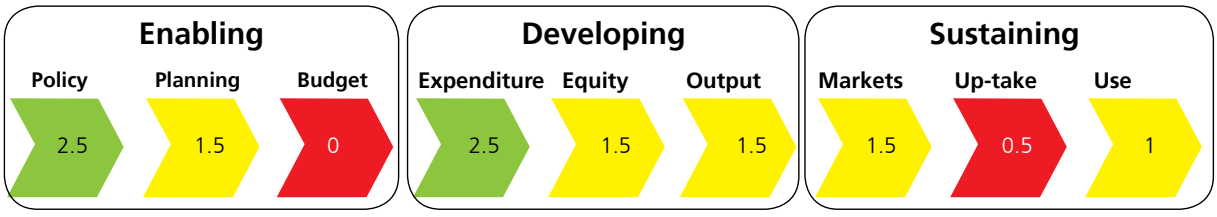
Source: JMP 2010 Report.

Figure 18
Rural sanitation investment requirements



Source: CSO2 costing.

Figure 19
Rural sanitation and hygiene scorecard



Source: CSO2 scorecard.

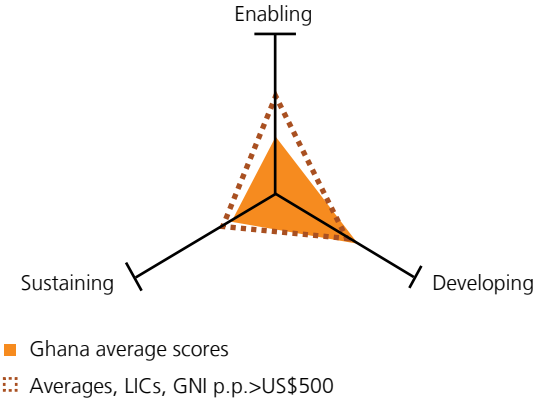
Public finance for the subsector remains limited—the current anticipated spend of around US$8 million per year is from donors and NGOs, and it is not clear how this will be divided in terms of hardware (that is, ongoing subventions in some donor projects) and software. Dedicated domestic support to household sanitation cannot be discerned in the budget, as in a number of cases this is subsumed under the budget for water supply projects undertaken through the CWSA, which falls under the MoWRWH and not the MoLGRD. However, the operational expenditures of the EHD can be gleaned from the budget allocations to MoLGRD. Without adequate material support from government, CLTS is likely to have very little impact.

Figure 18 also depicts additional OPEX requirements of US$13 million per year.

Ghana performs poorly against her peers in building blocks related to 'enabling' and 'sustaining' services in the rural sanitation and hygiene subsector. Whilst performance in relation to 'developing' building blocks is higher on average, the service delivery pathway depicted in Figure 19 reveals a number of potential concerns. Performance is generally low in the areas of **planning** (there is no well-defined sectorwide approach and a subsector investment plan is yet to be agreed and shared nationally) and **budgeting** (there is inadequate funding at both national and household level; sanitation expenditures as defined in the national budget are too broad, combining support for promoting toilet facilities with funding for solid waste and drainage).

Critically, the scale of **uptake** of CLTS is yet to be established. With the shift in emphasis to CLTS and the withdrawal of subsidies, households are required to meet the identified investments whilst public financing goes into institutional facilities and supporting software. Notably both the NESSAP strategies and CWSA costing of the sanitation interventions include support to District Credit Schemes for Sanitation—assumed to be the revolving loan schemes mentioned in NESSAP—which can complement the messages of CLTS. However, it still remains unclear how this is to be rolled out.

Figure 20
Average RSH scorecard scores for enabling, sustaining, and developing service delivery, and peer-group comparison



Source: CSO2 scorecard.

The MoLGRD concedes that the capacity of officers in many MMDAs is inadequate to fully implement the sanitation agenda. The MoLGRD has responded by recently deploying 'sanitation guards' as part of the Sanitation Module under the National Youth Employment Programme, and has also indicated short and medium to long term measures at building both manpower and institutional capacity.

10. Subsector: Urban Sanitation and Hygiene

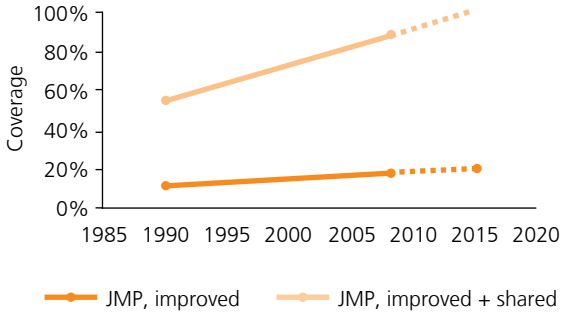
Priority actions for urban sanitation and hygiene

- Develop innovative approaches to urban sanitation, including microfinance schemes, to support delivery of household schemes.
- Develop a clear policy towards peri-urban and low income communities in cities.
- Strengthen institutional capacity for the management of sewerage treatment system since **MMDAs** as currently structured and staffed cannot do this.

According to the JMP's 2008 figures, access to improved sanitation in urban Ghana increased from 11 percent in 1990 to 18 percent in 2008, with an additional 70 percent using shared facilities (up from 44 percent) whilst 7 percent of the urban population are estimated to practice open defecation. The predominant use of shared facilities in urban communities is principally due to residence patterns—several households living in compound housing. A more worrying development is the heavy reliance by many on public toilets which have become quite commonplace, as landlords convert toilets into living rooms. The 'urban share' of the MDG target for sanitation equates to 56 percent. If the JMP definition of improved sanitation is used, excluding shared facilities, it appears that that this will be missed by a considerable margin.

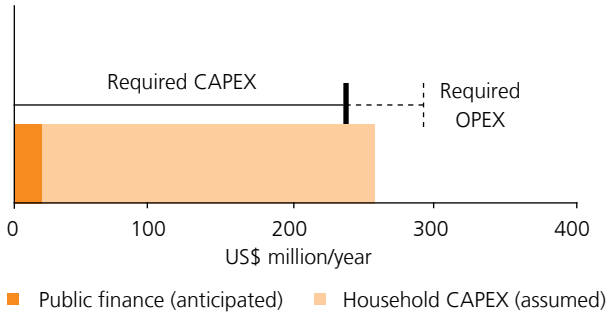
As in the case of the rural subsector, Figure 22 depicts households as responsible for contributing the full capital investment requirement for urban sanitation, of US$237 million per year, in line with the new policy of CLTS. However, how the uptake of household sanitation in urban areas can be encouraged is even less clear than for rural areas, and again, the apparent sufficiency of finance is illusory unless sanitation software (that is, promotion and marketing) is effectively organized and resourced. Additionally, CLTS implementation is limited to rural areas and small towns of populations of less than 7,500 and it is not clear how low-income households in major towns and cities are to be addressed. Planned interventions in sewerage (such as the AfDB-funded Accra Sewerage Improvement Project, which makes up the US$20 million

Figure 21
Urban sanitation coverage



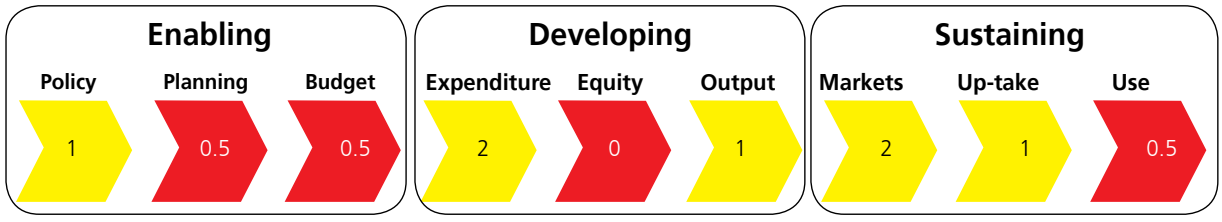
Source: JMP 2010 Report.

Figure 22
Urban sanitation investment requirements



Source: CSO2 costing.

Figure 23
Urban sanitation and hygiene scorecard



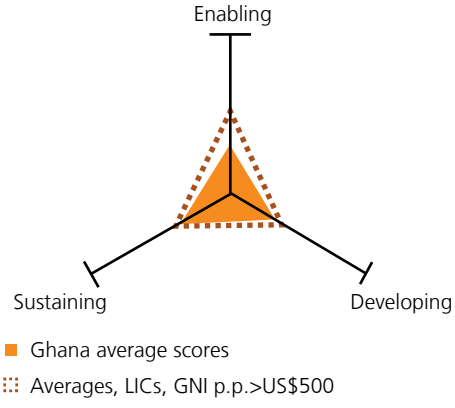
Source: CSO2 scorecard.

per year depicted as anticipated public finance) are likely to directly benefit only wealthier citizens since low income communities are rarely connected to the network. Additional OPEX requirements are estimated at US$52 million per year. The depicted investment requirements are for household sanitation only, and do not include communal and public facilities.

Ghana's urban sanitation and hygiene subsector performs below the peer-group average throughout the service delivery pathway (Figure 24). For the same reasons as in the rural subsector, **budgeting** presents a barrier to service delivery (Figure 23). The scores for **planning** and **equity** also indicate barriers, with limited investment planning (though this is now being addressed by the MoLGRD), use or analysis of budget allocation criteria, or local participation in planning and implementation. The low score in the final building block, **use**, reflects the limited levels of coverage and unlikely prospects of obtaining the urban share of the MDG target, as discussed in relation to Figure 21.

Limited effort has historically been given to the promotion of urban household sanitation facilities, compared with the situation in rural areas. The comprehensive assessment of urban environmental sanitation requirements, presented in the NESSAP to guide subsector decisions, is yet to be shared nationally. The NESSAP notes that sanitation technologies will not be prescriptive as the policy emphasizes the concept of "the sanitation ladder" and thus endorses all categories of improved technologies. It is, however, conceded that even where facilities have been available (on-site, communal or network) effective treatment and

Figure 24
Average USH scorecard scores for enabling, sustaining, and developing service delivery, and peer-group comparison



Source: CSO2 scorecard.

disposal of the septage is a major challenge in urban areas. Thus, whilst immediate delivery arrangements may improve access, long-term environmental sustainability is a critical issue.

Options for improved sanitation in urban areas are varied and it is difficult to judge which of the strategies identified by the NESSAP will contribute the most to the achievement of the subsector target. The expansion in sewerage and particularly treatment facilities in Accra (if delivered on time) may see some improvement, although those likely to be connected already have the means to build on-site facilities. The use of microfinancing schemes could complement delivery of household sanitation

infrastructure, particularly in low-income communities. These, however, remain intentions and are yet to be rolled out as comprehensive programs.

Achieving progress in urban sanitation and hygiene delivery is highly dependent on the capacity of the MMDAs to own, plan, and drive the agenda, as unlike urban water supply, there is no national, dedicated utility. A major challenge in this regard is the ability of local level structures to attract and retain the requisite personnel to provide support. The establishment of District Works Departments that would provide facilitation and backstopping services has stalled largely as a result of this.

The urban sanitation subsector (and sanitation in general) currently has no systematic monitoring of the number and quality of facilities built by households and surveys have rarely addressed hygiene behavior in urban areas—reflected in the low score for **uptake**. The adequacy of shared facilities in compound houses (the main housing type in low-income areas, and settlements in rural, small, and large towns) used by 70 percent of households in urban areas, is in question and the NESSAP indicates the need for further efforts to upgrade existing facilities and expand options. The recently commissioned comprehensive study[29] to investigate the use of shared facilities will provide a better understanding of the scale of the problem. Ultimately, accelerated coverage for household latrines to meet the needs of different housing segments at different rungs of the sanitation ladder is among the NESSAP's key strategies.[30]

The NESSAP includes a number of strategies which recognize that communal and public facilities will continue to be an important aspect of excreta management for some time to come. These include: (a) the haulage and transport of septage and fecal sludge, mainly by the private sector; (b) franchising management of public toilets and the provision of cesspit emptying services by private operators in all districts in the medium term; and (c) providing appropriate low-cost treatment and disposal facilities for septage and fecal sludge. Some of these efforts will also support household sanitation delivery, for example, fecal sludge management. Substantial reliance is put on the private sector playing these roles, and clear strategies and innovative mechanisms have to be put in place to ensure that they engage fully in practice. While the current strategy claims that implementation of CLTS is likely to enhance accelerated coverage, it does not address how this will work in practice in urban areas, given constraints on land, house ownership, and the heterogeneous character of urban dwellings.

Notes and References

1 World Bank, Global Economic Monitor, 2010 Average.

2 The first round of CSOs was carried out in 2006 covering 16 countries and is summarized in the report, 'Getting Africa On-Track to Meet the MDGs on Water and Sanitation'.

3 Such as the Multiple Indicator Cluster Survey (MICS), the Demographic and Health Survey, and the National Population and Housing Census. These are produced regularly but in different years by the Ghana Statistical Service (GSS) alone or in collaboration with other organizations such as UNICEF. The access figures obtained through these surveys provide an indication of 'use' of the water and sanitation facilities available and are thought by others to be a better indicator of access than the estimates of provider agencies. Alternative government estimates are based on provider data, calculated from delivered facilities and the population each is intended to serve.

4 From the perspective of stakeholders at the CSO2 consultation, harmonization of definitions between Ghana Statistical Service, the JMP, and provider agencies needs further attention. This is essential to get a truer picture of what is required in investments and where the emphasis should be placed in relation to regional allocations, supply and technology options.

5 JMP estimates are based on a linear regression of nationally representative household surveys. Notwithstanding the different definition of improved water supply access and the JMP's discounting of shared sanitation facilities, the JMP estimates for Ghana are reasonably robust, since the trendline is calculated using a relatively large number of household survey results, with few outliers.

6 The MDG target for water supply and sanitation is to halve, by 2015, the proportion of people without improved access, relative to 1990 levels. Internationally, it is broadly accepted that the 1990 baseline used to calculate the MDG target is that provided by the JMP. However, due to the linear regression method used to derive the trendline, this figure can change from one JMP report to the next. Ghana's 1990 water supply coverage estimate provided by the 2010 JMP report is 54 percent, implying an MDG of 77 percent. The 'MDG+" is a national target developed by Ghana itself.

7 The CSO2 investment requirement estimates do not include the additional cost of hygiene promotion and other software activities, relative to the targets, due to the difficulty of estimating such costs on a per capita basis.

8 Due to rounding, component figures may not sum to totals.

9 The CSO2 scorecard methodology and conceptual framework are discussed in detail in the synthesis report.

10 A decision to allocate an amount of GHC 30 million to community WSS in the 2009 budget was reportedly based on submissions made by CWSA in relation to the identified funding gap. The MoFEP also participated actively in the review of the latest SIP as previous ones were based on a target (85 percent) which was not shared by that ministry.

11 World Bank Atlas Method.

12 Indicators relating to the institutional framework section are as follows: All subsectors: targets in national development plans/PRSP; subsector policy agreed and approved (gazetted as part of national policy or as standalone policy); RWS/UWS: institutional roles defined; RSH/USH: institutional lead appointed.

13 The sector is increasingly using DAs to implement water and sanitation projects, from procurement through contract supervision. A District Development Fund has also been established to provide more resources to Districts to implement their infrastructure projects, and some donors are already contributing to this.

14 Indicators relating to the section on financing and its implementation section are as follows: All subsectors: programmatic Sector-Wide Approach; investment program based on MDG needs assessment; sufficient finance to meet MDG (subsidy policy for sanitation); percent of official donor commitments utilized; percent of domestic commitments utilized.

15 Ministry of Finance and Economic Planning, (2009) FY2010 Budget Statement, p 355.

16 CWSA investment figures have been noted to be on the low side as the CSO2 costing puts the combined rural water supply and sanitation requirement at US$388 million per year (see Section 7). Thus whilst the rise is appreciated, this still falls far short of the likely requirements.

17 GoG 2010. Ghana Sanitation and Water for All Compact. http://www.sanitationandwaterforall.org/files/The_Ghana_Compact.pdf

18 Based on information from DAs in the Northern, Upper East, Upper West, Brong Ahafo, Ashanti, and Western regions indicating less than 6 percent utilization of the District Assemblies Common Fund in investments for water, in contrast with investments in educational and health facilities. Maple Consult. 2009. The Compilation of Information on Water and Sanitation Sector Investments in Ghana.

[19] Indicators relating to the sector M&E section are: All subsectors: annual review setting new undertakings; subsector spend identifiable in budget (UWS: inc. recurrent subsidies); budget comprehensively covers domestic/donor finance; RWS, RSH, and USH: domestic/donor expenditure reported; UWS: audited accounts and balance sheets from utilities; RWS, RSH, and USH: periodic analysis of equity criteria by CSOs and government; UWS: pro-poor plans developed and implemented by utilities; RWS/UWS: nationally consolidated reporting of output; RSH/USH: monitoring of quantity and quality of uptake relative to promotion and subsidy efforts; All subsectors: questions and choice options in household surveys consistent with MDG definitions.

[20] Prior to the Demographic and Health Survey 2008, GSS did not exclude shared toilet facilities in its definition of access. Thus whereas the 2006 Multiple Indicator Cluster Survey for Ghana reported sanitation coverage of 61 percent, the JMP reported coverage for the same year of 15 percent as a result of the removal of shared facilities.

[21] By 2008, about 54 percent of Ghana's population used shared facilities which, according to the current JMP classification, are not considered as an improved toilet facility (29 percent in 1990). However, sector stakeholders, led by the Environmental Health Sanitation Directorate of the MoLGRD, are not in agreement with the exclusion of shared facilities from improved access and have therefore commissioned a study to gather field evidence that can contribute to better understanding and learning on shared facilities. The study will, among other things, provide facts and figures on the proportion of Ghana's shared toilet facilities that meet acceptable criteria of convenience, safety and hygiene, and hence need to be considered as improved toilet facilities at the household level.

[22] While GoG policy is keen on promoting private participation in all areas of the sector, actual implementation has been slow. The MoWRWH has now established a working group of various stakeholders to define a roadmap for the active engagement of the private sector.

[23] Public Utilities Regulatory Commission. 2002. Water Accessibility and Supply in Ghana: Large Scale Quantitative Socio-Economic Research amongst Residential Customers.

[24] A closer examination of the listed investments shows some duplication as various projects had been completed in earlier years.

[25] The following criteria have informed decisions on expansion and new networks: supply gap, financial viability, socioeconomic considerations, health considerations, and lack of alternative water supply.

[26] Consistency with MDG definition of access is demonstrated in references made in the Environmental Sanitation Policy with respect to sanitation "technologies that include water closet and septic tank system, the pour flush latrine (where water is used for anal cleansing), the ventilated improved pit latrine (VIP), the aqua privy, and any other proven technologies recommended by MoLGRD. Bucket (pan) and open trench latrines are actively discouraged and must be phased out as they do not meet minimum sanitary standards".

[27] MoLGRD. 2009. National Environmental Sanitation Strategy and Action Plan, p. 59. NESSAP limits the implementation of CLTS to rural areas and towns under 7,500 population.

[28] MoLGRD. 2009. Draft NESSAP p. 105.

[29] See note 20.

[30] See note 27.

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