triple-S
WATER SERVICES THAT LAST

LESSONS FOR RURAL WATER SUPPLY

Assessing progress towards sustainable service delivery



Ghana

an initiative of IRC | AGUACONSULT

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Ghana

By: IRC and Aguaconsult

IRC International Water and Sanitation Centre,
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This report was developed by a team from IRC and Aguaconsult consisting of: Tania Verdamato, Jean de la Harpe, Marieke Adank, and Patrick Moriarty.

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EXECUTIVE SUMMARY

Rural water supply has been successfully extended to 65-76% (depending on source) of the rural population of Ghana. Ghana is on track to achieve the Millennium Development Goals (MDG) target for water, but behind this success are a complex set of challenges to turn newly provided water delivery infrastructure into sustainable services. At any time, a substantial proportion of water supply infrastructure is either not functioning or functioning sub-optimally.

This study, commissioned by the Sustainable Service at Scale (Triple-S) project, seeks to shed light on the challenges to achieving scaled-up sustainable rural service delivery. It focuses on the gaps between theory and practice in how services are developed and delivered. The study is based on a desktop review, supported by limited primary data collection from three regions, and a stakeholder validation workshop.

A number of service delivery models (SDM) based on the concept of community ownership and management (COM) currently being implemented in Ghana are identified and examined. These models range from simple manually operated point sources to sophisticated multi-village schemes with house connections and standpipes.

The study also examines the critical challenges and priorities to making services more sustainable.

INTERMEDIATE LEVEL PRIORITIES

At the intermediate level of service authority and service provision functions, the first step relates to clarifying the roles and responsibilities of the main role players: Community Water and Sanitation Agency (CWSA), Metropolitan, Municipal, and District Assemblies (MMDAs), Water and Sanitation Development Boards (WSDBs) and Water and Sanitation Committees (WATSANs). Only once there is greater clarity in terms of roles and responsibilities for the entire service delivery life cycle, can serious progress be made on achieving improved sustainability. This clarification is dependent upon the next steps in Ghana's decentralisation process.

The water and sanitation sector at every level has many players with many roles and responsibilities. The multiplicity of service providers, their overlapping mandates, and the lack of provision for oversight and regulation leads to problems in terms of coordination and control. Although District Assemblies are formally responsible for planning, decision making, and delivery of water services, they tend to lack the necessary resources and skills to fulfil their mandate. As a result other actors are attempting to take on some of these functions, for example the CWSA. However, the CWSA also does not have sufficient resources to adequately fulfil the district functions, and neither does it have the mandate. What is more, MMDAs/District Water and Sanitation Teams (DWSTs), WSDBs and WATSANs often lack the skills and resources needed to perform their mandate. Capacity building and resource mobilisation are therefore as important as role clarification. Without sufficient funds to undertake their roles and to maintain their skills level, the water sector actors who should be supporting community ownership and management simply cannot do their jobs.

Effective monitoring and information sharing is an essential prerequisite to MMDAs (and CWSA) being able to fulfil their oversight role, yet monitoring—of service delivery or of financial management—is currently practically non-existent. So too is oversight of the (financial) management of WSDBs and WATSANs. It will be extremely difficult to make progress on improved accountability—at all levels—without tackling the issue of monitoring.

Related to the lack of monitoring, regulation is largely absent in the rural sub-sector. CWSA and MMDAs have a role to play in overseeing the provision of services, and CWSA in particular is showing considerable interest in taking up this role, and would be ideally suited to it. However, for CWSA to do so it would have to reduce its currently high profile in project implementation, otherwise it will effectively be regulating itself. Finally, sustainability cannot be achieved without spare parts. This is clearly acknowledged and CWSA has expressly identified the need for regional and district spare part repositories. The challenge therefore is to make this happen.

NATIONAL LEVEL PRIORITIES

At the national level, the main challenge is for government to take the lead in ensuring sector buy-in to a common vision of rural service delivery through community ownership and management (COM). This vision should be made explicit and SMART (specific, measurable, applicable, realistic, time-bound) in the form of a sector strategic development plan (SSDP) that clearly identifies not just the vision, but the means to achieve it. For government to assume this role, a critical first step (already identified for several years) is to increase the capacity of the Water Directorate.

Finally, and across the board, there is an urgent need for greater convergence between policy and practice. Nothing illustrates more clearly the weakness of government leadership in the sector than the gap between how things are supposed to be 'in theory' and how they are actually found to be 'in practice'. Conversely, a sign of increasing sector maturity will be enhanced evidence of the ability to identify and address these differences: in the form of adapted policy and enhanced enforcement.

CONCLUDING REMARKS

Rural water supply services in Ghana still lack sufficient attention to long-term sustainability issues, including post-construction support. The rural sector as a whole needs to broaden its focus from the construction of new infrastructure (through ad hoc projects) to long-term provision of sustainable and appropriate rural water service(s).

One of the biggest challenges facing the rural water sector in Ghana is that it is currently dominated by the 'donor agenda', rather than being led by the priorities of the Government of Ghana. Government needs to take on and develop its leadership role being the only actor with the legitimacy to lead the sector, including the development of a clear framework for sustainable service delivery. Ensuring an effective leadership role also means ensuring sufficient domestic investment in the sector, so that the sector is not almost totally dependent upon donors.

Determining what constitutes a service delivery model (SDM) in the context of community ownership and management (COM) in Ghana requires further examination and dialogue within the sector to reach a common understanding of the features of the different service delivery models. In addition, determining how the different COMs will become fully sustainable will require several years of experimentation and learning: there are no blueprints, but there are examples of what can work. Triple-S has a critical role in supporting the sector to identify and further develop its service delivery models for sustainable services.

ACRONYMS

AfDB	African Development Bank
AFD	Agence Française de Développement (French Development Agency)
AVRL	Aqua Vitens Rand Ltd
CIDA	Canada International Development Agency
CM	Community management
COM	Community ownership and management
CONIWAS	Coalition of NGOs in Water and Sanitation
CSO	Civil society organisation
CWSA	Community Water and Sanitation Agency
DA	District Assembly
Danida	Danish International Development Assistance
DDF	District development facility
DFID	Department for International Development
DiMES	District monitoring and evaluation system
DP	Development partner
DWD	District Works Department
DWSP	District water and sanitation plan
DWST	District Water and Sanitation Team
EC	European Commission
EHSD	Environmental Health and Sanitation Directorate
EU	European Union
GDP	Gross Domestic Product
GHC	Currency of Ghana: Cedi
GoG	Government of Ghana
GPRS	Growth and Poverty Reduction Strategy (GPRSII) 2006-2009
GTZ	Gesellschaft für Technische Zusammenarbeit
GWCL	Ghana Water Corporation Ltd
HH	Household
IDA	International Development Association
IGF	Internally generated funds
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
Lpcd	Litre per capita per day
M&E	Monitoring and evaluation
MDBS	Multi-donor budget support
MDG	Millennium Development Goals
MLGRD	Ministry for Local Government and Rural Development
MMDA	Metropolitan, Municipal, and District Assembly
MoFEP	Ministry of Finance and Economic Planning
MoU	Memorandum of understanding
MTEF	Medium-term expenditure framework
MWRWH	Ministry for Water Resources, Works and Housing
NCWSP	National Community Water and Sanitation Programme
NDPC	National Development Planning Committee
NGO	Non-government organisation
NREG	Natural Resources and Environmental Governance
NWP	National Water Policy

PAF	Performance assessment framework
PBA	Programme-based approach
PFM	Public financial management
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PMMS	Policy monitoring and management support
PO	Private operator
PSP	Private sector participation
PURC	Public Utilities Regulatory Commission
RCC	Regional Coordinating Council
RWST	Regional Water and Sanitation Team
SBS	Sector budget support
SDM	Service delivery models
SIP	Strategic investment plan
SMART	Specific, measurable, applicable, realistic, time-bound
SSDP	Sector strategic development plan
SSP	Small-scale provider
SSPSP	Small-scale private service provider
SWAp	Sector-wide approach
SWG	Sectoral Working Group
TA	Technical assistance
UNICEF	United Nations Children's Fund
WATSAN	Water and Sanitation Committee
WD	Water Directorate
WRC	Water Research Commission
WSDB	Water and Sanitation Development Boards

1 BACKGROUND OF THE STUDY

Over the last two to three decades there has been relative success in providing rural water infrastructure in developing countries leading to increased nominal coverage levels. However, failure to find solutions to unsustainable services means that these nominal figures for coverage are often deceptive. Rural people face continuing and unacceptable problems with services that fail prematurely, leading to wasted resources and unfulfilled expectations. Although figures vary, studies from different countries indicate that somewhere between 30% and 40% of systems either do not function at all, or operate significantly below design expectations. Increased infrastructure coverage, therefore, does not equate to increased access to water services.

The Triple-S project Sustainable Services at Scale (Triple-S) is a six-year (2009–2014) learning initiative with the overall goals of improving sustainability of rural water services. Triple-S is currently active in Ghana and Uganda. For more details see www.irc.nl/page/45530.

As part of its inception phase, Triple-S commissioned studies of the rural water sector in 13 countries: Ghana, Uganda, Honduras, Colombia, India (three states), Thailand, Sri Lanka, Burkina Faso, Benin, South Africa, Mozambique, Ethiopia, and the USA.

This document provides a synthesised version of the Ghana study. It is based on three separate studies carried out by independent consultants that looked at different aspects of rural water service delivery.

1.1 OBJECTIVES OF THIS STUDY

The main objective of this research study is to contribute to the conceptual and empirical basis of Triple-S by providing an overview of rural water service delivery in Ghana, and by fostering a better understanding of the institutional challenges, incentives and barriers to improved service delivery.

The specific objectives of this study are to:

- Provide an overview of the institutional arrangements for water services in Ghana;
- Identify Ghana's service delivery models for water services provision to rural areas;
- Analyse the performance and strengths and weaknesses of different community management models;
- Outline existing measures to improve aid effectiveness and harmonisation;
- Identify challenges and opportunities for scaling up community management sustainably within the Ghanaian context.

1.2 STRUCTURE OF THIS REPORT

This report provides a brief overview of the history, policy and legislative framework, current status, and future trends of the rural water supply sector in Ghana. It takes as its starting point an identification of the main service delivery models currently being used to provide rural water services. It then goes on to analyse in more detail the differences between the 'theory' and the 'practice' of how rural water services are implemented in Ghana. The study looks at the main forces at play at national, intermediate and service delivery levels in Ghana, and how these influence the provision of rural water services. Finally, the report provides a set of recommendations required to achieve fully scaled-up and sustainable rural service delivery.

The report is divided into eight chapters as follows:

Chapter 1: Introduction

Chapter 2: Study objectives, methodology and key concepts

Chapter 3: Introduction to the rural water sector in Ghana

Chapter 4: Identification of the main service delivery models found in Ghana

Chapter 5: Successes and challenges of rural service delivery through community ownership and management (COM)

Chapter 6: Challenges and opportunities for COM

Chapter 8: Summary and conclusions

2 METHODOLOGY

2.1 DATA COLLECTION AND ANALYTICAL FRAMEWORK

The study is based on a combination of desk study of secondary data combined with primary data collection through interviews with sector actors at national, intermediate and service provision level. Interviews took place in the Greater Accra, Central and Northern Regions. A list of all interviewees can be found in Annex A.

The study was guided by the Triple-S Ghana team and carried out by three independent consultants focussing on different aspects of rural service delivery.

1. **National level** policy and actors in water services led by Maple Consult Ltd (Dotse, 2010)
2. The **decentralisation process** and its (likely) impact on water service delivery led by Prof Nana Boachie Danquah of the University of Ghana Business School (Boachie Danquah, 2010)
3. Existing (and emerging) **models for water service delivery** in Ghana led by Trend Group (Tuffuor, 2010)

All three studies are available as working documents from the Triple-S website.

In order to validate the studies and gain sector buy-in, the study included a validation process in which preliminary findings were shared and discussed with a group of sector experts at a validation workshop held in Accra on the 4th of March 2010.

2.2 KEY CONCEPTS

The study was guided by a number of key concepts regarding rural water service delivery, which lie at the heart of the Triple-S approach, and which are briefly outlined here.

The starting point is recognition of the need for a **service delivery approach (SDA)**. Currently, providing water to rural people has been understood principally in terms of developing physical infrastructure. Triple-S is seeking to change this focus to one of providing a drinking water service. In practice, this means a shift from counting boreholes to assessing people's access to a service, measured in terms of indicators such as quantity, quality, accessibility, and reliability of access. This shift is seen as essential if widely observed problems of quality and reliability of drinking water supplies are to be tackled systematically.

A key assumption of the approach is that, with a commitment to an SDA comes the need to formalise the roles, functions and relationships that are required for a service to be provided. That is, for an SDA to be put into practice within a given country context, one or (probably) more agreed **service delivery models (SDM)** need to be identified and defined.

SDMs set out the agreed frameworks for delivering service. An SDM is guided by a country's existing policy and legal frameworks which define: norms and standards for rural water supply; roles, rights and responsibilities of users and service providers; and financing mechanisms. At the intermediate institutional levels from which decentralised service provision takes place, an SDM describes the roles of different actors in service delivery and, where necessary, provides legal underpinning for different contractual relationships.

The concepts of SDA and SDM both rest heavily on an understanding of service delivery as something that relies on a range of different actors fulfilling different roles at different institutional levels. As such, improving service delivery is inescapably linked to **decentralisation** processes within a country.

The SDA as applied by Triple-S identifies three broad institutional levels and associated groups of functions in service delivery. What precise functions occur at what exact level is entirely context-specific and, in practice, different functions can be exercised at multiple levels. The three broad groups of functions are:

1. **Policy, normative and legislative functions—national level**

   Policies, norms and laws are all typically formulated at the national level, although the local level is also responsible for locally appropriate policies and regulations, for example by-law formulation. The national level typically fulfils a key role in sector financing and in some elements of capacity development.

2. **Service authority functions—intermediate level (district, commune or municipality)**

   Under decentralisation, **service authority,** by which is meant the overall responsibility for ensuring that a service is provided, is typically vested in local government. Service authority functions typically include planning, coordination, monitoring, and financial decision making, as well as regulation and oversight. Intermediate level actors are usually also responsible for some technical backstopping.

3. **Service provider functions—intermediate to local level**

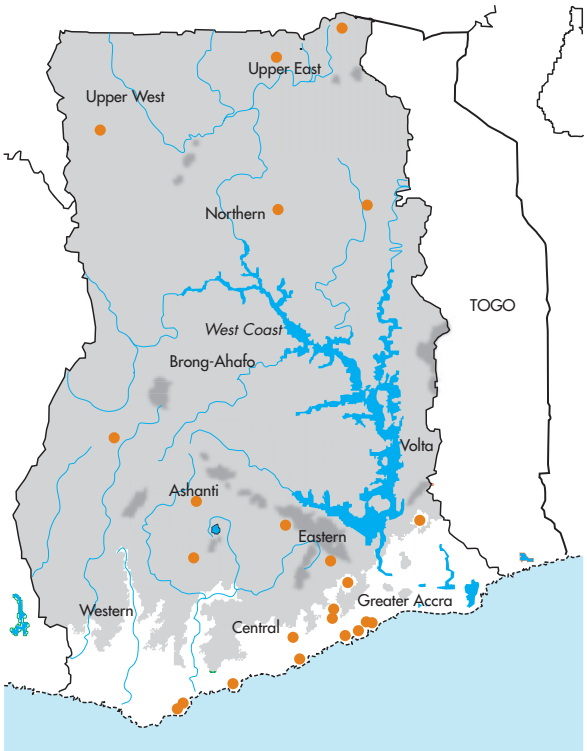
   Service provision involves the day-to-day operation and maintenance of infrastructure, financial management, and sometimes expansion and upgrading of the infrastructure.

Ideally, service authority and service provision functions should be separated to improve accountability and oversight. Depending on the exact management model being used, service provision functions can be undertaken at different levels from the intermediate (e.g. district-wide piped networks) to the local (for example under community management). Service provision functions can be undertaken by a wide range of actors, from community members through NGOs and CBOs to private operators.

2.3 COMMON ANALYTICAL FRAMEWORK

This study was guided by an analytical framework developed by Triple-S (see Annex E) and used to guide all 13 studies. This framework includes a range of elements (or principles) at each of the three different institutional levels described above. The theory being that if all elements are in place, service delivery will function as intended. In practice, the elements are a starting point for prompting questions or descriptions of issues known to be important to understanding sustainable service delivery. In total there are 18 elements within the framework that address issues such as: sector decentralisation and reform; institutional roles and responsibilities; financing, service delivery models; learning and coordination; and monitoring and regulation.

FIGURE 1: MAP OF GHANA



Source: AICD Interactive Infrastructure Atlas for Ghana, downloadable from http://www.infrastructureafrica.org/aicd/system/files/gha_new_ALL.pdf

3 THE WATER SECTOR IN GHANA

This chapter provides a brief overview of the rural water sector in Ghana, including historic evolution of coverage rates, the policy framework, an overview of role players and stakeholders in the water sector, the evolution of financial flows to the sector, and an overview of how the sector fits into wider governance frameworks.

3.1 BACKGROUND AND COUNTRY CONTEXT

Ghana is relatively flat and dominated by the Volta River catchment within which the entire national territory is nested. There are distinct differences between the north and south in Ghana. The south has a relatively high population density with low poverty rates, and is where most of the larger cities are found. The north, on the other hand, is relatively sparsely populated with a very high incidence of poverty.

Ghana's infrastructure also broadly follows the north/south pattern with major transport, power and communication infrastructure networks in the south and southwest. Despite these differences over the north and south, Ghana's infrastructure provides quite an extensive coverage across the entire country, which supports integration of the different regions.

According to the Africa Infrastructure Country Diagnosis, Ghana by African standards has quite extensive water resource infrastructure and some significant pockets of irrigation.

Although Ghana has good water resources, these resources are not used optimally for economic or development purposes. The total actual renewable water resources are estimated to be 53.2 billion cubic metres per year which translates into availability per capita of about 2,500 cubic metres per year. The total water withdrawals constitute only about 2% of total actual renewable water resources. A key feature in terms of water resources is the variability of water availability between seasons and from year to year. (AICD, 2010)

After independence in 1957, Ghana experienced a turbulent start as an independent state, with a series of irregular transfers of executive power through military *coup d'états* between 1966 and 1981. However, with the 1992 Fourth Republican Constitution (Ghana Constitution, 1992) and the return to constitutional rule in 1993, the country has settled into more stable development, marked by four peaceful elections. The result of this political stability is a country which outstrips most of its regional neighbours in economic

TABLE 1: GHANA GOVERNMENT REVENUE AND EXPENDITURE BUDGET 2004–2008

Year	Revenue and grants (GHC)	% DP contribution	Expenditure (GHC)	% DP contribution
2004	2,393,835,427	38	2,623,244,177	28
2005	2,825,639,770	37	2,989,467,527	29
2006	3,191,767,800	32	4,009,417,461	20
2007	4,051,964,248	32	5,245,228,202	20
2008 (provisional)	4,839,395,269	33	7,228,564,118	18

Source: Ministry of Finance and Economic Planning, National Budget statements (2004-2008)

growth rates, the human development index (UNDP, 2009) and corruption indices (Transparency International, 2009). The 2008 population was recorded as 23.4 million with an average annual growth rate of 2.2% between 2002 and 2008 (World Bank, 2009).

In 2008 Ghana recorded its highest economic growth rate of 7.3% (Ghana Statistical Service), whereby it then decreased to 4.7% in 2009. Ghana had a Gross Domestic Product (GDP) of US$1,480[1]/person in 2009 (World Bank, 2010).

Despite the recent drop in growth rate (something that has not been seen in Ghana alone), a positive political economy is generally found in Ghana. The government's budget (revenue and expenditure) for the period 2004 to 2008, as well as the percentage of aid is presented in Table 1. This shows that the aid component of revenue and grants amounted to just over 30% during the period.

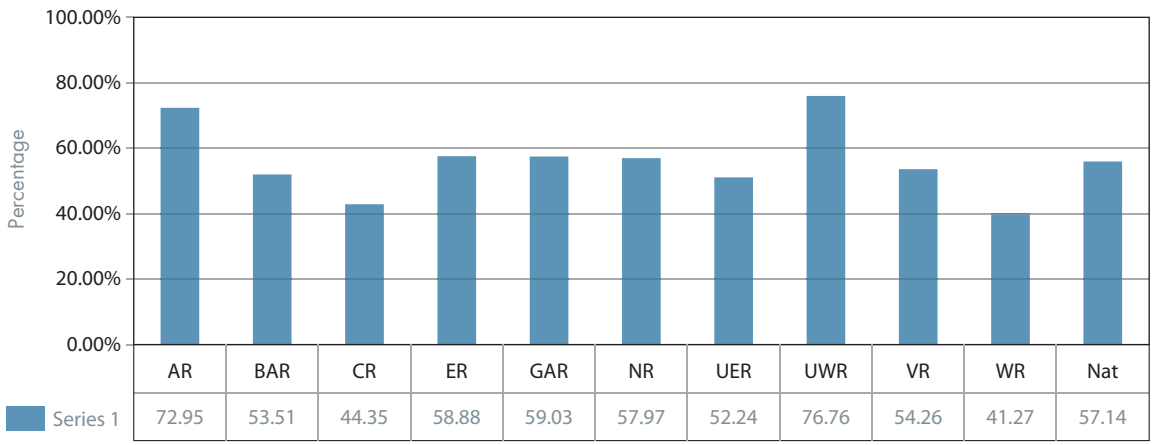
Ghana has achieved the MDG target for water supply. According to the Demographic and Health Survey (DHS) evidence, the percentage of households with access to an improved drinking water source rose from 69% in the 2003 survey to 84% in the 2008 survey, exceeding the MDG target of 76%. However, the poor quality of these services has resulted in very high technical and non-technical losses where more than 50% of water produced is diverted, leaving the final customer exposed to highly intermittent supplies. Since Ghana is reaching the middle-income country benchmark, there is a pressing need to upgrade its infrastructure in line with this benchmark (AICD, 2010).

3.2 ACCESS TO RURAL WATER SERVICES IN GHANA

In the last five to ten years the focus in rural water supply has shifted from point sources (mainly boreholes with handpumps) towards (normally) simple piped networks for small towns. The focus on small towns with their relatively higher population density has undoubtedly contributed to the relatively rapid rise in coverage rates in the last years. According to a sector investment study (MAPLE Consult and WSMP, 2010), CWSA reported a coverage rate in 2009 of 57% in rural areas (ranging from a high of 77% in Upper West to a low of 41% in Western. (see Figure 2). However, according to the 2008 Demographic and Health Survey (GSS, GHS, and ICF Macro, 2009), the percentage of the rural population with sustainable access to an improved water source was 76.6%[2].

However, coverage rates do not tell the whole story. Measuring the functionality of systems gives a more accurate picture of the sustainability of services, but it is notoriously difficult to get figures on functionality. Numbers vary from 90% of all project boreholes that were still working in surveyed villages (Bakalian and Wakeman, 2009) to 58% of water points needing

FIGURE 2: REGIONAL COVERAGE RATES IN RURAL COMMUNITIES AND SMALL TOWNS IN 2008



Source: MAPLE Consult and WSMP (2010).

[1] Purchasing Power Parity (international dollars).

[2] The difference between these rates is essentially due to their provenance: CWSA calculates coverage by counting the systems it provided and multiplying these by a design population; GSS by asking users (in a sample) where they get their water from.

repair in a survey in northern Ghana (Skinner, 2009), while recent unpublished research by the WASHCost project seems to point towards rates of non-functionality in the region of 30% (Nyarko, pers. comm.). That said, there is a general recognition amongst sector actors that sustainability and lack of functionality present very real challenges to the whole sector.

"...as a country, there is a lack of conscious and deliberate actions to ensure that facilities keep working for as long as their designed lives." (Dotse, 2010)

3.3 POLICY AND PROGRAMMES

3.3.1 National Water Policy

The National Water Policy of June 2007 addresses both integrated water resources management (including water for energy, food security and transportation), and urban and community/small-town water delivery. It also highlights the international legal framework for domestic and transboundary utilisation of water resources. The first principle of the policy is the principle of the "fundamental right of all people without discrimination to safe and adequate water to meet basic human needs"; which is further supported by the principle of "meeting the social needs for water as a priority, while recognising the economic value of water and the goods and services it provides" (GoG, 2007).

The objectives of the policy are to:

- Facilitate improving access to potable water without discrimination; and
- Enhance the management and development of water resources in a manner which, as first priority, safeguards that the entire population, particularly the poor and vulnerable, will have access to adequate and potable water.

In order to achieve these objectives the policy states that the following policy measures and/or actions will be taken:

1. Strengthen and ensure sustainability of ongoing community management, operation and maintenance of facilities, in order to safeguard investments already made;
2. Strengthen District Assemblies to assume a central role in supporting community management of water and sanitation facilities, and in maintaining the integrity of aquatic ecosystems;
3. Increase the stake of and clearly define the role of the formal and informal private sector in the provision of water and sanitation in urban and rural communities and ensure the facilitative role of government agencies;
4. Promote partnership between the public and private sectors in the provision of water supply and sanitation services for improved management and to facilitate capital inflows;
5. Improve efficiency in production and distribution through effective and improved O&M and pricing mechanisms (strategy and structure), taking into account the poor and vulnerable; and
6. Ensure sustainability through cost recovery, taking into account the basic right to a threshold level of supplies ("some for all"), especially for the segment of the populace who can demonstrably not afford the full cost of supplies.

These measures provide a strong policy framework for establishing institutional arrangements for the provision of water and sanitation services both in terms of urban and rural areas. The policy seeks to encourage greater private sector participation in small-town water supply. In the urban sub-sector, the Ghana Water Company Ltd. (GWCL), a publicly owned utility, has the remit to provide water supply throughout the country. In late 2005, a private operator was selected on a five-year management contract to improve efficiency.

The policy also states that a sector-wide approach (SWAp) will be implemented to ensure effective harmonisation in the different approaches that are implemented, and to reduce the overall costs of programme implementation. The SWAp is also seen as a means of strengthening linkages between sector programmes and country-wide planning, budgeting and evaluation processes at all levels.

The National Water Policy highlights some of the achievements made by the National Community Water and Sanitation Programme (NCWSP) over its first 10 years, including "rehabilitation of over 3,683 boreholes and hand-dug wells (HDWs); construction of 3,216 new boreholes and water points; the assumption of responsibility for 113 small-town piped water systems for community management and construction of over 8,072 household & institutional latrines". The policy recognises that a key part of sustainability of the facilities relates to regular maintenance. In 2001 a National Handpump Spare Parts Network System was established as part of the NCWSP, which supports the supply chain for spares. The distribution network is a public-private partnership between CWSA and a network manager (private company), with regional distribution outlets to ensure spare parts to districts and communities. One of the key challenges of the Network is to ensure sufficient returns from the sale of spares in order to sustain the distribution network.

3.3.2 Development strategies and programmes

The government's agenda in the water sector is driven by the objectives of the Millennium Developments Goals, the Growth and Poverty Reduction Strategy (GPRS II) (Government of Ghana, 2005), the National Water Policy (Government of Ghana, 2007) and the African Water Vision for 2025, (United Nations Economic Commission for Africa, et al., 2004).

Towards meeting part of the deficit in water supply, targets have been set in the GoG GPRS II of 2005 with respect to sector investments. The GPRS II recognises that increasing access to potable water and sanitation is critical to achieving favourable health outcomes which in turn facilitate economic growth and sustained poverty reduction. In particular, it recognises that improvement in access to safe water enhances school attendance, reduces women's workload and frees them to participate in economic empowerment and governance activities.

The **National Community Water and Sanitation Programme (NCWSP)** was launched in 1994 to address water and sanitation in rural areas. The NCWSP and a corresponding Strategic Investment Programme (SIP) aim to rationalise, promote and improve WSS service delivery through accelerated provision of potable water and hygienic sanitation facilities."An underlying principle of the NCWSP is its emphasis on community ownership and management (COM), which entails effective community participation in the planning, implementation and management of the water and sanitation facilities in the belief that, as custodians, communities will ensure the sustainability of these systems... Another important aspect of the NCWSP is to maximise health benefits by integrating water, sanitation and hygiene education/ promotion (including hand washing) interventions" (GoG, 2007).

3.4 WATER SECTOR INSTITUTIONAL FRAMEWORK

The water and sanitation sector comprises four distinct areas with different institutional and financial arrangements. These areas are rural water and sanitation; urban water; sanitation; and water resources.

Rural water and sanitation is the responsibility of the Community Water and Sanitation Agency (CWSA) under the Ministry for Water Resources, Works and Housing (MWRWH). Urban water is managed by Ghana Water Corporation Ltd (GWCL). Sanitation falls under the Environmental Health and Sanitation Directorate (EHSD) of the Ministry for Local Government and Rural Development (MLGRD). Water resources are the responsibility of the Water Resources Commission under the MWRWH. The institutional framework is outlined in more detail below.

The **Ministry of Water Resources, Works and Housing (MWRWH)** is the main government organisation that is responsible for the formulation of policies and strategies for the water sector as well as resource mobilisation, coordination of budgets, monitoring and evaluation and facilitating inter-sectoral and sub-sector coordination. The **Water Directorate (WD)** was established in 2004 as a division within the MWRWH to coordinate, monitor and evaluate all the activities of key sector institutions operating under the auspices of MWRWH. It was only given a dedicated budget line in 2007/8 and has to date functioned with only three regular staff members. Since the GoG did not provide the necessary resources for the Directorate, Danida-funded consultants undertook direct managerial responsibilities. Thus instead of developing the capacity of the Directorate, capacity substitution took place without addressing the sustainability of the Directorate.

The **Ministry of Local Government and Rural Development (MLGRD)** is the main actor responsible for overseeing local government in the form of **Metropolitan, Municipal and District Assemblies (MMDAs)**. The MLGRD is also responsible for environmental sanitation including sewerage, and solid and liquid waste management.

The main body responsible for broad national policy formulation on which ministries, departments and agencies formulate their sectoral policies is the **National Development Planning Commission (NDPC)**. The NDPC is responsible for coordinating all national development plans. It is mandated by the National Development Planning Commission Act (1994) (Act 479) to provide the framework and direction for national development planning and implementation. With this mandate, it provides guidelines for the preparation of district development plans to ensure that each district plan is consistent with the overall policies and strategies of national development plans.

Originally the **Ghana Water Company Limited (GWCL)** was known as the Ghana Water and Sewerage Company (GWSC) and was a single agency responsible for water and sanitation nation-wide. GWSC made a distinction between rural and urban consumers, with rural being defined as populations of less than 5,000. In order to better serve the rural communities, the GWSC created a department called the Community Water and Sanitation Department (CWSD). Due to changes in the late 1990s and the launch of the 1994 National Community Water and Sanitation Programme (NCWSP), the CWSD was established as an independent government agency called the Community Water and Sanitation Agency (CWSA) with a focus on rural water and sanitation services (see below).

GWSC was also reformed and became Ghana Water Company Ltd with a focus on urban water supply. GWCL operates in all 10 regions of Ghana and is currently responsible for the provision, distribution and conservation of water for domestic, public and industrial purposes in about 80 large and medium-sized towns. In line with the government's private sector participation (PSP) plan in urban water delivery, GWCL contracted out the operation and maintenance of their systems to **Aqua Vitens Rand Ltd (AVRL)** in 2006. AVRL is a South African/Dutch private company and operates under a management contract with GWCL to manage the production and distribution of water for urban areas. The ownership of the assets remains with GWCL.

The Community Water and Sanitation Agency (CWSA) has its headquarters in Accra, and regional offices in each of the 10 regions, each with a **Regional Water and Sanitation Team (RWST)** to provide support and technical assistance to the MMDAs. CWSA is responsible for 'rural' water: namely, water supply to scattered rural communities and small towns. The National Water Policy (NWP), (Government of Ghana, 2007) defines a small town as "a community that is not rural but is a small urban community, with a population between 2,000 and 30,000 that has been mandated by the relevant authority(ies) to manage its own water and sanitation systems". Thus the decision as to whether a small town is 'rural' or 'urban' has essentially become a political decision.

The confusion of mandates for small towns is not the only area where there is lack of clarity in terms of institutional responsibilities. The definition of peri-urban areas falls between the urban and rural definitions, thus creating a challenge for the sector, where many of these areas are similar to small towns, but are not formally defined as such. Many peri-urban areas are supposed to be served by GWCL but are not because the utility has not been able to extend its networks to them.

Partly as a result of these institutional gaps and partly as a result of generally slow progress in extending (particularly urban) water services, a number of other formal and informal actors have emerged to fill the demand, broadly referred to as **Small-Scale Providers (SSPs)**. SSPs include water tanker operators, small-scale independent producers and domestic vendors.

The official body set up to regulate the urban sector is the P**ublic Utilities Regulatory Commission (PURC),** an independent body established in 1997. PURC's mandate does not, however, run to the rural water sector. Here, the regulatory function is de-facto shared between CWSA and the MMDAs, even though this is not specified explicitly in policy or legislation.

The **Environmental Protection Agency** regulates and enforces environmental quality laws, including policies and regulations on water resources pollution. The **Water Resources Commission** regulates and manages the use of water resources and levies charges for water abstraction.

A number of **development partners (DPs)** are active in Ghana's water sector. These include multi-lateral agencies such as the European Union, World Bank, UNICEF, African Development Bank; and bi-lateral agencies such as Danida, CIDA, KfW, GTZ, and AFD. Most DPs are part of the **Development Partners Water and Sanitation Sector Group,** which discusses (with the Water Directorate) amongst other issues sector coordination, policy harmonisation and the sector-wide approach (SWAp).

Alongside the development partners are civil society organisations such as national and international non-governmental organisations (NGOs) including WaterAid, Plan International, World Vision International and Church of Christ. Most large NGOs are members of **CONIWAS, the National Secretariat for Coalition of NGOs in Water and Sanitation.** This is the body that brings all NGOs in the water and sanitation sector together under one umbrella in order to promote and strengthen their position in the sector.

The private sector refers to local and international firms such as contractors, consultants and suppliers. The size of private sector organisations varies from a single individual to small, medium and large firms. Usually the private sector is engaged on a competitive basis with defined contracts to perform functions such as:

- Project management,
- Training of District Assemblies, WATSAN committees and WSDB/DAs,
- Training of area mechanics, pump caretakers and water vendors,
- Supporting DAs with contracting,
- Supervising borehole drilling and the construction of small-town water supply systems,
- Managing small-town water supply systems, and
- Supplying specific goods and services for drinking water and sanitation projects.

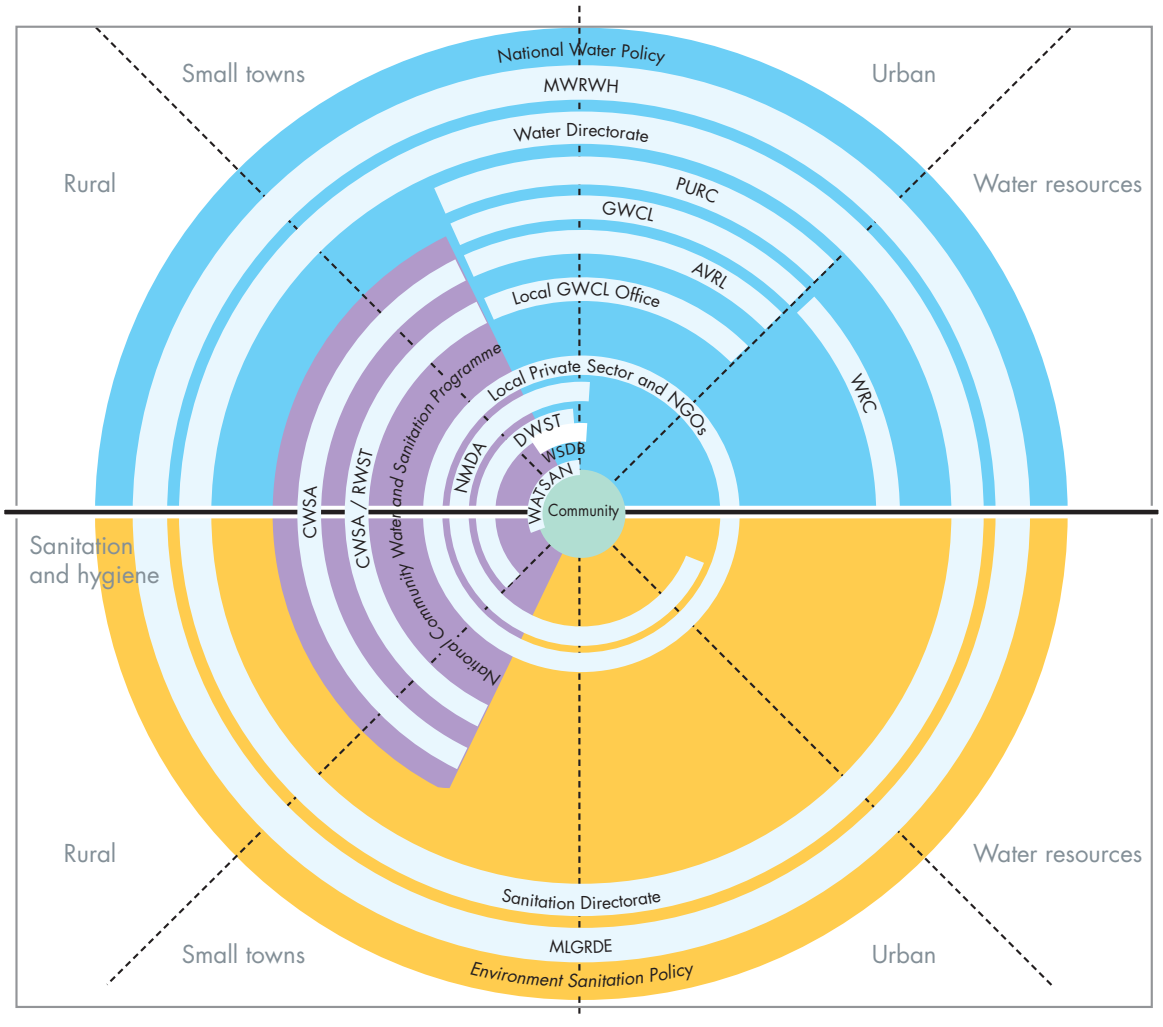
Regional Coordinating Councils (RCCs) have been established in each of the 10 regions. The RCCs' mandate is to monitor, coordinate and evaluate the performance of all the Metropolitan, Municipal and District Assemblies (MMDAs).

MMDAs exercise legislative and executive functions and are responsible for the overall development of the districts. Water is not expressly among the functions of the MMDAs, which may be one reason why it falls low on the list of MMDA priorities. However, since it is a key development issue, it falls within the scope of MMDAs responsibilities. The CWSA and MLGRD are expected to build the technical and management capacity of the MMDAs to enable them to implement water and sanitation programmes.

Within every District Assembly (DA) there is a **District Water and Sanitation Team (DWST)** which is a technical unit to support the delivery of water and sanitation services. In small towns where water is supplied via a piped system to standposts the District Assembly delegates the responsibility for the management of the water supply systems to the **Water and Sanitation Development Boards (WSDBs).** WSDBs are elected bodies within their constituencies who manage the water systems on behalf of the DA. They can be dissolved following changes in political power at the national and DA levels. As a consequence there tends to be conflict between WSDBs and DAs when such power changes take place. **Water and Sanitation Committees (WATSAN)** are committees set up around one point source, such as a handpump. They set water user fees/tariffs (in consultation with the community and with the final approval from the DA), maintain accounts, and manage day-to-day operations of the water points. The WATSANs contract an **area mechanic,** who is usually a trained local to make minor repairs when necessary, and a **pump caretaker,** also a trained local, to undertake day-to-day operations and maintenance of the handpump and collection of tariffs.

An overview of the main stakeholders in the Ghana WASH sector is given in the figure below.

FIGURE 3: INSTITUTIONAL MAP SHOWING HOW THE WATER AND SANITATION SUB-SECTORS ARE SEPARATED WITH THEIR OWN POLICIES AND ORGANISATIONAL ARRANGEMENTS



Source: Adank, 2009

3.5 FINANCING THE RURAL WATER SECTOR

3.5.1 Capital investment

Capital investment in the rural water sector is primarily from donors (approximately 99% of the total investment). The leading donors in the rural sub-sector are the International Development Association (World Bank), Danida, CIDA, the Government of Germany (KfW and GTZ) and the European Union (EU).

TABLE 2: RURAL WATER SUPPLY & SANITATION INVESTMENTS (1990–2008)

DONOR	USD	% Contribution
AFD	52,852,000	10.6%
AfDB	19,770,000	4.0%
CIDA	62,061,864	12.4%
Danida	121,800,000	24.4%
DFID	2,758,445	0.6%
EU	60,937,000	12.2%
IDA	97,710,000	19.6%
JICA	31,400,000	6.3%
KfW	44,265,000	8.9%
UNICEF	5,620,000	1.1%
GoG	4,038,092	0.8%
	499,174,309	

Source: MAPLE Consult and WSMP study, 2010.

The leading donors in the urban sub-sector are largely the World Bank, the Government of the Netherlands and the African Development Bank (AfDB). The major NGOs in the sector include World Vision International (WVI), WaterAid Ghana, Plan International and Church of Christ.

In the rural sub-sector, the key donors from 2001 to 2008 were Danida, who contributed almost US$122 million (24.4%), IDA, US$97.7 million (19.6%), CIDA (12.4%), EU (12.2%), AFD (10.6%), and KfW (8.9%). See Table 2 for details. Government's contribution to capital investment in the sector is negligible, although as some of the financing from donors is (normally soft) loan based, this is arguably also a government contribution.

3.5.2 Operational costs

The 2009 water and sanitation sector review conducted by MAPLE Consult for WaterAid Ghana (Maple Consult, 2009), found that the government's allocation to the sector between 2001 and 2006 was 3.61% of the national budget. This allocation is primarily for salaries and some operating costs. Information about how the sector is financed beyond capital costs requires further research and analysis.

Ahead of the 2011 budget preparation, the GoG committed itself through the Sanitation Water for All Compact to provide GHC350 million on an annual basis to accelerate the provision of Sanitation and Water for All. However, only GHC119 million can be traced for investment under MLGRD and about GHC 7.00 million under MWRWH according to GoG budget. This is nowhere near the budgetary commitment announced by GoG on several occasions in 2010.

4 GHANA'S SERVICE DELIVERY MODELS

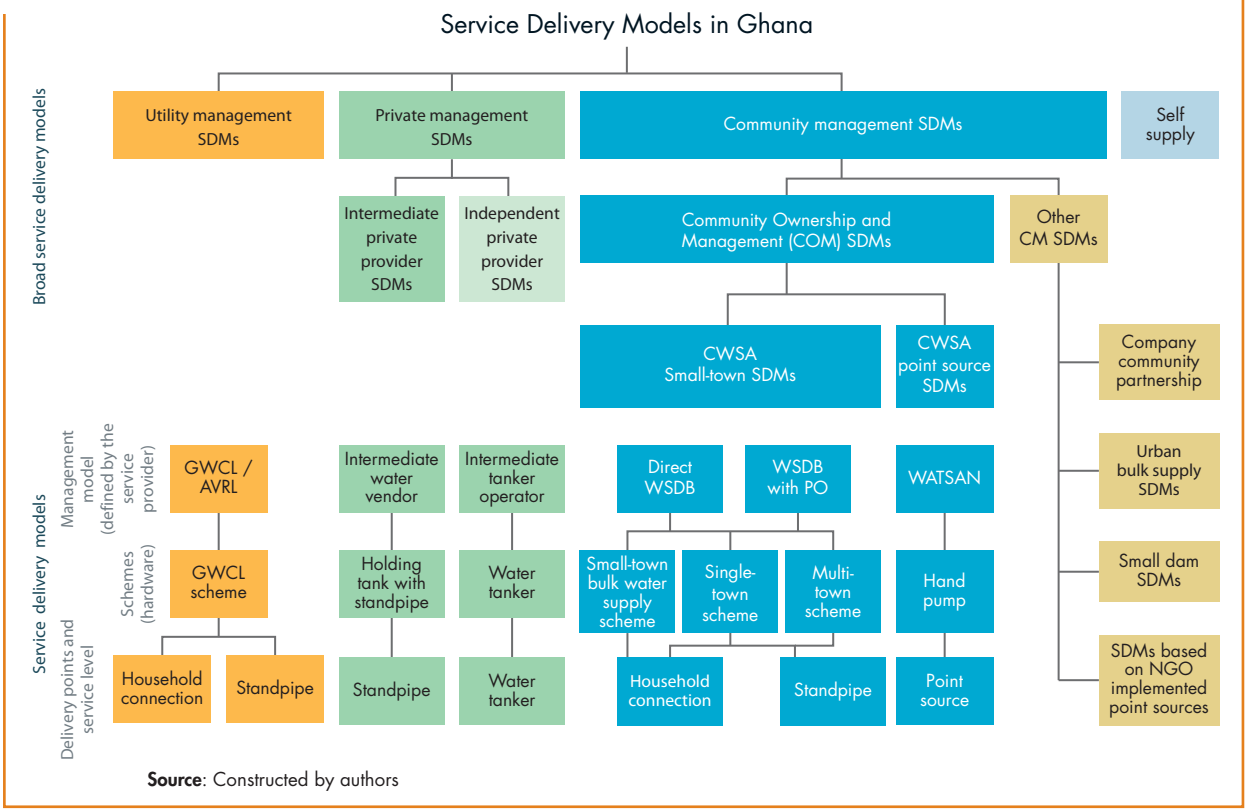
For the purposes of this study a service delivery model (SDM) is an agreed description of a type or level of service, the system providing the service and the management model including the functions and legal instruments necessary for the SDM to function. Although not described as such in Ghana, it is possible to start identifying a number of different service delivery models that are emerging or currently operating in Ghana. The diagram below gives an overview of these.

Each combination of management model, system (infrastructure/hardware) and service level, displayed in the diagram below (Figure 4), represents an identifiable service delivery model. As illustrated in the diagram, there are four broad groups of SDMs at the highest level of aggregation. These include:

- The utility model,
- Small-scale private models,
- Community management models,
- Self-supply model.

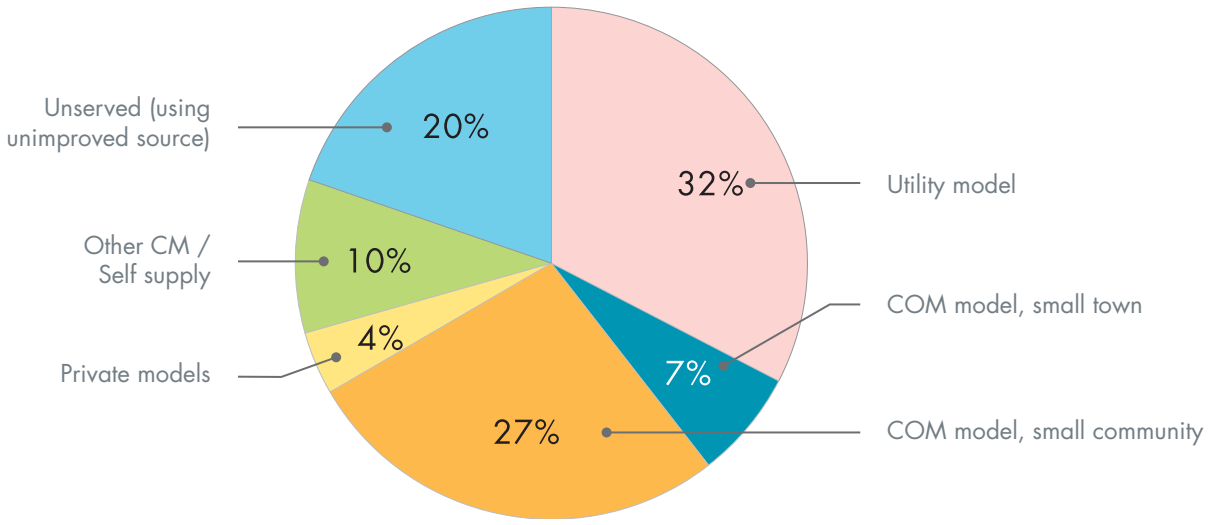
Under the community management models, the community ownership and management model (COM) is the most prominent one. The COM model and the utility model are what can be described as the 'formal' or 'officially recognised' models. Figure 5 shows that

FIGURE 4: OVERVIEW OF SERVICE DELIVERY MODELS (SDMs) IN GHANA



Source: Constructed by authors

FIGURE 5: ESTIMATED PROPORTION OF PEOPLE SERVED UNDER DIFFERENT SERVICE DELIVERY MODELS



Source: Constructed by authors

these two models serve the majority of the population of Ghana. It illustrates the estimated portion of the population served under different service delivery models.

Because of the lack of reliable data on the number of people served under different service delivery models, the graph above presents a rough estimation of the proportion of people served by different models, based on user data from Ghana Statistical Services (GSS, 2008) and projected served population from CWSA (CWSA, 2007). Annex C gives details of how this estimation was arrived at.

As shown in the diagram and graph, in addition to the COM and the utility model, there are other (emerging) forms of community management, such as self supply and small-scale private-sector supply models. However, these are currently informal models. Each of the service delivery models is briefly described below.

4.1 MODEL 1: COMMUNITY MANAGEMENT MODELS

There are a number of community management service delivery models in Ghana. However, the main community management model in Ghana is the community ownership and management (COM) model, which is applied in the National Community Water and Sanitation Programme. The other emerging community management models include NGO-implemented point sources, community arrangements to operate small dams, company-community partnerships like WaterHealth Ghana and community-based urban water boards. The extent to which these emerging models contribute to providing water supply services to the people of Ghana is however very limited. This section therefore focuses primarily on the community ownership and management model, as applied under the National Community Water and Sanitation Programme, under CWSA.

The COM model is officially the national norm for rural water supplies. COM is based on communities forming community-based management committees or boards (WSDB) to oversee the operation, maintenance and management of the water service. Thus the service provider function is fulfilled by 'the community'. However, within this model the Metropolitan, Municipal and District Assembly (MMDA) retains formal ownership of assets. According to the model, by-laws for the establishment and operations of WSDBs (MLGRD, 2008b), a WSDB gets its legal mandate from the MMDA who vests the authority for operation and maintenance of the water systems in the WSDB. The MMDA has the power to dissolve the WSDB through a resolution following consultation with the community.

Two variations of the COM model can be identified in the CWSA guidelines (2010), namely small-town water supply, and small-communities water supply.

Small-town water supply serves a threshold population range of 2,000 to 50,000, and generally takes place through small-town piped schemes with mechanised boreholes, surface water treatment or protected springs. The service level is either basic point-source or (in a minority of cases in small towns) household connections.

Small-community water supply serves communities with populations between 75 and 2,000 (CWSA,

2010) and generally takes place through point sources (boreholes and hand-dug wells with manually operated pumps).

Community-managed water systems typically rely on groundwater sources and non-conventional treatment systems.

Under COM it is the formal responsibility of MMDAs (as owner) to provide support services to the community management body in the form of both managerial and technical backstopping, and this is a main function of the District Water and Sanitation Teams (DWSTs). According to the CWSA Sector Guidelines (CWSA, 2010a), the CWSA acts as the facilitator and regulator, providing guidelines and setting standards, and providing back-up professional support to MMDAs. In practice, however, the direct support role to the community is often fulfilled by or shared with CWSA.

Support services to ensure that the model works, include trained **area mechanics** and the establishment of **spare parts networks.** The area mechanics are trained as pump mechanics and are also known as ''bicycle and motorbike mechanics''. In addition, a network of spare parts distribution has been established to stock spare parts. The network includes a central warehouse at Tema with depots in Accra, Kumasi, Takoradi and Tamale and regional outlets in all the other regional capitals in the country (TREND and IRC, 2005). This form of post-construction support mainly serves point sources, rather than small-town systems.

The COM delivery model has been implemented across all the regions of Ghana with the support of various donors. Donor support has taken the form of projects that provide new infrastructure, some training and the establishment of community structures.

Different management models under COM

A number of different management models are discernable under COM. The choice of the management model appears to result from a number of factors, including:

- The complexity of the water supply system,
- The quantity of water being produced/ number of people served,
- The availability of private firms to provide the relevant services required,
- The socio-economic status and heterogeneity of the community, and
- The interest and commitment of the community towards operational management of the system.

Three main management models are being applied under COM:

- WATSAN management,
- Direct WSDB management (with various degrees of outside support from the private sector), and
- WSDB management with private operator.

These management models are briefly described below.

4.1.1 WATSAN management model

WATSAN committees are most strongly associated with water supply in small rural communities. WATSANs consist of five to nine members and should be gender balanced (CWSA, 2010b). They generally manage point sources such as standposts, hand-dug wells, boreholes fitted with pumps, and mechanised boreholes with holding tanks for settlements with a population between 75 and 2,000. In a small-town or multi-village setting, where a number of standposts are sited within a particular section of town (or village in a multi-village scheme), these may also be managed by a WATSAN committee. In this case, members of the different WATSAN committees usually constitute the WSDB. In cases where the pay-as-you-fetch system is practised, a vendor is appointed by the WATSAN committee to collect money at the water point and is paid commission on sales made. The collected money is lodged with the treasurer of the WATSAN in the committee's account. Community members, through community meetings, have a say in determining tariff levels, changes to the composition of the committee and the way in which the system should generally be managed.

4.1.2 Direct WSDB management

Water and Sanitation Development Boards (WSDB) is the standard model used for most small-town water systems facilitated by CWSA with populations between 2,000 and 10,000, with either only standposts, or a combination of standposts and household connections.

The WSDB and its technical staff operate and maintain the water supply system, including a trained manager, operator, and financial/administrative staff. The employees are paid by the WSDB through revenue generated from the operation of the system. Technical staff consists of trained managers, operators, and financial administrators who carry out daily operation and maintenance activities.

There are three options for WSDBs to access technical support:

- Option 1: Skilled artisans, such as plumbers, electricians, and mechanics from within the community whose services are procured against a retainer. This is the preferred model for communities with a population of 2,000–5,000.
- Option 2: A certified/reputable firm is contracted on an ad hoc basis to carry out specialised technical, financial or administrative functions as and when needed. Such functions may include the preparation of financial reports, internal auditing or some aspects of planned maintenance. This model can be used for communities with a population of 5,000–10,000.
- Option 3: A firm or firms are contracted by the WSDB to perform specialised technical, financial or administrative functions on a periodic basis. Such functions include the preparation of financial reports, internal auditing or routine/preventive maintenance. This is the preferred model for communities with a population of 5000–10,000.

4.1.3 WSDB management with a management contract

This model is increasingly recognised and promoted for the management of systems classified as 'complex', where the system serves populations of more than 10,000 people. This management option involves the WSDB having a contract with a private operator for management of the system, to completely operate and maintain the water supply system including meter reading, billing and revenue collection, for an agreed fee, while the WSDB maintains governance responsibilities and responsibilities for hygiene and sanitation promotion. Currently, there are only a few systems in Ghana under this management model.

The table below gives an overview of the different management models applied under COM.

4.1.4 Other community management models

Point sources implemented by NGOs: In addition to point sources implemented under the National Community Water and Sanitation Programme (which are managed by communities with support from the MMDAs and CWSA), many point sources have been implemented under (I)NGO initiatives using community management, especially in the three northern regions of the country. The service level, management models and systems are not necessarily the same as the standards set by CWSA.

Urban water board: In the last few years, there has been growing interest in models of water supply in poor peri-urban areas that follow some form of community management and distribution of utility provided bulk water. The urban water board model is an example. However, this model is fairly new and not well developed yet (Tuffour and Adank, 2010). Under this model, the ownership, management and operation of the bulk water supply are in the hands of a utility. Reticulation of the water is in the hands of a community structure/institution, such as a community-

TABLE 3: OVERVIEW OF COMMUNITY OWNERSHIP AND MANAGEMENT (COM) MODELS

COM management model	Degrees of outside support	Population size	System
WATSAN committee	• Supported by area mechanic.	<2000	Point source
Direct WSDB management	• Supported by skilled artisans from within the community, whose services may be procured when necessary on a retainer basis ("option 1" in the CWSA Small Towns O&M guidelines).	2,000–5,000	Non-mechanised systems (e.g. gravity water schemes)
	• Supported by certified/reputable firm to carry out specialised functions as and when needed ("option 2" in the CWSA Small Towns O&M guidelines). • Supported by a contract with a firm or firms to perform specialised functions on a periodic basis ("option 3" in the CWSA Small Towns O&M guidelines).	5,001–10,000	Simple boreholes, gravity or slow sand filtration based piped systems
WSDB with a management contract	• Supported by a management contract with a private operator to completely operate and maintain the water supply system ("option 4" in the CWSA Small Towns O&M guidelines).	> 10,000	Communities served with complex Water Supply Systems

based water board or water user group. The operation of the water selling points is often in the hands of private persons. The role of the community under this model is predominantly to facilitate the initial stages of project implementation, with respect to community mobilisation, site selection and selection of vendors. With support from the project implementers, the community is also responsible for constituting a community-based water board or water user group/s, which act on behalf of the community (Tuffour and Adank, 2010).

Company/community partnership: An interesting and recent example of an organisation operating as a small-scale independent provider in partnership with the community is WaterHealth International[3], which has implemented six WaterHealth Centres (WHC) in Ghana (five in Ga West District in Greater Accra Region and one in South Dayi in Volta Region). The water supply system under this model is a decentralised micro-utility that purifies and disinfects water for household needs. The model is called a WaterHealth Centre and consists of a community structure with support from WaterHealth International which operates as the support provider. The support provider manages the collection and accounting of the user fees and trains local residents in the routine operation and care of the WaterHealth Centre. The tariff level, which is currently GHC5/m^3 under this model, takes into account cost recovery of operation and maintenance costs. According to an interview with a staff member of WaterHealth International, ownership is supposed to be with the communities rather than with the service provider. The service provider's role is to facilitate the implementation of the facility, support operation and maintenance, provide capacity building and ensure recovery of investment (loans). After an initial phase communities are fully in charge of the system. However, under current local government legislation (Act 462) it is unclear whether communities can legally own the system. Communities are assumed to take responsibility for rehabilitation and replacement, but this is also not well defined (Tuffour and Adank, 2010).

Community management of small dams: Especially in the north of Ghana, small dams play a role in the provision of water services, including water for domestic uses. These dams are generally managed by community-based water user groups. As these dams can be considered unimproved sources of water, they are not considered as a service delivery model in this report.

4.2 MODEL 2: UTILITY SERVICE DELIVERY MODEL

The utility service delivery model is the main service delivery model (SDM) for urban water supply in Ghana. This SDM consists of a parastatal utility assuming responsibility for the planning, construction, and overall operations and management, including finances of the water services to the population within its area of operation. This model is currently responsible for about 87 water systems, (mainly cities and medium-size towns) across the country. The water systems under this arrangement include surface water treatment plants and/or mechanised boreholes with overhead tanks and distribution networks. The types of connection provided include household connections, yard taps, and standpipes.

The tariff charged to people with a household connection or standpipe is GHC0.80/m^3, for monthly consumption of < 20 m^3 and GHC1.20/m^3 for consumption above 20 m^3 per month. A flat rate of GHC5.20 per month is charged for the many unmetered household connections (PURC tariffs, 2010—see http://www.ghana.watsan.net/page/767). This presumes a consumption of 6.5 m^3 per month (or about 210 litres per connection per day).

Ghana Water Corporation Ltd (GWCL) is responsible for overall planning, managing and implementation, while Aqua Vitens Rand Ltd (AVRL), the operator, is responsible for the production and distribution of water for domestic, public, industrial and commercial uses in the urban areas across all the 10 regions of Ghana. The obligations of the different parties are specified in a five-year management contract signed between AVRL and GWCL.

4.3 MODEL 3: SMALL-SCALE PRIVATE SERVICE PROVIDERS

There is an array of small-scale private service providers (SSPSPs) who have emerged spontaneously in response to unmet service needs. SSPSPs include tanker operators, independent providers and domestic vendors. They typically provide water to low-income areas. They access their supply through GWCL's network, which acts as an intermediate service provider, or from private boreholes. This type of service provision arrangement is mostly found in peri-urban areas.

[3] WaterHealth International is a health-centered US-based company with the primary purpose of developing and marketing proprietary, decentralised water purification systems and services.

Tanker operators

Tanker operators fulfil an important role in the supply chain of urban and peri-urban areas. Through a Memorandum of Understanding (MoU) with GWCL, tanker operators collect water from designated points for onward sale to domestic vendors, households and other consumers at an agreed price. The MoU stipulates hours of work and code of conduct, but in practice these are rarely enforced.

Domestic vendors

Domestic vendors are private individuals who operate standposts as a business and obtain their supply from either the GWCL/AVRL supply network or from tanker services. If their supply comes from GWCL/AVRL, the vendor pays a monthly tariff on their consumption based on commercial charges of GHC1.10/m^3. Vendors resell the water to informal settlements at a much higher rate than the utility rate. For example, in informal settlements in Accra the rate varies from GHC3/m^3 to as high as GHC11.5/m^3. (Van Roojen, et al., 2008). This variation in rate can be attributed to the lack of adequate regulation of water supply by domestic vendors.

Small-scale independent providers (SSIPs)

SSIPs include an emerging group of providers who commission the drilling and mechanisation of boreholes and then supply water which is sold to their customers. This is being carried out in many cities and some small towns. Their activities, however, are not currently regulated and their legality is unclear (Tuffuor, 2010).

4.4 MODEL 4: SELF-SUPPLY MODELS

Self supply, as it currently exists in Ghana, simply represents the reaction of individuals to the lack of formal water services. The technology used ranges from open hand-dug wells to mechanised boreholes with overhead tanks and limited sewer connections for household use. Groundwater is the main source of water. The self-supply model has evolved as a response to the inadequate, and in some cases non-existence, of water services by the formal delivery system to some sections of the urban and peri-urban populations, and in some small-town communities, especially in newly developed areas. As it is an emerging model, not much evidence-based information exists on the service levels. It has not been promoted much or supported by way of policy, standardisation and level of service. Rainwater harvesting, mainly a supplement, is also a common method of self supply, mostly in the peri-urban, small-town and rural areas.

5 ANALYSIS OF THE COMMUNITY MANAGEMENT MODEL

This chapter analyses the strengths and weaknesses of the community ownership and management service delivery model (COM SDM), being the dominant formal model for providing water services in rural areas. Three variations of the COM SDM are analysed in terms of their ability to provide the desired level of services. The first two models account for the vast majority of rural water services in Ghana, whilst the third model is a new approach in some of the more difficult-to-serve locations:

- COM in small communities, generally found in dispersed rural settings,
- COM in small-towns, and
- COM in multi-village schemes.

The analysis of these models is based on the 19-point Analytical Framework mentioned in Chapter 2. Each model is described in terms of:

- the level of service it is intended to deliver,
- the physical hardware,
- the governance system used to deliver the service,
- the service life cycle, and
- monitoring mechanisms.

The emphasis of the analysis is to differentiate between the 'theory' of how a service should be provided and the actual 'practice' of service delivery under the model, so as to analyse successes and failures.

Figure 6 provides an explanation of each of the elements against which a model is analysed.

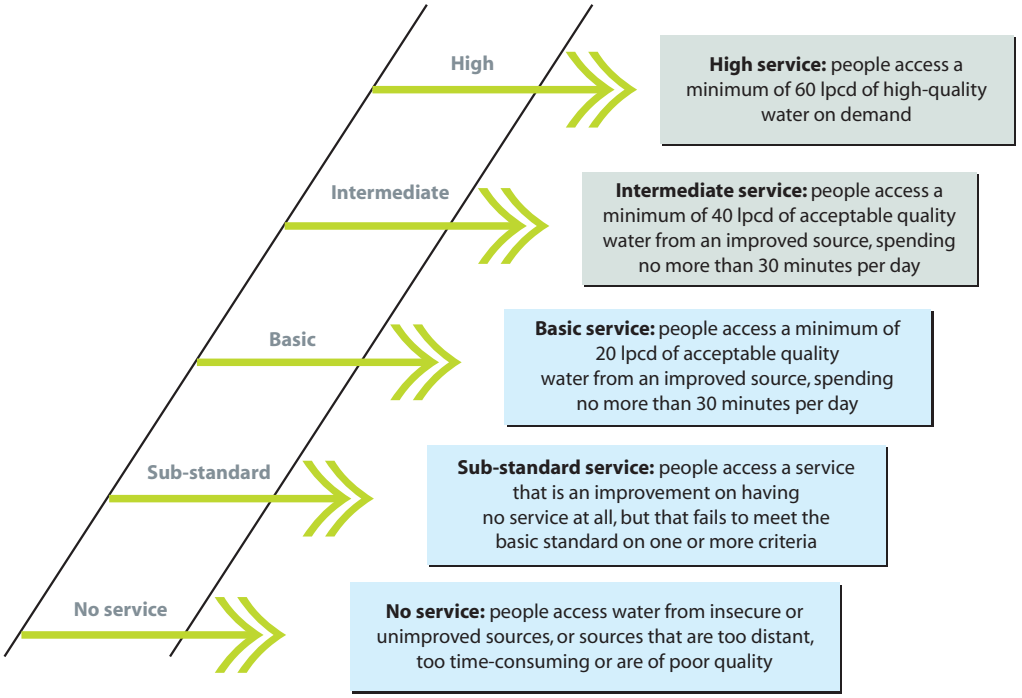
5.1 SDM 1: COM IN SMALL COMMUNITIES (RURAL POINT SOURCES)

This model, generally found in dispersed rural settings, is facilitated by CWSA and is based on the Project Operational Manual (POM) of CWSA, the Small Community Sector Policy, and CWSA's Operation and Maintenance Guidelines and Design Guidelines.

5.1.1 Assessing the service delivery model

Ghana's rural water supply coverage has increased dramatically over the last 10 years, and much of this is due to rural point sources. However, there are real challenges both to ensuring the sustainability of the hardware that provides the service, and to ensuring that the service is really used and has the desired health outcomes. Anecdotal evidence suggests that many rural point sources are used only as secondary sources, once preferred traditional sources become unavailable. At the same time, breakdown rates are high and repairs (while often carried out eventually) are slow. Assumptions about communities' ability to maintain the service need to be re-examined, as do those about demand for a 'clean' water service as opposed to a reliable secondary source for times of shortage. Furthermore, the relationship between WATSANs and unit committees is not clearly defined, which often generates conflict.

FIGURE 6: LEVEL OF SERVICE



Source: Moriarty, et al., 2010

1. LEVEL OF SERVICE

Figure 6 presents different service levels.

The service levels are presented as one-word descriptions, based on the service delivery ladder concept as described by Moriarty et al., 2010. Service levels are described on a five-step ladder: no service, sub-standard, basic, intermediate, and high. These levels are in turn based on achievement of norms against a set of key indicators. A service level is assigned according to the value of the lowest indicator that is met (i.e. failure to meet the 'basic service' quantity norm of 20 lpcd will mean that the service will automatically be classed as 'sub-standard'):

- Quantity (meeting national norms for drinking water),
- Quality (meeting national or international norms for drinking water),
- Reliability (according to national norms),
- Accessibility (based on norms for distance and crowding),
- Status (an improved or unimproved source, according to Joint Monitoring Programme definitions), and
- Cost to users (tariff).

2. HARDWARE

A description of the physical infrastructure typically associated with the model.

3. GOVERNANCE

A description of the main governance arrangements included in the model, including an analysis of the following key areas of governance:

- Legal ownership (who is the legal owner of assets),
- Service authority functions, and
- Service delivery functions.

4. SERVICE LIFE CYCLE

Service failure is primarily linked to lack of attention to post-implementation service provision. In this section, the responsibilities for the main steps in the life cycle of a service are examined. The steps are:

- Planning (design, tender),
- Implementation (construction),
- Operations and minor maintenance,
- Major maintenance, and
- Rehabilitation and replacement.

5. MONITORING MECHANISMS

A description of the monitoring and reporting mechanisms under the model.

SDM 1: COM IN SMALL COMMUNITIES – RURAL POINT SOURCES

In theory	In practice
LEVEL OF SERVICE PROVIDED	
Quantity	
In theory: 20 lpcd	*In practice:* Consultations with sector practitioners revealed that, generally, per capita consumption of water may range from considerably below 20 litres to considerably above. Per capita consumption from the point sources varies considerably depending on issues such as distance, crowding, cost and the availability of alternative sources. In communities where there are culturally acceptable natural sources, people tend to depend less on the point sources, especially where the pay-as-you-fetch method of payment is applied. Per capita consumption is also affected by the season. In the dry season when natural sources tend to dry up, dependence on the point sources for water increases, leading to higher per capita consumption of the point sources.
Quality	
In theory: Water quality meets the Ghana Standards Board (GSB) criteria for drinking water. As much as possible, no treatment system is required for groundwater. Where necessary, simple iron (Fe) and manganese (Mn) removal systems, e.g., Mwacafe Plants (iron and manganese removal plant, which can be added to a borehole), may be provided. Such systems shall have minimal operation and maintenance requirements.	*In practice:* No tests are undertaken after installation unless something unusual about the water quality is noticed.
Reliability	
In theory: Virtually uninterrupted service (at least 95% of the time).	*In practice:* Rural point sources are plagued by breakdown. Pumps can go unrepaired for weeks, months or even years.
Accessibility	
In theory: 500m from farthest fetching point and maximum of 300 people/borehole or 150/well.	*In practice:* Not easy to achieve in cases of scattered low-density rural settlements, or those with rapid population growth. Groundwater conditions have an influence. Mechanisation of the borehole with limited reticulation to the appropriate standpoint can increase accessibility.
Status	
In theory: Improved source	*In practice:* Improved source
Overall service level	
In theory: Basic	*In practice:* Where there are no alternatives it is clear that point sources can and do provide people with a basic service. This said, it is clear that in areas where alternatives exist, communities often use alternative sources which may be cheaper, more convenient or simply taste better. Given the public-health objectives of providing rural point sources, this finding poses serious questions as to the current model – particularly in terms of using the pay-as-you-fetch mechanisms for cost recovery.

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SDM 1: COM IN SMALL COMMUNITIES – RURAL POINT SOURCES

In theory	In practice
Tariffs	
In theory: WATSANs are trained to set tariffs in accordance with CWSA-approved tariff setting guidelines. DAs review and approve all tariffs with facilitation from the RWST. Any reduction in expected tariff revenue as a result of an action by the DA, e.g., reduced tariff, etc., requires the DA to pay the difference in revenue into the WATSAN account. The CWSA in collaboration with the RCC is responsible for ensuring compliance. Communities are required to meet the full cost of normal operation and maintenance and minor repairs through tariffs.	*In practice:* Even though the pay-as-you-fetch tariff system is preferred, communities choose the option that best suits their situation and circumstances.
HARDWARE	
Groundwater is the preferred option, accessed using boreholes and hand-dug wells with handpumps.	If groundwater is not possible, surface water sources are considered with treatment systems.
Four main pumps are recommended for point sources in Ghana: Nira (AF-85 and AF-85D), Afridev, Vegnet and Ghana Modified India Mark II (CWSA 2010b).	These recommendations are generally respected by CWSA/DP projects, but can be ignored by NGOs.
GOVERNANCE	
The model is based on demand-driven principles and beneficiaries must meet the criteria set out in the Small Communities Sector Policy. A community-based group (WATSAN committee) is set up to operate and maintain the system on behalf of the DA, the legal owner. The DWST is supposed to provide technical support to the WATSANs. The WATSANs are trained and equipped with tools to undertake their mandate.	WATSANs are generally set up and trained, but they receive little follow-up training and technical support from the DWST.
Ownership	
In theory: DAs have legal ownership of all water facilities within their jurisdictions and are responsible for ensuring the proper functioning of water systems to deliver the required service.	*In practice:* Not all DAs (or all water sector actors) are aware that DAs are the legal owners. DAs seem to seldom be aware of the responsibilities (for example to long-term maintenance) that come with their legal ownership of assets.
Service authority functions	
In theory: DAs delegate service delivery responsibility to WATSANs, who they then oversee and backstop with technical support. DAs together with CWSA monitor the performance of the WATSAN and of the water supply system.	*In practice:* DAs have not demonstrated adequate capacity to assume full responsibility that goes with legal ownership. The capacity of the DWST to either monitor or render sustainable support to the WSDBs is still an issue. DWSTs generally lack adequate resources and sometimes technical ability (resulting from staff transfers and lack of follow-up capacity building after project implementation period and partly due to lack of support from the DA). In their study on post-construction management support in rural water supply, Komives, et al. (2009) reported 20 to 30% of villages having received technical training, financial training and management from the DWSTs during the post construction period. *"The DWSTs visit WATSAN committees on request, and help communities to find spare parts if asked to do so. They also visit some communities on their own initiative to check on conditions and organize training sessions on topics they consider relevant. The financial resources available to the DWSTs to carry out these functions are limited and vary across districts. How much attention a village receives from a DWST depends both on how proactive the village is in requesting assistance and on the resources and priorities of the district-level team".* (Komives, et al., 2009)

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SDM 1: COM IN SMALL COMMUNITIES – RURAL POINT SOURCES

In theory	In practice
Service delivery functions	
In theory: WATSANs are responsible for most service delivery functions, particularly the day-to-day operation and management of the service. Caretakers shall be employed by WATSANs for routine operation and maintenance (CWSA, 2010b). The DA/DWST only become involved when there is a problem that the community leadership can't solve. The DWST's responsibility is to provide technical support to the WATSANs and help link them to area mechanics and spare parts outlets. WATSANs identify and appoint vendors to manage the pumps. Some get a commission on what they collect, others get a reward in kind, e.g. free water.	*In practice:* WATSANs technically operate on behalf of the DA, however in practice, it is seen more as a community issue (unlike the WSDBs). WATSANs operate independently from unit committees (a statutory sub-district bodies at community level). In cases where WATSANs have been able to raise funds through tariffs, there has been conflict over the use of the funds. There are instances of conflict between the unit committee and the WATSANs over who should have authority of the system.
SERVICE DELIVERY LIFE CYCLE	
Planning	
In theory: Planning for service delivery is the responsibility of the DA. Every DA is required to prepare a medium-term plan and sector plans based on this, including a district water and sanitation plan (DWSP).While DAs fund the preparation of the medium-term plans with a directive from the National Development Planning Commission, preparation of DWSPs are supposed to be supported through the facilitation of CWSA.	*In practice:* As for small towns, DAs have not made a lot of progress with mobilising resources. Most of the funding for water delivery has been donor driven through CWSA. Within a region, beneficiary DAs are identified based on need and demand by CWSA. CWSA then helps the DAs to select beneficiary communities, again based on need and demand (including ability to contribute to capital cost contribution).
Minor maintenance	
In theory: Responsibility for minor maintenance lies with the beneficiary communities through the WATSAN. Two members of the committee are trained to handle routine maintenance. It is part of the DA's monitoring responsibility to ensure this. WATSANs rely on area mechanics for periodic maintenance of handpumps, which includes general inspection, replacement of fast wearing parts and performing minor repairs. Area mechanics are paid for their services from water sales revenue.	*In practice:* Spare parts are not available at community or district level. Area mechanics have to travel to regional capitals or cities. Also, many area mechanics relocate and are difficult to find. As a result, even very minor maintenance can become too difficult for the community to undertake by themselves.
Major maintenance	
In theory: WATSANs, on behalf of the community, are responsible for ensuring that major maintenance is done through local revenue generation. Major repairs outside the technical and financial capability of the communities are to be undertaken with the assistance of the MMDA. This includes borehole flushing and redevelopment (CWSA, 2010b).	*In practice:* Revenue generation is a challenge as some communities do not implement an effective tariff. As a result, when the system breaks, it is left until funds are found from within or outside the community. The repairs often take weeks or even months to take place. Many communities receive external support to fix their system on an ad hoc basis. Some villages receive grants to fund repairs or new boreholes through members of Parliament, ethnic organisations, or private companies active in the villages. Others have enjoyed free handpump repairs provided by the Church of Latter Day Saints or other NGOs. Also, though contrary to post-construction support protocol in Ghana, DWST officials and area mechanics have sometimes repaired handpumps free of charge.
Rehabilitation and replacement	
In theory: Borehole rehabilitation outside the technical and financial capability of the communities should be undertaken with the assistance of the MMDA (CWSA, 2010b).	*In practice:* WATSANs are completely unable to undertake major repairs such as borehole rehabilitation, and many systems stop working despite the fact that a handpump typically represents less than 10% of the total costs of providing a borehole-based water supply.

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SDM 1: COM IN SMALL COMMUNITIES – RURAL POINT SOURCES	
In theory	**In practice**
MONITORING MECHANISMS	
In theory: DAs, through the DWSTs, are charged with the overall responsibility. They are mandated to conduct quarterly audits to help streamline financial operations. The CWSA small community guidelines mention that the DWD/DWSTs should monitor the O&M of the water systems in all small communities in their districts. In addition, DiMES (district monitoring and evaluation system) has been put in place to serve as a management tool to capture, store and report information on water and sanitation activities as well as to monitor water and sanitation projects for the rural and small-towns sector. It is also supposed to inform strategic planning of water related investments in the districts (CWSA, 2010b).	*In practice:* Where monitoring is done it is not routine due to lack of resources. The DiMES is not fully implemented and operational yet. Monitoring may occur where systems are located along the route of an ongoing project but objectives are not captured and outcomes not documented. Projects, like the GTZ-supported EVORAP (Eastern and Volta Regions Assistance Project) and the CIDA-supported DISCAP (District Capacity Building Project) showed more emphasis on the post-implementation monitoring.

Priority challenges to address to allow SDM to become scalable and sustainable

- District Assemblies need to increase the priority to water and provide more operational funding to District Water and Sanitation Teams (DWSTs). Simple point source systems are an area where DWSTs can play a real and useful role, but only if they have funds to visit the field and to access spare parts.
- Monitoring and financial oversight arrangements need to be improved to ensure that WATSANs are functioning effectively. Where communities are expected to put aside money for larger maintenance, appropriate financial mechanisms need to be identified.
- The relationship between WATSANs and unit committees should be clarified.
- Capacity building of WATSANs needs to be institutionalised and provided (and updated) on a continuous basis, for example through annual regional training.
- Legal backing is needed for the enforcement of CWSA regulations.

5.2 SDM 2: COM FOR SMALL-TOWN WATER SUPPLY

This model is facilitated by CWSA. It is based on the Project Operational Manual (POM) (CWSA, 2000) by-laws for the operation of WSDBs (MLGRD, 2008b) and Small Towns Sector Policy (CWSA, 2010) including Operation and Maintenance Guidelines, (CWSA, 2010c) and Design Guidelines (CWSA, 2010d).

SDM 2: COM – SMALL-TOWN WATER SUPPLY

In theory	In practice
LEVEL OF SERVICE PROVIDED	
Quantity	
In theory: 20 lpcd for standpipes, 60 lpcd for household connections[4]	*In practice:* Reports of less than 16 lpcd for standpipes but also of considerably more for both standpipes and household connections (Tuffuor, 2010).
Quality	
In theory: Water should meet Ghana Standards Board norms. CWSA recommends a test twice a year.	*In practice:* An assessment of WSDB performance in the Central Region in June 2008 (CWSA, 2008) showed that very few systems have conducted water quality checks. However, an evaluation by the District Capacity Building Project DISCAP[5] found that in supported towns tests were taking place, suggesting that external support may be required to maintain testing.
Reliability	
In theory: Uninterrupted service all year round, at least for 95% of the time.	*In practice:* Indications of unsatisfactory performance in most cases, particularly as the infrastructure ages and maintenance becomes more demanding, due to weak O&M, weak WSDBs, poor power supplies, and lack of technical support.
Accessibility	
In theory: Within 500m for all (and within house for household connections); maximum crowding 300 people per standpipe (CWSA, 2010d)	*In practice:* As towns expand, standpipe implementation doesn't keep pace.
Status	
In theory: Improved	*In practice:* Improved
Service delivery overall	
In theory: Small-town water supply is intended to provide a basic service to all citizens, with the possibility for a proportion of the better off to access an intermediate level service.	*In practice:* Problems with quality, reliability and rapid growth mean that as systems age service levels drop. Little data exists, but it is clear that many inhabitants of small towns access a service that is, at best, sub-standard. That said, small towns still represent a bright spot on Ghana's service delivery landscape, and many inhabitants also experience service levels that are the envy of their urban counterparts.

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[4] This does not include the 10-20% physical losses and 10-20% commercial and industrial use that have to be included in the design as well, according to the design guidelines (CWSA, 2004/ 2010d).

[5] The District Capacity Building Project worked from 2000 to 2007 to strengthen the planning and management capacities of 34 district and three regional government institutions in northern Ghana, as well as six national ministries and agencies. The project was sponsored by the Canadian International Development Agency and Ghana's Ministry of Local Government, Rural Development and Environment. http://www.discap.org/ (accessed May 2010).

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SDM 2: COM – SMALL-TOWN WATER SUPPLY

Tariff	
In theory: Tariffs are set at the level of the system, and therefore vary between different towns. They are fixed at the start of operation of the system and are adjusted subsequently using a defined tariff review formula subject to approval by the DA. Standpipes operate on a pay-as-you-fetch basis while household connections are billed monthly. The components of the tariff should include the following: • All water production expenses, • All distribution expenses, • Routine maintenance and other contracts, • Repair work (by staff and private maintenance contracts), • Water quality monitoring at plant level, • Tariff collection expenses (vendors) (up to 20% of total tariff), • Replacement cost (20% of 1–6), • Rehabilitation and expansion (5% of 1–6) total, • Sanitation Fund (8% of 1–6), • Contingency (2% of total (1) – (6)). The portion of the tariff for major rehabilitation, expansion and replacement shall be invested to add value and safeguard against depreciation (CWSA, 2010c). The unit rate of tariff (in GHC/m^3) for household and non-commercial connections should be between 120 and 130% of the tariff charged for standpipe customers. That for small-scale commercial entities should be between 140 and 150% of the normal tariff charged for standpipe customers.	*In practice:* Tariffs generally range between slightly less than US$0.69 (GHC1.00) and slightly less than US$1.72 (GHC2.50) per cubic metre of water for domestic consumption (Tuffuor and Adank, 2010). Many DAs refuse to approve tariff reviews and this has contributed to poor financial performance of the systems.

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SDM 2: COM – SMALL-TOWN WATER SUPPLY

HARDWARE

As shown in Figure 7, the majority of small-town schemes (as indeed the majority of rural water supplies) rely on groundwater. A minority rely on springs and surface water and even less rely on bulk supply from GWCL.

FIGURE 7: SOURCES OF WATER FOR CWSA SMALL-TOWN SYSTEMS

Source: TPP project, 2010. See http://www.ghana.watsan.net/page/687

Groundwater

Water is pumped from mechanised boreholes to overhead tanks for redistribution through standpipes or household connections. There is generally no treatment of the water.

Springs and/or surface water

Raw water is treated to an acceptable quality (typically using slow sand filtration or small conventional treatment plant) before pumping it to the overhead tank for distribution. Spring catchment systems (examples of which can be found in Volta Region) are distributed by gravity without the need for pumping.

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SDM 2: COM – SMALL-TOWN WATER SUPPLY

GOVERNANCE	
WSDBs are expected to operate and maintain the system on behalf of the DA. Depending on the size of the scheme, WSDBs may work entirely with own employees, hire in external technical staff, or delegate day-to-day operations to a private operator (see Chapter 4). The DWSTs of the DAs provide support to WSDBs. And CWSA backstops DAs/DWSTs where necessary.	
Legal ownership	
As for rural point sources	
Service authority	
In theory: Service authority lies between CWSA and the MMDAs. CWSA is responsible for facilitating the national community water and sanitation programmes, and is the agency which reports on attainment of national coverage targets. MMDAs, as legal owners of water supply systems, have ultimate responsibility for the maintenance of the assets and provision of services to their constituents. Their roles and responsibilities include performance monitoring and evaluation of the services provided by the WSDBs, approval of tariff and annual budget and auditing (CWSA, 2010c).	*In practice:* MMDAs are almost universally ill-prepared to take on their responsibility either to provide oversight of WSDBs, or to backstop these technically or managerially. In practice there is a tendency to delegate this responsibility to CWSA (and to projects). Yet CWSA is not present at the district level and hence struggles to enforce oversight on WSDBs who are politically reliant on the MMDAs for their positions. And being largely dependent on project funds, CWSA's ability to provide post-construction support is extremely limited. Conflict resolution mechanisms are poorly defined and not effective because the DAs are often the cause of conflict. There is no mechanism for a higher authority with legal backing to intervene. It is believed that the current efforts by the CWSA to get a legislative instrument to back the enforcement of its regulations may help to address this.
Service delivery responsibility	
In theory: WSDBs have the (delegated) responsibility of service delivery. According to the model by-laws for guiding and legalising the set-up and operations of WSDBs (MLGRD, 2008), the DA vests the WSDB with the authority and jurisdiction over operation and maintenance of water systems. The Assembly, through resolution and in consultation with the community, maintains the power to dissolve the WSDB. The WSDB thus manages the system for and on behalf of the DA – and hence the community. Roles and responsibilities of the WSDBs include: minutes of board meeting; organising community meetings; correspondence and receipt and dispatching of letters; preparation of reports (administrative, financial and technical); supervision of employees; stock keeping of all materials and consumables; preparation and implementation of maintenance schedules; and contract management (CWSA, 2010c).WATSAN committees are responsible for community mobilisation, hygiene/sanitation promotion and management of standpipes, including revenue collection (CWSA, 2010c). Operations are either the direct responsibility of WSDB staff, or can be delegated to a contracted private company. While service delivery responsibility lies primarily with the WSDB, there are elements of backstopping and support that should come from the DA through the DWST.	*In practice:* The main challenge of WSDBs in exercising this role is lack of sustained capacity to address the challenges that are associated with water delivery over time. WSDBs are highly open to political pressure and interference. It is not at all uncommon for a change of party political power in the DA to result in a complete change of a WSDB – including technical staff. This has obvious negative implications for continuity and capacity development. Weak DWST capacity and low priority of water services at the post-implementation stage by DAs result in little or no effective backstopping. In some cases regional CWSA offices are able to provide ad hoc support.

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SDM 2: COM – SMALL-TOWN WATER SUPPLY	
SERVICE DELIVERY LIFE CYCLE	
Planning	
In theory: As for rural point sources	*In practice:* In most rural DAs planning capacity is weak. DWSPs are typically developed only where this is a requirement from projects. Some DAs have multiple DWSPs prepared for different donors. Within a region, beneficiary DAs are identified by CWSA based on need and demand. CWSA in turn helps the DAs to select beneficiary communities, also based on need and demand (including ability to contribute to capital cost contribution). Thus the system is, in practice, largely project driven from the regional level.
Implementation	
As for rural point sources	
Minor maintenance	
In theory: Responsibility for minor maintenance is with the beneficiary communities through the WSDB. In the case of direct management by the WSDBs, they are directly responsible. In the case of an O&M contract with a private operator, it is part of the operator's responsibility. It is part of the DA's monitoring responsibility to ensure that this is done. The maintenance works should be funded from the revenue realised from operations of the system.	*In practice:* Accessibility to parts, expertise and knowledge does not always readily exist at the local level. The current arrangement is that whenever there is a problem and the need for support, the affected WSDB through its DA goes to CWSA regional office for support. Maintenance work within the early years is not generally a problem because maintenance requirements may not be so great, financial management practices will still be adequate, and enthusiasm is high. Because of this, minor maintenance seems to be one area that is dealt with relatively effectively under the small-towns SDM.
Major maintenance	
In theory: Responsibility for major maintenance lies with the beneficiary communities through the WSDB, but in cases where there is an O&M contract with a private operator, it is part of the operator's responsibility. The model by-laws prescribe that at least 20% of the monthly net collected revenues should be deposited into a "capital account" to be used for major repairs, extension and replacement. The Assembly may allocate funds annually through its regular allocation to the capital fund. The District Coordinating Director should co-sign cheques drawn from this account (MLGRD, 2008b).	*In practice:* Major maintenance poses much more of a challenge than minor maintenance, and towns exist where service has completely broken down due to failures in major maintenance. Experience suggests that as systems age, maintenance requirements begin to increase while at the same time financial management practices begin to weaken and problems with bill recovery become a challenge. The WSDBs and DAs are unable to fully apply the tariff determination formula due to the perceived inability of the consumers to pay. This is very critical to the financial sustainability of the system.
Rehabilitation and replacement	
The DA is finally and formally responsible. The O&M arrangement states that every system or WSDB maintains a rehabilitation and replacement account (as one of three bank accounts that they are expected to open). As mentioned above, the WSDB by-laws suggest that at least 20% of the revenue should be deposited into a capital account, from which also rehabilitation and replacement should be paid.	*In practice:* WSDBs are not able to maintain their account due poor financial management practices which stem from weak monitoring by the DAs, or active misappropriation of funds by DAs. DAs therefore rely exclusively on external support to rehabilitate or replace a system when necessary.
MONITORING MECHANISMS	
As for rural point sources	

5.2.1 Assessing the service delivery model

In general, the small-towns service delivery model (SDM) is rather promising. It has had a major impact on raising rates of coverage in rural Ghana, and has brought an acceptable level of service with the potential for demand-responsive differentiation between different segments of the community. That said, it faces severe challenges, primarily related to maintaining the level of service as the hardware ages. In particular, poor financial management, political interference and lack of technical knowledge pose serious threats to many systems in the medium to long term.

Priority challenges for the small-towns SDM to become scalable and sustainable:

- Increase autonomy of WSDBs with respect to DAs and ensure their stability by addressing their legal status;
- Increase priority of water services at DA level, and ensure sufficient finances for system rehabilitation and upgrading;
- Clarify responsibility for technical backstopping between CWSA and DA/DWSTs: ensure that sufficient financing exists to provide this (or build into WSDB financial model);
- Strengthen the monitoring and oversight mechanisms to ensure greater accountability (of WSDBs to customers and DAs; of DAs to citizens and national government);
- Actively work to maintain technical and managerial capacity (of WSDBs and DWSTs) by systematising training and backstopping;
- Create more private sector capacity to be involved in O&M; and
- Legal backing for the enforcement of CWSA regulations.

5.3 SDM 3: COM – MULTI-VILLAGE/-TOWN SYSTEMS

This is an emerging model where a number of towns and villages are served from one system under the community ownership and management (COM) approach. It is facilitated by CWSA under the National Community Water and Sanitation Programme (NCWSP). There are only a few examples of this in the country, but the model has generated a great deal of interest as having the potential to reach large numbers of people in areas where more traditional systems (based on medium-yielding boreholes) are not practically possible. Multi-village schemes are seen as a way of effectively using surface, high-yielding ground, or bulk water supplies to meet rural demand. The most prominent of the multi-village schemes is the Three Districts Water Supply System (3DWSS) which provides treated water from the river Volta to about 115,000 people in 129 communities in Dangme West, Dangme East and North Tongu Districts. At present, the model is not clearly defined in the CWSA manuals but implementation and operation and maintenance is influenced by the small-town guidelines.

5.3.1 Assessing the service delivery model

In general, the strengths and weaknesses of this model are similar to those found in the other two models. The management of this model is more challenging given the multiplicity of beneficiary communities. Although the large size of some of the schemes allows for the hiring of more professional staff and private sector operators, the required technical skills of the WSDBs to effectively monitor the operator cannot be overemphasised, specifically for large systems like the Three Districts Water Supply System. Technical and managerial/financial support to both DAs and WSDBs are essential.

Priority challenges to address to allow SDM to become scalable and sustainable

Large multi-village schemes are, by their nature, rather expensive to implement and thus likely to be used only where other options do not exist. That said, the scale of operations provides an opportunity to professionalise management to an extent that is difficult in smaller schemes. A critical issue for this model is adequate and sustainable capacity building of DAs to provide the necessary support to the WSDBs and the WATSANs.

5.4 CHALLENGES AND OPPORTUNITIES OF COM AS A MODEL FOR RURAL SERVICE DELIVERY IN GHANA

The analysis of the three main versions of the community ownership and management service delivery model (COM SDM) as implemented in Ghana has allowed a number of strengths and weaknesses to be identified.

Firstly, it is worth emphasising that COM in Ghana is, largely, a success story. Through COM, coverage rates have been raised sharply, and in CWSA the sector has a competent and experienced sector support agency. It seems clear at the time of writing that the key to improving rural services in Ghana, achieving higher and more sustainable coverage rates, lies in improving the existing COM model rather than replacing it.

That said, COM faces a number of challenges, many of them coming from the fact that in rushing to extend coverage, not enough attention has been paid to clearly defining the systems required to ensure service sustainability. The next two chapters will examine these challenges in more detail. Chapter 6 at the intermediate level (regions, districts and communities) where day-to-day service provision takes place; and Chapter 7 at the national level where the enabling environment for sustainable COM needs to be developed.

SDM 3: COM – MULTI-VILLAGE/ TOWN SYSTEMS

In theory	In practice
LEVEL OF SERVICE PROVIDED	
Multi-village schemes were not examined directly in this study. However, from discussions with sector stakeholders it is clear that they are designed to provide a similar mix of service levels as do small-town schemes. And similar differences between theory and practice are found in them.	
HARDWARE	
The physical infrastructure of the multi-village schemes is in many ways similar to that used in the small-towns model. Drawing on either ground or surface sources, water is treated (if from surface) and then pumped to storage and balancing tanks. The obvious difference is the length of reticulation required. Bulk meters, and in some cases storage tanks, are installed for each community served.	
GOVERNANCE	
As in other schemes, formal ownership lies with the district (or districts) involved, while day-to-day management is delegated to WSDBs.	While the WSDBs are in-charge of overall management of the system, including production and distribution of bulk water to the communities, the WATSANs are responsible for the distribution of water to the consumers, typically through water vendors. O&M is generally contracted out to a private firm. In that case, activities of the board are limited to supervising the private operator and taking management decisions.
Ownership	
The DAs have legal ownership of the system and have the mandate to ensure that the system is sustainably managed. How ownership of a system providing services to multiple districts is shared by multiple DAs, is not clear.	
Service authority	
In theory: as for other models, authority functions lie primarily with DAs (and their DWSTs) with some shared with CWSA.	*In practice:* DAs have not demonstrated adequate capacity to assume full responsibility that goes with legal ownership. The capacity of the DWST to render sustainable support to the WSDBs is still an issue.
Service delivery	
In theory: The WSDBs have management responsibility at the system level and the WATSANs at the community level. In both cases it is their responsibility to employ operational staff at the respective levels and ensure that their staff are effective.	*In practice:* Due to the multiplicity of communities involved, a central WSDB is established with membership reflecting the interest of the beneficiary communities. However, at the various community levels, WATSANs are established, which are supposed to be responsible for management of the standpipe, including revenue collection. Day-to-day management is typically delegated to hired professional staff or, in some cases, to a private operator. The WSDBs are supposed to monitor and ensure efficient and effective service delivery. However, the boards mostly lack adequate technical skills. This therefore requires technical backstopping from the DA (or CWSA), which is in turn not adequate.

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SDM 3: COM – MULTI-VILLAGE/ TOWN SYSTEMS

In theory	In practice
SERVICE LIFE CYCLE	
Planning (including planning for full life-cycle cost and accountability systems)	
In theory: As for other models	*In practice:* Due to inadequate DA capacity, the CWSA plays a prominent facilitative role especially in the area of seeking funding. Some multi-village schemes, such as the Three Districts Water Supply System, serve more than one district, and therefore demand even greater support and special modalities.
Implementation	
In theory: As for other models	*In practice:* The implementation process of multi-village systems requires an effective stakeholder analysis and facilitation to ensure relevant stakeholders' involvement in the process. Due to weak capacity DAs receive significant support in procurement and supervision from the regional CWSA. In recent years there have been moves to make the DAs fully responsible for implementation.
Minor maintenance	
In theory: Like in small-town systems, the WSDBs and the WATSANS are responsible for the minor and major maintenance of the facilities. Maintenance activities have to be funded from revenues generated from operations. Since the management bodies do not have the technical skills themselves, they procure the expertise for a fee.	*In practice:* See community-managed SDM – small-town water supply.
Major maintenance and rehabilitation and replacement	
In theory: Responsibility for maintenance is with the beneficiary communities through the WSDB/WATSAN but in cases where there is an O&M contract with a private operator, it is part of the operator's responsibility. The contract between the WSDB and the PO prescribes what part of the net revenue should be deposited into the "capital account". According to the model by-laws for WSDBs, this should be at least 20% of the net revenue (MLGRD, 2008b).	*In practice:* Like under the COM for small-towns model, the WSDBs and DAs are unable to fully apply the tariff determination formula due to the perceived inability of the consumers to pay. In the Three Districts Water Supply System, where a private sector operator (PSO) is responsible for the operation and minor and major maintenance, 3% of the total revenues is deposited in the "replacement account". This account is supposed to take care of additional investments and major repairs/replacement of parts, while the private operator is entitled to 70% of the revenues, to cover operation and maintenance.
MONITORING MECHANISMS	
As for other models	

6 DECENTRALISATION FRAMEWORK

This chapter deals with decentralisation of rural water services provision and the roles and functions of the Community Water and Sanitation Agency (CWSA), Metropolitan, Municipal and District Assemblies (MMDAs), Water and Sanitation Development Boards (WSDBs) and WATSAN committees in service authority and service provision functions. It also looks at the main challenges to making community ownership and management (COM) more sustainable and scalable. One of the greatest challenges to improving rural water service provision in Ghana relates to the coordination of a multitude of different sub-national actors who have a role to play within service delivery under COM. This is integral to the ongoing process of decentralisation.

6.1 LEGISLATION AND POLICY

Following the enactment of the 1987 Local Government Law (PNDC Law 207), 110 districts were created, each with their own District Councils and respective District Assemblies (DAs). Since this time Ghana has implemented comprehensive local government and decentralisation reforms. The system of government is unitary with a decentralised framework. Within the framework of decentralisation, a four-tier structure of government has been instituted as follows: national level, regional level, district level and sub-district levels. The country has 10 administrative regions, which have been divided into 170[6] (from an original 65 in 1988) Metropolitan, Municipal, and District Assemblies (MMDAs). MMDAs are the basic unit of decentralised local government with a wide ranging remit for providing services to their populations (see Box 1).

The decentralisation programme has four main and inter-related pillars of decentralisation: administrative decentralisation, decentralised planning, fiscal decentralisation, and the fourth pillar, public-private partnerships, which over the years has assumed increasing importance.

In essence, Ghana's decentralisation policy enables public administration reform to transfer various functions and powers, skills, competencies and resources to the MMDAs and the sub-district structure. In addition to the MMDAs, the other critical component of Ghana's decentralised administrative structure is the Regional Coordinating Councils[7] (RCCs). Unlike the MMDAs, the character and the roles of the RCCs are not defined in the Constitution, but are determined by Parliament. At present, the RCC role is defined as follows:

- Monitor, coordinate and evaluate the performance of the District Assemblies in the region;
- Monitor the use of all monies allocated to the District Assemblies by any agency of the central government;
- Review and coordinate public services generally in the region; and
- Perform such other functions as may be assigned to it by or under any enactment.

In comparing District Assemblies and Regional Coordinating Councils (RCCs) in both the Constitution and the Local Government Act, there is no doubt that the districts are considered both constitutionally and legally as devolved levels of government, whilst the RCCs are considered to be deconcentrated[8] levels of government, despite the fact that the term "decentralisation" is used to describe both. The CWSA is one of the members of the RCCs.

[6] As of May 2010. **Source:** Ghanadistricts.com

[7] Discussions are currently ongoing to determine the final status of the RCCs within Ghana's decentralisation system.

[8] Deconcentration, or administrative decentralisation, is the transfer of power to local branches of the central state, such as préfets, administrators, or local technical line ministry agents. These upwardly accountable bodies are appointed local administrative extensions of the central state. (Ribot, 2002).

BOX 1: THE DELIBERATIVE LEGISLATIVE AND EXECUTIVE POWERS OF THE METROPOLITAN, MUNICIPAL AND DISTRICT ASSEMBLIES TRANSLATE TO THE FOLLOWING SPECIFIC FUNCTIONS (SECTION 10 (3) OF ACT 462 1993):

- The Assemblies should be responsible for the overall development of the district, and shall ensure the preparation and submission through the RCC of the development plan to the National Development Planning Commission, for approval; and of the budget to the Minister of Finance for the district. They should also formulate and execute plans, programmes and strategies for the effective mobilisation of the resources necessary for the overall development of the district.
- They are to promote and support productive activity and social development in the district and remove any obstacles to initiative and development.
- They are to initiate programmes for the development of basic infrastructure and provide municipal works and services in the district.
- They are responsible for the development, improvement and management of human settlements and the environment in the district.
- In cooperation with appropriate national and local security agencies, the Assemblies are responsible for the maintenance of security and public safety in the district.
- They should initiate, sponsor or carry out such studies as may be necessary for the discharge of any of the functions conferred by the Act or any other enactment.
- They must ensure ready access to the courts and public tribunals in the district for the promotion of justice.

There are three areas of concern in terms of decentralised actors' ability to fulfil their roles in sustainable service delivery: the need to clarify roles and functions; the need to establish decentralised structures; and issues related to financing.

6.2 CLARIFICATION OF ROLES AND FUNCTIONS

Although there is a legislative framework for decentralisation, there continues to be a lack of consensus as to the responsibilities of different institutions in the water sector. This leads to problems in policy implementation and has resulted in a lack of clarity around the responsibilities of the District Assemblies, especially in service delivery.

The lack of clarity on functions coupled with (perceived) and widespread lack of capacity has led to the CWSA fulfilling the role of DAs in the identification, planning and implementation of water supply projects. At the same time, the District Water and Sanitation Teams (DWSTs) who are nominally under the control of the DA are in fact made up of deconcentrated staff from different line ministries. DWSTs have been set up under the NCWSP, and are generally poorly anchored in the DA structures and often seen (incorrectly) as being under the direct management of CWSA. However, DWSTs are clearly a DA substructure, although their mandate is poorly defined.

Given the emphasis on lack of capacity in MMDAs, the lack of role clarification has ironically posed a major problem in the area of training in local governance, with a bewildering number of actors operating in parallel to each other[9]. The resulting disorder these actors leave in their wake leads to inconsistency, waste, and a duplication of effort. It also results in a lack of coordination which cannot be remedied because of ubiquitous resource constraints.

The Regional Coordinating Councils who are supposed to harmonise and coordinate the programmes, projects and activities of the District Assemblies simply lack the resources to do so.

The establishment of district level departments to provide services has not taken place with the result that functions that were supposed to be decentralised have remained at national level. In theory, decentrali-

[9] Including the MLGRD, the Institute of Local Government Studies, and the Local Government Service Secretariat, other sector Ministries, DPs, the National Association of Local Government Authorities of Ghana (NALAG), Private Consulting Firms, the National Development Planning Commission, the Regional Coordinating Councils and the Office of the District Assemblies Common Fund Administrator.

sation should have entailed the following (among others):

- The redefinition of the roles, functions and responsibilities of the public administration system at the national, regional, and district levels.
- The transfer of defined functions and their related powers and resources to the District Assemblies.
- The effective integration of sectoral programmes, resources, and assets into the district assembly system.
- The planning of some government departments under the District Assemblies to serve as their professional/technical departments.
- The establishment of a local government service and the de-linking of local government staff from those of the Central Civil Service.

These are some of the core processes necessary for the establishment of district level bureaucracies. However, evidence suggests that a number of these processes have not taken place. Whilst the Act establishing a local government service was passed in 2003, the follow-up action including ministerial realignment, and the transfer of functions from the ministries to departments of the Assemblies has not been followed. Legislation to ensure the establishment of these departments in the Assemblies is awaiting parliamentary approval. Consequently, the core staff of the DAs remain within the Central Civil Service. This problem is exacerbated by the creation of DWSTs as quasi-official structures that cut across ministerial lines and are thus not accountable to any ministry, resulting in weak resources and capacity.

Even though the District Assemblies are formally responsible for the planning, decision making and delivery of water services, these functions are also being performed by a number of different actors, for example CWSA, DPs and NGOs. A serious problem is diffused decision making and coordination problems for the District Assemblies which suffer from human resource capacity problems.

Control of investment in the sector is also dispersed over several constituencies, where donors in particular influence investment decisions, which weakens financial control at the decentralised level. Consequently the sector faces major challenges in terms of service delivery, where projects continue to be the dominant mechanism for service delivery.

In order to operationalise the statutory and administrative roles of the RCCs, DAs and CWSA, the following actions are proposed:

- To ensure that the communication channels between RCCs, DAs and CWSA are clear and respected;
- To clarify the roles and responsibilities between the RCCs, DAs and the CWSA; and
- To improve access to resources by the RCCs and DAs (DWSTs, or in time DWDs) all of which require adequate equipment, personnel and logistical support to adequately address their assigned responsibilities.

In practice, there are problems in almost all these areas. In addition to challenges related to decentralisation and coordination, there are also challenges related to the SDMs in terms of financial management, spare parts networks and overall capacity. These are briefly addressed below.

6.3 FISCAL DECENTRALISATION

Although some progress has been made over the past two decades in terms of fiscal decentralisation in Ghana, the proportion of public expenditure that takes place through the DAs is small (see Table 4).

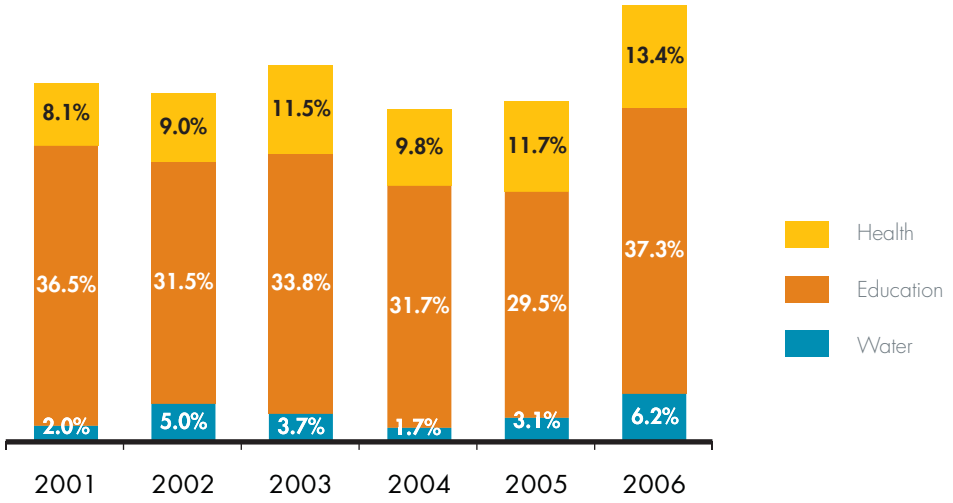
Rural DAs' capacity to generate funds, referred to as internally generated funds (IGFs), and to manage their finances is poor. For example, none of the four DAs requested as part of this study to provide their finan-

TABLE 4: MMDA SHARE OF TOTAL PUBLIC EXPENDITURE

Expenditure	1996 GHC	2004 GHC	2005 GHC
Total public expenditure (billion)	2,716	21,956	25,159
Total MMDA expenditure (billion)	112	1,429	1,562
MMDA exp. of total public exp.	4.1%	6.4%	6.2%
MMDA exp. of GDP	2.6%	1.8%	1.6%

Source: from the 2004 and 2005 Audited Public Accounts of Ghana.

FIGURE 8: WATER, EDUCATION AND HEALTH SECTOR BUDGETS AS A % OF TOTAL NATIONAL BUDGETARY ALLOCATION



Source: MAPLE Consult/WSMP, 2010

cial management accounts were able to do so. The GoG has also not demonstrated any serious commitment to making investments in the water and sanitation sector. For example, over a six-year period less than 6% of the national budgetary allocation went to water as opposed to education (approximately 30%) and health (average of approximately 10.5%) (see Figure 8).

There is a lack of coordination in implementing fiscal decentralisation. Coordination of IGFs, central government transfers, and donor funds is not happening and thus leads to duplication of effort and wastage.

6.4 FINANCIAL MANAGEMENT OF SERVICE PROVISION

CWSA provides guidelines for ensuring good financial management practices for revenue generation, financial recording, and building and keeping reserves for rehabilitation and replacement costs. However, the practical reality is that neither DAs, the legal owners of the assets, nor in most cases their delegated representatives (the WSDBs and WATSANs) have the commitment, technical or financial capacity to follow the guidelines in the majority of cases. What is more, where WSDB rehabilitation accounts do manage to build up healthy balances, the temptation for cash-strapped DAs to raid them for other pressing needs is almost irresistible. Although CWSA guidelines give descriptions of ways to set and review tariffs, these are seldom followed in practice (particularly for review) because it increases tariffs (which are already high when compared with tariffs in the urban sector). To sum up, the generally prevailing view is that when the need for replacement or rehabilitation arises, DAs have no choice but to look to donors for support.

One of the basic principles of the CWSA Sector Policy for both small communities (2005a) and small towns (2010a) states that beneficiary communities and towns, "shall contribute 5% of the capital cost of water facilities to be provided, and shall be responsible for all Operation and Maintenance Costs." However, in its 2009 budget, the government indicated the abolition of the 5% community contribution, saying it would come from central government instead.

The end result of this poor collection and management of funds at the community level by either WATSAN committees or WSDBs, is that there are often inadequate funds to allow communities to buy spare parts and pay for the services of an area mechanic or even get a local pump caretaker to make repairs.

6.5 CAPACITY DEVELOPMENT

Lack of capacity at all intermediate levels (with the exception of regional CWSA offices that are relatively well provisioned for in terms of both staff and operational budgets) is a constant in any analysis of challenges to the sector. DAs, DWSTs, WSDBs, WATSANs and area mechanics: all suffer from a lack

of inherent skills in the population made worse by a failure to institutionalise a proper national capacity development scheme. Training and capacity building is almost entirely ad hoc and project-related.

For example, to ensure maintenance of the capacity of operators of systems, the CWSA with support from Danida initiated a certificate course which sought to organise an annual capacity building course for WSDBs and private operators of small-town water systems. The training was started in 2003 and implemented by the Department of Civil Engineering of the Kwame Nkrumah University of Science and Technology and the Centre for Development Studies of the University Cape Coast. However, the programme collapsed in the third year with only five training events having been organised, due mainly to funding problems and the inability of WSDBs/DAs to afford the cost of the training. The training course was also not well publicised (CWSA and Trend, 2007).

CWSA guidelines (2010a) state that there should be only four standardised handpumps (Nira (AF-85 and AF-85D), Afridev, Vegnet and Ghana Modified India Mark II) in use in Ghana. But as Dotse (2010) points out, some providers of water facilities such as NGOs, use pumps that do not conform to the four standardised pumps. Very few of these organisations make provision for spare parts for these new pumps as part of their operation and maintenance and follow-up support, and so in the event of a breakdown, users are unable to find spare parts.

But even when it comes to acquiring spare parts for the four standard pumps, it is not always easy. The CWSA Small Communities Operation and Maintenance Guidelines (2010) state: "A national hand pump-spare parts distribution network shall be established with distribution outlets at the national, regional and district levels. Spare parts for handpump maintenance and repairs shall be available at all levels at all times." But the reality is that spare part outlets are mostly limited to the regional centres. Communities have to depend on these distant depots and this has implications on service delivery in terms of cost (e.g. transportation) and the length of time it takes for broken down systems to be fixed.

6.6 MAKING THE SERVICE DELIVERY MODEL SCALABLE

In summary then, the priority areas required to ensure that the community ownership and management service delivery model (COM SDM) can be made both sustainable and scalable consist of a relatively limited and achievable list. Roles, responsibilities and relations between different actors need to be clarified and, as importantly, acted upon; capacity needs to be created and, as importantly, maintained; and spare parts need to be made available.

None of these are impossible, or necessarily even particularly costly. Most of the roles and responsibilities of intermediate level actors are already defined. It is more a question of making actors aware of the limits of their authority and areas of competence. Much of the capacity required is already in place – in terms of people with more or less the right qualifications. What is missing is (often quite limited) operational financing and a system of refresher training and skills development. And finally, the backbone of a national spare parts network has been created. What is now required is that this should be extended to the regional and district level.

The main reason that these relatively simple areas have been only partially addressed to date relates primarily to financing and politics: Financing in that it is overly focused on building new systems and ignores the need to also (contribute to) pay(ing) for maintaining the existing ones (through supporting capacity building and technical backstopping); political in that a lack of agreement on the final shape of decentralised administration and lack of coordination between sector actors at the national level undermines the clarity needed to address intermediate level problems. This is dealt with in the next chapter.

7 ENABLING ENVIRONMENT FOR RURAL WATER SERVICE DELIVERY

This chapter addresses the changes required at the national level to support the development of scalable and sustainable community ownership and management service delivery models (COM SDMs). It examines a number of issues necessary to ensure that intermediate level actors have both the mandate and the means to fulfil their responsibilities in enabling and supporting COM. It looks at the following issues from a national perspective: roles and responsibilities of the main actors in theory and in practice; national level budgeting processes; and harmonisation and coordination.

7.1 ROLES AND RESPONSIBILITIES OF KEY SECTOR ACTORS

Whilst intermediate level relations are the most important to clarify and manage for the success of the COM model, there are also national level roles and responsibilities that need clarification, particularly those between the Water Directorate, CWSA and DPs.

7.1.1 The Water Directorate

In theory: The creation of the Water Directorate within the MWRWH was intended to ensure an increased level of commitment by GoG to the water sector. The role of the Directorate was to coordinate the activities of the sector as a whole, particularly the activities of DPs working in the sector and the main sector agencies. It was envisaged that, to fulfill its functions effectively, the Directorate would be staffed by seven senior professionals, with support staff.

In practice: Although the Directorate was created in 2004, it was not formally established and given a dedicated budget line until 2007 (Cox and MacCarthy, 2009). From the start, it has been reliant on donor funding and has suffered high staff turnover as well as failure to fill all the identified posts. At its lowest point in 2009 the Director was the only senior staff member in the Directorate. Since then three new officers have been recruited and technical assistance (both expatriate and local) has been provided to 'develop capacity' in the Directorate. This assistance has tended to 'fill in' for the missing capacity, and thus when the assistance ended in 2008, a major gap was left. As a result of the lack of sufficient staff and capacity, the Directorate has not been able to provide the necessary direction and leadership to policy formulation and coordination processes. It is also impossible for the Directorate to facilitate the re-integration of the different segments of the water sector (Dotse, 2010). This lack of capacity and the fact that the DPs provide almost all of the investment in the sector has de-facto meant that the DPs are setting and driving the water agenda.

7.1.2 Community Water and Sanitation Agency (CWSA)

In theory: CWSA leads the process of creating the operational tools necessary to turn rural water policy into concrete actions, such as guidelines and processes.

In practice: CWSA has been relatively effective as a national implementing agency for donor-funded projects. It has developed a national cadre of highly qualified, competent and motivated staff, and has made good progress in creating the base documents needed to underpin a coherent service delivery approach. However, because of the reality of the financial situation, it has to balance a genuine desire to establish national norms and frameworks with the requirements of donors. This runs the risk of national guidelines being ignored in new project formulation by donors. For example, the Project Implementation Manual (PIM) which was developed jointly by the World Bank and AFD was ignored by other donors.

7.1.3 The Development Partners (DPs)

In theory: DPs active in the sector are part of the Water and Sanitation Sector Group and work with government to achieve nationally determined sector objectives.

BOX 2: THE NATIONAL PROJECT IMPLEMENTATION MANUAL

As part of efforts towards achieving harmonisation in the rural water sub-sector, the World Bank and Danida initiated action for the development of a common implementation manual for the planning and implementation of projects (PIM). Initially, the idea for a joint PIM was triggered by the implementation of projects by the DPs (World Bank and Danida) in the Central Region around the same time. The initiative to develop the PIM received the support of other DPs, particularly AFD which made its finalisation and approval a pre-condition for the start of its current project in the Brong-Ahafo Region (Rural and Peri-Urban Water Supply project in the BrongAhafo Region 2009-2013). AFD signed on to the use of the PIM. It is paradoxical however that CIDA, which co-financed the study on harmonisation has not signed on to the use of the PIM in the implementation of its current project, the Northern Region Small Towns Project (NORST).

Source: MWRWH, 2008

In practice: There is a wide range of different behaviour demonstrated by the DPs active in the sector. Some appear genuinely committed to greater harmonisation and coordination in the sector while others are unapologetic about following a policy line that is determined in their national capitals. In the absence of a SWAp, all coordination and harmonisation (outside of multi-donor budget support (MDBS)) is voluntary, ad hoc and essentially opportunistic.

7.1.4 Delineation of boundaries and modalities for cooperation

A specific issue relating to clarification of roles, and relevant to meeting the needs of the unserved in peri-urban areas (and other areas where the institutional mandates of GWCL and CWSA are imperfectly aligned) is the need to better delineate service areas and to agree on modalities for cooperation. Both GWCL and CWSA are aware of the need to delineate their service areas as part of coordination. However, there is currently no information on how to move this agenda forward. It is hoped that the strategy for GWCL on the delivery of water to peri-urban areas will serve as the basis for dialogue between the two institutions.

7.2 BUDGETING

In theory: Investment decisions are made at the highest level by a Parliamentary Select Committee on Water Resources, Works and Housing. Once made, parliament recommends the decisions for approval to the government's budgetary allocation process for sector institutions (e.g. CWSA, GWCL and WRC). Prior to the parliamentary discussions and allocation, the draft budget estimates of the different institutions are submitted to the Ministry of Finance and Economic Planning for a budget hearing to determine whether the financial estimates are within the budgetary ceilings determined for the various state institutions. The NDPC also scrutinizes the development budget to ensure conformity with the sector plan and the Growth and Poverty Reduction Strategy (GPRS) II.

In the rural water sub-sector, investment decisions are based on an analysis of the entire country, with a focus on geographical equity in current and planned investments. The information from the analysis is presented to the management of CWSA for decision making.

In practice: While the above process is followed more or less, it only addresses investment in the sector from the national budget. Since national investment in the sector is a small percentage of the total sector budget (precise figures are very difficult to obtain, but it is generally estimated that GoG investment is not more than 10% of total sector investment annually), in practice the process has little to do with real investment decision making in the sector. In reality the budget process in the sector is essentially a process of horse-trading between different DPs and government (in the form of CWSA and/or the Water Directorate). As a result, much of the sector investment is 'regionalised' with different donors working in different regions (for example Danida in Volta region and CIDA working in the three northern regions (Dotse, 2010)).

7.3 NATIONAL LEVEL HARMONISATION AND COORDINATION

Although harmonisation is one of the key principles of the Paris Declaration to which EC donors have subscribed, in Ghana's water and sanitation sector harmonisation is a major challenge, particularly since it is one of the most donor-dominated of all sectors in Ghana. The Ghana Joint Assistance Strategy (G-JAS) Mid-Term Review (Acet, 2009) found that more than 95% of activities in the sector, and nearly all capital investment, is donor financed, with projects being the predominant modality. The review found that the "GoG appears content to allow the sector to be financed and led by DPs", and without more effective

GoG leadership it is questionable whether the sector will be able to scale up funding and reach the water and sanitation targets.

In an attempt to address the various challenges of the sector, donors have advocated for a rural water and sanitation sector-wide approach (SWAp). The need for a SWAp has been on the table since 2004, and is also recognised in the National Water Policy. In 2009, a SWAp roadmap was developed to map out what needs to be done to put a SWAp in place for the sector by 2010. Three workshops were held to address implementation of the roadmap. A recent document produced by the DPs under the Water and Sanitation Sector Working Group, which provides an update on the budget for 2011 and targets, states that currently DPs are encouraged by the progress made by the MWRWH to promote the principles of strengthening aid effectiveness and are committed to supporting the GoG in the implementation of a SWAp. However, it also states that coordination, harmonisation and alignment need attention and there is an urgent need to develop a comprehensive sector strategic development plan (SSDP) for the sector with a monitoring and evaluation framework. There is agreement by both the GoG and DPs to take concrete steps to move from a project-based to a programme-based approach in line with the SWAp roadmap. The Water and Sanitation Sector Working Group report (2011), states that concrete action is needed to:

- Strengthen the Water Directorate (MWRWH) and the Environmental Health and Sanitation Directorate (EHSD) of MLGRD;
- Agree on a Code of Conduct (and eventual MoU) for the sector;
- Develop the SSDP that is prioritised with a budget which is linked to the government's annual budget process;
- Agree on possible financing options for the SWAp; and
- Develop a sustainable common sector monitoring and evaluation system for the water and sanitation sector as a whole.

The Acet Review found that some of the key elements of a SWAp are essentially in place, such as the National Water Policy, a sectoral investment plan, a dialogue structure, procurement and public financial management (PFM) systems and a performance monitoring system. The current gaps that need to be addressed are the capacity of the Water Directorate, and stronger budgeting and planning processes. However, the success of a SWAp is dependent upon a 'genuine partnership' between the GoG and donors – the challenge is how to dramatically increase country ownership and prioritisation of the sector.

In order for Ghana to make significant progress in streamlining the COM SDMs, donors and government agencies need to improve harmonisation and coordination around shared objectives and around approaches as set out in Ghana's National Water Policy. The Sector Working Group comprising government and donor representatives tends to be ad hoc and essentially serves as a platform for information sharing between government and donors, rather than a real platform for coordination, harmonisation and alignment. Sector support remains almost entirely a bilateral affair (between sector agencies and DPs). While most players express strong verbal support to harmonisation, progress is mixed. Some government officials are lukewarm towards the harmonisation agenda because the status quo allows them to 'shop around' the different DPs to address different requirements. There is also a lack of demonstrated commitment at the senior political level to achieving harmonisation. One of the recommendations of the plenary session of the 'Harmonisation and alignment in the Ghana water sector' workshop of December 2006 was that the Deputy Minister of MWRWH chair the GoG-DP working group meetings with a view to preparing a calendar of events on harmonisation. Unfortunately this has not happened to date.

Nevertheless, there is a genuine desire on behalf of the Water Directorate and at least some donors to move towards a more genuinely harmonised and coordinated approach. This has taken place through ad hoc pooling of funds between some donors, and the renewed interest over the past year to develop a SWAp in the sector. Examples of the pooled funding include Danida, KfW and DFID cooperation in financing projects. Danida has worked with DfID and KfW in pooled financing for the "Three Districts Water Supply Project" and the "Damanko-Kpasa Piped Water Project". Both Dandia and KfW have provided seed money for the establishment of a national spare parts distribution system. KfW and IDA have also jointly co-financed borehole drilling in the western, Ashanti and northern regions.

With regards to the SWAp, the Water Directorate recognises existing challenges in terms of coordination, harmonisation, alignment, and comprehensive monitoring and evaluation in the water sector and is advocating the adoption of a SWAp in the water and sanitation sub-sector to address these challenges. *"The intention of the SWAp would be to take a more holistic, co-ordinated, harmonised and results oriented approach to the management of the sector with a view to having a strategic institutional framework in place that would attract much needed internal and external*

financial and human resources for the sector" (MWRWH, 2009).

The objective of the SWAp is to direct the support of DPs and the government to the holistic development of the sector, with an emphasis on the entire sector rather than on sub-sectors, individual institutions, or projects. One of the recommendations in the report on 'Harmonisation and alignment in the Ghana water sector' was the adoption of a code of conduct among DPs. As yet the draft code of conduct prepared as part of the report has not been translated into reality. The draft code is attached in Annex D.

A challenge to making a SWAp work in the water and sanitation sector is the current weakness of the Water Directorate (WD) to propel the approach and oversee its implementation within the sector. Other challenges include a lack of ownership, absence of strong leadership and inadequate sector funding by the GoG. Lack of commitment to harmonisation and alignment by some DPs is also another challenge to implementing a SWAp.

Harmonisation of different national level actors is one of the keys to making the COM SDM sustainable and scalable. However, organisational behaviour change (including capacity building) is also needed to ensure sustainability. This is dealt with in the next section.

7.4 ORGANISATIONAL BEHAVIOUR CHANGE

Ensuring improved coordination between sector actors and agencies will call for profound organisational behaviour change at all levels. Organisational change processes have been initiated for both CWSA and GWCL. The CWSA change process was initiated by the Water Directorate with financial support from Danida under the Policy Monitoring and Management Support (PMMS) component of the Water Sector Programme Support (phase II) project. The PMMS engaged the services of an international and a local consultant for the institutional, organisational and financial assessment and re-structuring of CWSA. The consultants made recommendations to effect changes within the organisation.

In essence, the change required of CWSA is that it moves away from its role as a project implementation agency to its initially intended role as a facilitator, supporter and regulator of the rural sector. In response to the recommendations, CWSA appointed an internal change management team (CMT) to drive the change process within the organisation. The PMMS also engaged the services of a local consultant to support the CWSA CMT. With the assistance of the local consultant and with the financial support of the PMMS, CWSA undertook a series of training activities with a view to sensitising all staff in the organisation and to internalise the process. These interventions were largely successful according to Maple Consult (2008).

However, a critical flaw was the lack of ownership of the process by CWSA itself and inadequate government financial support to sustain the change management interventions outside the PMMS project support. It is therefore not surprising that the change management agenda failed to continue once the PMMS support ended.

7.5 PROVIDING AN ENABLING ENVIRONMENT FOR THE COM SDM

The single most important requirement for community ownership and management (COM) to become successful is that it becomes the nationally approved SDM(s) for rural service delivery, supported by DPs and government agencies. For this to happen, COM will need to be explicitly identified in national policy and planning documents, including the Sector Strategic Development Plan which is currently being developed. The SWAp should contribute to the institutionalisation of the COM, but it is also important that the Water Directorate is strengthened and that roles and responsibilities are clarified, for example the role of CWSA within the COM service delivery model. In addition, continued support is required for ongoing processes of organisational behaviour change, particularly in CWSA, while capacity building is essential for the Water Directorate.

8 FINDINGS

8.1 COM SERVICE DELIVERY MODEL

Ghana's community ownership and management (COM) based service delivery model (and the different variations of this model) shows real promise in providing appropriate and sustainable water services for rural populations. In the last years it has been clearly shown that COM can work as a means of rapidly extending basic and intermediate levels of service at an affordable price. However, sustainability remains a major challenge. The imperative is to fine-tune community ownership and management to ensure that it can meet the challenges of the future, and to ensure the ongoing provision of a sustainable rural service: operating, maintaining, upgrading and eventually replacing the national rural water asset base.

While this challenge is real, this study aims to demonstrate that with the right support it is achievable. To contribute to the sustainability of COM, a number of actions need to be undertaken. These are addressed in the recommendations below.

8.2 INTERMEDIATE LEVEL PRIORITIES

At the intermediate level of service authority and service provision functions, there is a need to clarify the roles and responsibilities of the main stakeholders, namely the Community Water and Sanitation Agency (CWSA), Metropolitan, Municipal and District Assemblies (MMDAs), Water and Sanitation Development Boards (WSDBs) and Water and Sanitation committees (WATSANs). Only with greater clarity as to who is responsible for what over the entire service delivery life cycle can serious progress be made on achieving improved sustainability. Some of this is contingent on the next steps in Ghana's decentralisation process. However, much can be achieved simply by raising awareness of existing policy and regulation.

The water and sanitation sector at every level has many players who have many (sometimes confusing) roles and responsibilities. The multiplicity of service providers, their overlapping mandates, and the lack of provision for oversight and regulation leads to problems of coordination and control of service providers. Although the District Assemblies are formally responsible for planning, decision making for, and delivery of water services, they often lack the necessary resources and skills to fulfil their mandate. As a result, these functions are taken on by other actors, especially CWSA. Yet CWSA itself does not have the resources (or mandate) to replace MMDAs in providing service authority functions: post-construction support and oversight.

8.2.1 Capacity building and resource mobilisation

As important as role clarification, is capacity building and resource mobilisation. Without sufficient funds to adequately fulfil their roles and to maintain their skills level, the water sector actors who should be supporting COM will simply not be able to do so. MMDAs/District Water and Sanitation Teams (DWSTs), WSDBs and WATSANs often lack the skills and resources needed to perform their mandate. In recent times CWSA have factored a one-year post-construction support fund into some small-towns systems. Although this is a step in the right direction, it is still a very short-term measure which leaves WSDBs and WATSANs with very little post-construction support.

8.2.2 Monitoring and information sharing

Effective monitoring and information sharing is an essential prerequisite to MMDAs (and CWSA) being able to fulfil their oversight role. Monitoring of service delivery and financial management is practically non-existent. Currently it is not possible to determine the portion of Ghana's water supply schemes that are functioning at any point in time. The research on functionality is from limited geographic scope. Oversight of the financial management of WSDBs, let alone WATSANs, is non-existent. Without addressing the issue of effective monitoring, it will be extremely

difficult to improve accountability, at all levels. The primary responsibility for monitoring lies with the MMDAs, but the DWST, which is the unit responsible for monitoring, is too poorly resourced for the task (Tuffuor, 2010). When monitoring activities take place, this is usually part of a donor-driven project with earmarked funds. Operational reports including financial reports are not routinely produced, and when they are produced they are not used as an input to planning. Although DAs are supposed to audit the water boards, this tends only to be done when there is evidence of financial misappropriation.

8.2.3 Regulation

Regulation is largely absent in the rural sub-sector. CWSA and MMDAs have a role to play in overseeing the provision of services, and CWSA in particular has shown considerable interest in taking up this role, which it would be ideally suited to. However, for CWSA to take up a regulatory role, it would need to shift away from project implementation, otherwise it will become both player and referee, effectively having to regulate itself.

8.2.4 Spare parts

Sustainability cannot be achieved without spare parts. This is clearly acknowledged and CWSA has identified the need for regional and district spare part repositories. The challenge is to make this happen.

8.3 NATIONAL LEVEL PRIORITIES

8.3.1 Government leadership

At the national level, the main challenge is for government to take the lead in ensuring sector buy-in to a common vision of rural service delivery through COM. This vision should be made explicit in the form of a Sector Strategic Development Plan (SSDP) that clearly identifies the vision for the sector as well as the means and resources required to achieve it.

For government to assume this role, a critical first step (already identified for several years) is to increase the capacity of the Water Directorate. This is not a huge or expensive task: it requires filling the three to four additional professional posts, and providing support to those who will fill the posts. Yet without this action, real government leadership runs the risk of remaining a mirage. Staff, finances and a strong link to the Ministry for Water Resources, Works and Housing (MWRWH) should offer the opportunity for a stronger Directorate which can lead a more coordinated sector.

8.3.2 Policy implementation

Finally, and across the board, there is an urgent need for greater convergence between policy and practice. Nothing illustrates more clearly the weakness of government leadership in the sector than the gap between how things are supposed to be 'in theory' and how they are actually found to be 'in practice'. Conversely, a sign of increasing sector maturity will be enhanced evidence of the ability to identify and address these differences: in the form of either adapted policy or enhanced enforcement.

9 NEXT STEPS

The provision of rural water supply services in Ghana does not sufficiently address critical issues to ensure long-term sustainability, in particular the need for various forms of post-construction support. The sector as a whole needs to shift its focus from the construction of new infrastructure (through ad hoc projects) to the long-term provision of sustainable and appropriate rural water services through programmatic approaches.

Putting this into practice requires improved mechanisms for coordination and harmonisation; agreement on norms and approaches, including service delivery models; establishing adequate arrangements for post-construction support; and ensuring that the necessary capacity support can be accessed. Ideally, resources to provide support should be identified in a common national sector programme that is spelt out in the Strategic Sector Development Plan.

Government needs to play a leadership role in the development of the service delivery model (SDM) framework, with the active support of their partners and financiers, including the development partners, the Ministry of Finance and Economic Planning (MoFEP) and the NGOs. Determining *how* to make the different community ownership and management service delivery models (COM SDMs) fully sustainable will require several years of experimentation and learning as there are no blueprints for sustainability. The strong progress that Ghana has made in the last years in extending coverage can and should be built upon to ensure universal coverage in sustainable water services.

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ANNEXES

ANNEX A: INTERVIEWS

Interviews conducted by Maple Consult for nationally led policies and processes

- Mr Yaw Asante Sarkodie, Team Leader, Water and Sanitation Monitoring Platform
- Mr Kwame Frempah, formerly of the Water Directorate, and currently with the Canadian International Development Agency (CIDA)
- Mr Emmanuel Gaze, Director (Special Duties) CWSA
- Messrs Ofosu, Garbrah and Ahaligah, Chief Managers of the Ghana Water Company limited
- Mr Ventura Bengoechea of the World Bank who is also the leader of the Development Partners (DPs) Water and Sanitation Sector Working Group
- Mr Emmanuel Nkrumah, Water and Sanitation Specialist at the World Bank office in Ghana
- Mr Solomon Osei-Gyamera, a consultant at the Budget Division of the Ministry of Finance and Economic Planning for data on the national budget

Interviews conducted by Prof Nana Boachie Danquah

- Dr Esther Offei Aboagye, Director of the Institute of Local Government Studies
- Mr Kwame Owusu-Bonsu, Coordinator of the National Decentralization Planning Secretariat
- Mr J. Coffie Agama, the Director of Planning at the Local Government Service Secretariat
- Mr Kwadwo Oppong-Fosu, the Chief Executive Officer of the Local Government Service Secretariat
- Mr Danso, the Director of Monitoring and Evaluation of the District Assemblies Common Fund Office
- Mr Robert Akuamoah, of the Millennium Development Agency, Accra
- Mr Benedict Kubabon, the Director for Planning and Investment, CWSA Head Office
- Mr Emmanuel Gaze, CWSA Head Office

Interviews with key actors took place using questionnaires, and one-to-one interviews. These took place in the following geographical locations:

- Districts in the Northern Region (Northern Regional Director of the Community Water and Sanitation Agency (CWSA): Savelugu Nanton (District Coordinating Director); and West Mamprusi (District Coordinating Director and his team).
- Greater Accra Region, with two Districts, namely the GA West Municipal Assembly (District Coordinating Director); and the Dangme West District Assembly (District Planning Officer).

Interviews conducted by Trend Group

- Mrs Anne Barendregt, Project Manager Pro-Poor Water Supply, AVRL, Head Office
- Eng Charlotte Engmann, Water and Sanitation Systems Coordinator CWSA, Head Office
- Mr Ibrahim Odorkor, Planner, Corporate Affairs CWSA, Head Office
- Mrs Fay Ephraim, Planner, Investment CWSA, Head Office

In the Northern Region

- The Regional Office of the CWSA
- Savelugu Nanton and West Mamprusi Districts: including District Water and Sanitation Team (DWST) members, District Coordinating Director, District Chief Executive, District Planning Officer and District Budget Officer
- The Diare Water System: Water and Sanitation Development Board (WSDB) Chairman and the Accounts Officer of the newly organised Board

In the Cape Coast Municipality, Central Region

- Mr Henry Asangbah, Regional Engineer CWSA, Central Region, Cape Coast
- Mr Berchmans Ackom, Water Distribution Officer AVRL Regional Office, Cape Coast
- Mr Paul Anang, District Distribution Officer AVRL/GCWL, Elmina

ANNEX B

OVERVIEW OF PROJECTS IMPLEMENTED IN THE COMMUNITY WATER SECTOR

Project	Donor	Commitment	Target	Duration
Peri-urban and Rural Water Supply Project	AFD	US$20m	Brong Ahafo Region (BAR)	2008-2012
NORST	CIDA	Cnd$30m	Northern Region (NR)	2007-2012
RWSP-LSDGP (Rural Water and Sanitation Project - The Local Service Delivery and Gover-nance Programme)	Danida	DKK100m	Eastern Region (ER), Volta Region (VR), Central Region (CR), Greater Accra Region (GAR), NR	2009-2011
Small Towns Water and Sanitation Project (STWaSaP) – 2nd Batch	IDA	US$10m	Ashanti Region (AR), BAR, CR, WR	2008-2009
STWaSaP – 3rd Batch	IDA	US$15m	Upper East Region (UER), Upper West Region (UWR), CR, Western Region (WR)	2009-2010
IWASH	EU/UNICEF	€20m	NR	2007-2011
STWaSaP	EU	€32m	CR, WR	2003-2010
Phase II - DBWSC	Danida	US$45.2m	GAR, ER, VR, CR	2004-2009
Rural Water Supply and Sanitation Project (40 towns)	AfDB	US$17m	AR	2004-2008
Three Districts Water Supply Project	Danida/ GoG/DFID	£5.71m	GAR, VR	2006-2008
EVORAP (Eastern and Volta Region Assistance Project)	DFID through KfW	€3.227m	ER, VR	2006-2008
Access to water in guinea worm infested areas Nkwanta Ducie	DFID/Danida	£1.42m £0.2m	VR UWR	2006-2008
CWSP-II Phase II: STWSSP (Community Water and Sanitation Project, Small Towns Water Supply and Sanitation Project)	IDA	US$26.4m	AR, BAR, UWR, UER, CR, WR	2005-2008
RWSP (Rural Water and Sanitation Project) 4	KfW	US$13.4m	AR	2004-2007
NORWASP (Northern Region Water and Sanitation Project)	CIDA	CD$16.768m	NR	2000-2007
Rural Water Supply and Sanitation Project	AFD	US$10.8m	NR	2002-2005

ANNEX C

ESTIMATION OF NUMBER OF PEOPLE SERVED UNDER DIFFERENT MODELS

This annex presents different estimations of the number of people served under different service delivery models, using different data sources and different assumptions. The figures using a combination of GSS 2006 (GSS, 2008a) and CWSA 2006 data (CWSA, 2007), indicated below in bold, seem to be most reliable and have been used in the graph displayed in the document (Figure 4).

GWCL				
Source	**Based on**	**Assumptions**	**# people served**	**Remarks**
GWCL	Comparison demand with production (2007)	Demand = 102 lpcd (this includes physical losses and commercial and industrial demand)	2006: 5,662,243 2007: 5,938,149	
Own calculation	2007 GWCL client data	• 10 people per household connection • 600 people per standpipe	6,825,290 people • 3,106,490 people with household connections • 3,718,800 people with standpipe connections	Review of amount of water sold per connection showed that it is unlikely that the number of people per standpipe is as high as 600.
Own calculation	2007 GWCL client data	• 10 people per household connection • 100 people per standpipe (according to the 2007 sales data, the average amount of water sold from standpipes would be enough to serve about 65 people with 20 lpcd).	3,726,290 people • 3,106,490 people with household connections • 619,800 people with standpipe connections	This is considerably less than the other estimates.
Own calculation	• **GSS 2006 data on % of people with piped water (GSS, 2008a)** • **Total population (GSS, 2008b)** • **CWSA small-town population served (based on 2006 data from SIP)**	• **People served with piped water: 39.5%** • **Total population: 22,400,000** • **Projected relevant population CWSA small towns: 1,537,728**	**7,310,272**	**This would mean a production of almost 80 lpcd (taking into account physical losses of 25% and 10% commercial and industrial use, this would leave about 54 lpcd for domestic use).**

CWSA				
Source	**Based on**	**Assumptions**	**# people served**	**Remarks**
CWSA SIP (2006 data)	Projected relevant population		7,604,478 (small cmt: 6,066,750; small town: 1,537,728)	
Own calculation	• GSS 2006 data on % of people with piped water • Total population • 2007 GWCL client data	• Total population: 22,400,000 • People served with standpipe water: 4,480,000 • Estimated # people with GWCL standpipe connections: 619,800	Standpipe:3,860,200 people Household connection:1,261,510	This is far more than the served small-town population projected by CWSA.
Own calculation	**CWSA SIP (2006 data) # boreholes**	• **300 people per borehole** • **150 people per protected well**	**Borehole:5,469,900** **Protected well: 667,800**	**This gives a total of 6,137,700, which is more or less in line with the 6,066,750 projected small- community population.**

OTHERS				
Source	**Based on**	**Assumptions**	**# people served**	**Remarks**
Own calculation	• **GSS 2006 data on % of people using boreholes** • **Total population** • **Calculation on # of people using CWSA borehole (based on 2006 data from SIP)**	• **Total population: 22,400,000** • **Estimated # people using CWSA borehole: 5,469,900**	**Non-CWSA borehole: 1,339,700**	
Own calculation	• **GSS 2006 data on % of people using protected wells** • **Total population** • **Calc on # of people using CWSA protected wells (based on 2006 data from SIP)**	• **Total population: 22,400,000** • **Estimated # people using CWSA protected wells: 667,800**	**Non-CWSA protected wells: 721,000**	
Own calculation	• **GSS 2006 data** • **Total population**	**Total population: 22,400,000**	**Water truck/tanker service: 89,600** **Water vendor: 403,200** **Sachet/bottled water: 403,200** **Unimproved (unprotected well, river/ stream, rainwater/ spring, dugout/pond/ lake/dam): 4,412,800**	

ANNEX D

DRAFT CODE OF CONDUCT FOR DEVELOPMENT PARTNERS IN THE GHANAIAN WATER SECTOR

Introduction and background

DPs agree on presentation of sector, major issues and background for the current harmonisation process …….

Status of this document

1. The signatories to the present voluntary Code of Conduct, together referred to as the Consortium of Development Partners in the Ghanaian Water Sector "the Consortium", recognise the need to consult and co-operate in an open and transparent manner in the water sector in Ghana and agree to the guiding principles for their co-operation set out below. The signatories expressly recognise that this document is neither legally binding nor legally enforceable.

Guiding principles

2. Partners of the Consortium are committed to a systemic development of the water sector in Ghana, with the ensuing commitment to support the policies of the Government of Ghana (GoG), work with GoG systems, and accept common procedures and requirements. As regards financial flows, Development Partners (DPs) are committed to the principle that, to the extent possible, resources will be channelled through government systems and decided to work together for greater levels of harmonisation in line with GoG procedures and requirements. In the rural sub-sector the Consortium partners will aim at using a jointly agreed POM as the guide for implementation work.

3. The Consortium partners mutually decide on a representative of one of its members to chair the Consortium, normally for a period of two years. The designated incoming Chair will be Vice-Chair and Member Secretary. The Consortium will meet on a regular basis but in any case not less than once every quarter, with at least ten days notice. The Chair or any group of three members can request the Chair to call an ad hoc meeting. If possible, at least one-week notice will be given, including the agenda for the meeting and supporting documents.

4. The Chair is responsible to ensure that all basic administrative tasks are done, as far as the communication between the Consortium and all other relevant stakeholders is concerned. She/he will be assisted by the Vice-Chair to perform the tasks of the Chair. The Chair chairs all meetings of the Consortium, and represents the Consortium at other meetings and events. The Chair will make a clear distinction between her/his role as representative of her/his own agency and her/his role as Chair. The Chair may request assistance from other Consortium members for specific tasks. The Vice-Chair assists the Chair with all tasks, replaces her/him when necessary, and adheres to the same principles stated above.

5. The Chair will represent the consensus view of all Consortium partners. Terms of reference for the Chair will be developed by, and agreed with, the Consortium. The Chair will seek meetings with the Deputy Minister (Water), and jointly with a representative for the Water Directorate, on a monthly / bi-monthly / quarterly basis to discuss matters relevant for further DP harmonisation in the Ghanaian water sector.

6. A meeting of the Consortium has a quorum if representatives from a majority (more than 50%) of the signatories are present. Decisions will be taken on the basis of consensus, with possible disagreements being recorded. If an important decision has to be made by a meeting which some of the Consortium members have not been able to attend, those members will be consulted by e-mail or telephone before the decision is considered final. Except in matters of urgency, 48 hours will be given to that member to react.

7. Consortium members receiving requests for new funding or technical assistance will share and discuss such requests with the Consortium partners. DPs will refrain from parallel funding of Technical Assistance for the sector.

8. All major issues affecting the overall implementation of water sector support (such as proposed significant changes in planned activities) will be presented to the Consortium, and any required decisions on such issues will be made by the Consortium in accordance with the principles laid out in this Code of Conduct. The Consortium will/may participate in annual sector reviews, but will not be consulted on day-to-day implementation matters.

9. Representatives of Consortium partners shall be deemed to represent their Government or Agency.

10. Consortium partners will endeavour to communicate to GoG and other stakeholders with a common voice.

11. To the extent possible planning and organisation of activities by Consortium members will be done jointly, particularly for activities which put demands on the time of GoG officials.

12. Consortium partners will/may be invited to participate in annual joint reviews, mid-term reviews and final evaluations, under agreed Terms of Reference. Consortium partners will ensure the required skill mix of review teams, including expertise on gender and disadvantaged groups.

13. The Consortium partners will aim at harmonising reporting so that one common reporting system will be used for all activities under the sector support. Consortium partners requiring additional or different documentation will avoid duplication and will minimise to the extent possible demands on GoG counterparts' time.

14. The Consortium partners will work towards one common financial reporting system and one set of audit requirements for all sector activities funded through GoG. In case of serious audit observations, the Consortium will provide a joint and co-ordinated response. Likewise the Consortium partners will aim at harmonising procurement procedures to comply with the PPA.

15. Whenever Consortium partners are required to undertake a bilateral audit they will do their utmost to avoid duplication and unilateral action.

16. New donors to the Ghanaian water sector will be encouraged to sign this Code of Conduct; the GoG will be encouraged to convey this message to future donors.

17. The Code of Conduct may be reviewed annually. This does not preclude amendments at other stages, whereby changes and additions can only be made on the basis of consensus by all the signatories.

18. Issues relating to co-operation between development partners not foreseen in this document should be discussed and made through consensus only.

Sharing information

19. The Consortium partners will ensure that information on all relevant interventions in the sector (including: consultancies, new project initiatives, requests for assistance made by government, project appraisals, implementation and progress reports, technical assistance reports, evaluation reports) has been made available to government and other donors. To this end the Consortium partners will aim at establishing and maintaining a joint web-site.

Provision of Technical Assistance (TA)

20. The Consortium partners will ensure that donor-funded Technical Assistance to government:

    - is driven by government priorities and absorption capacity;
    - reports primarily to government managers;
    - supports government institutional capacity by focusing on skills transfer to civil servants in priority government functions;
    - is not restricted to supporting individual donor projects or programmes.

Joint missions and mission-free period(s)

21. The Consortium partners will aim at undertaking joint missions to the extent possible and work towards joint monitoring procedures. They will adhere to the established mission-free period(s) xxxxx and yyyyy.

Principles for harmonising interactions between donors and districts

22. Under the policy of decentralisation, the districts are responsible for planning and co-ordinating development activities in their districts, irrespective of funding source or implementation mechanism. Donors and ministries assist districts to fulfil their responsibilities for district development.

23. Donor assistance to and interaction with districts must fall within and stem from the donor's overall agreement with central Government.

24. Donor assistance to local governments and NGOs should be provided in a way that it is transparent and provides full information and notification to all relevant local and central government bodies as appropriate.

25. Donor assistance to districts must be in support of the district development plan. District plans should be formally approved by the appropriate committees established for that purpose. Relevant parts of multi-sectoral programmes should be reflected in each of the relevant sectoral plans.

26. Donor assistance must be reflected in local government budgets. Donors must provide local governments with the necessary information for this purpose.

27. Donors should harmonise their support to local governments with the local government's planning-implementing-review cycle. Donors wishing to facilitate local governments in the planning and review activities they support should respect the prescribed planning and reviewing schedule by district.

28. Development assistance to NGOs should promote collaboration and complementarity with similar activities managed by the district, while respecting the independent nature of NGOs and avoiding unnecessary bureaucratic controls.

29. Donors should encourage NGOs which they support to participate in local government planning processes where appropriate, and to contribute information on their activities to the relevant planning authorities in the district.

30. Activities supported by donors should be managed and implemented by local government departments or NGOs as appropriate. Donors should refrain from insisting on special management and implementation structures unique to the activities they support.

31. Funds transferred to a local government body become the full responsibility of the local government, and should be managed and accounted for in accordance with the statutory accounting systems laid down by government rules and regulations. Donors should refrain from insisting on special accounting systems and keep any additional accountability requirement to a minimum.

List of signatories:

ANNEX E

TRIPLE-S ANALYTICAL FRAMEWORK FOR COMBINED STUDY AND SCOPING RESEARCH

ANALYTICAL FRAMEWORK OF ELEMENTS FOR SUSTAINABLE SERVICES AT SCALE			
Principle	**Explanation**	**Description of the sector for each principle. This would include the current status and trends therein, as well as the historical background. This column is to be "filled out" for each country.**	**Benchmark (to be developed at a later stage)**
Enabling environment at national level:			
1. Definition of service delivery models and modalities in policy and laws	This element refers to the way in which water service delivery is formally defined in the national policy and legal framework, and the extent to which different sector stakeholders align to that. This includes, for example, a vision of the sector (targets and goals) and its broader position in development policy (PRSP). A second aspect is the definition of the various levels of service (in terms of quantity, quality, distance, multiple-use systems (MUS), rural, small-town, urban, definitions of functionality, etc). Finally, this element refers to both the main paradigm(s) that exist on service delivery and the modalities through which these can be provided, i.e. the definition of institutional framework for service delivery. Asset ownership is an important part of that; if there are doubts about where ownership lies, leveraging the financing for maintenance and asset replacement may be problematic.	For example, in Colombia, the law identifies four service delivery modalities (CBM, private, utility, municipal). In South Africa, the main paradigm to water supply is one of municipal service delivery, in which there is a separation between authority functions at municipal level, and provider functions, which can be carried out through different modalities. Honduras and Nicaragua have four categories of degrees of sustainability of services. In Costa Rica ultimate ownership for the rural water systems is with the state and community, or private operators are only given licence to administer systems in law.	
2. Decentralisation policy for water sector	This element refers to the extent and way in which decentralised service delivery is carried out, in terms of the roles and responsibilities and resources, as well as the programmatic structures for that. For example, there may be one national water supply programme, guided from national level but carried out at decentralised level. Or, each local government may have its own programme. It also refers to the extent to which development partners contribute or not to this policy and programme. For countries where decentralisation is in process, it also refers to the way that process is structured and how decision making, assets and staff are owned and/or transferred to the decentralised level. Four facets of decentralisation are commonly seen: financial, political, functional and administrative.	In Uganda, the sector moved from area-based programmes to full decentralisation, in which every district has the responsibility to provide services. Since the establishment of a SWAp there, most bilateral development partners contribute to this overall programme, and don't have parallel project structures. However, a significant number of INGOs continue to work outside this framework at intermediate level. South Africa developed a policy for the transfer of staff and physical assets from DWAF to municipalities and in the LAC region there has been the trend to re-centralise some technical functions of support for service delivery.	

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ANALYTICAL FRAMEWORK OF ELEMENTS FOR SUSTAINABLE SERVICES AT SCALE			
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3. Oversight (regulation) and accountability	With decentralisation of responsibility for service delivery to intermediate levels, national government plays an increasingly important role in oversight, regulation and enforcement, so as to ensure accountability from service providers to users and to national governments, including elected branch of government. This is an element that looks at the frameworks, tools and mechanisms that have been put in place for this. This could include for example sector monitoring and reporting at an aggregate level. It may also include more innovative approaches to service provider accountability to national government, as well as the mutual accountability between governments and development partners.	In Uganda, districts provide annual reports against 10 golden indicators, which are compiled into a sector performance report. In Colombia, community-based service providers need to provide similar management information to the national regulator as utilities. This places too heavy a burden on rural operators, and is not of relevance to their operations. This has given rise to efforts to develop monitoring and regulation tools, specifically geared towards rural CBO operators. The WaterAid community scorecard approach is used in Ghana.	
4. Mechanisms for coordination, learning, support and technical assistance to intermediate level (sector learning)	In many countries, decentralisation is not only about the formal policies and frameworks that guide it. Many local authorities need and will continue to need support, in many forms, ranging from access to information, capacity to learn and reflect, technical assistance, etc. This element refers to the mechanisms that exist at sector level for such learning and support, both at national level, and then downwards to the intermediate level. It would include elements such as presence and use of sector information systems, resource centres, inclusion of water in university curricula, etc.	In Ghana, regional technical teams assist district authorities in a range of aspects of water service delivery. In many countries in Latin America there is a trend towards re-centralisation of technical assistance functions to the provincial level where there is an economy of scale in supporting municipalities. In Uganda, once a year a joint performance assessment is made for the water sector and then discussed between government, development partners and NGOs. Based on that assessment, priorities for further emphasis for the next year are defined.	
5. Sector financing	This element refers to four aspects: 1) the sources of financing (taxes, transfers, tariffs, donor funds, community contribution, private sector), 2) the way in which financial flows in the sector are earmarked, for example the percentage of grants to be dedicated to capital expenditure (CapEx), operation and minor maintenance expenditure (OpEx), capital maintentance expenditure (CapManEx), direct support costs, etc., but also what would be needed at sector level for indirect support costs, 3) the ways in which these financial flows are coordinated and managed at national level (SWAps, five-year expenditure frameworks, off-budget, project-based), but also downwards to the intermediate level (annual disbursements cycles, conditional grants, unconditional grants, project-based), and 4) an indication of the relative size of financial flows and routing, if available, would be important.	In Honduras, there is no overall overview of the total amounts flowing into the sector. At most some government and donor funds are known. No central database on financial flows exists. Ethiopia distinguishes four flows of funds. In Uganda, the main flow of funding is the conditional grant to districts. Most bilateral development partners contribute their funding to this common fund, established under the SWAp. Percentages are given on how these funds are to be used by districts for capital costs, software, hygiene promotion, operational costs, etc; but in addition, about one third of total sector investment is through off-budget mechanisms (largely through INGOs).	

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6. Organisational culture and behaviour with respect to harmonisation and coordination	This element refers to cultural and individual attitudes, experiences, beliefs and values of an organisation at international, national and intermediate levels: The particular set of values and/or norms that are found within groups and people in an organisation and that direct the way in which they interact with each other and with stakeholders outside the organisation. Why are agendas set as they are? Why are decisions made to fund in a certain way? What are the attitudes of donors to more aligned funding? Why do governments have certain attitudes to donors/ NGOs, etc.? Why do NGOs want to work alone? Why don't people pay their water bills?	In many countries certain bilateral donors (USAID, JICA, etc.) often do not engage with sector alignment processes or in SWAp mechanisms – their motivation for this is often driven by implementation policies set at headquarter level. In a number of countries there is a fair degree of animosity between government and non-government organisations (e.g. Mozambique or Bangladesh). These views are often driven by political differences, control over resources and other agendas.	
Governance over services delivery at intermediate level:			
7. Institutional responsibilities for the different stages of the life cycle of service provision	This element refers to the definition of roles and responsibilities for different functions (planning, construction, post-construction support, operations and maintenance, monitoring, training etc.), who are supposed to fill these functions, and whether all different functions that are necessary are covered by these agencies.	The South African framework defines different options for service provision and post-construction support, and separates authority and provision functions.	
8. Coordination mechanisms and platforms at intermediate level	Apart from a definition of the roles of each stakeholder in services provision, there is a need for coordination mechanisms between them. Under this element, the mechanisms (platforms, bodies, etc.) for such coordination are described and analysed in terms of their effectiveness. Coordination would refer to all stages in the life cycle, from coordination of efforts to address capital investment needs, to the identification of needs to provide post-construction support. Typical issues would include coordination between NGOs active in the district, but also mechanisms for coordination between those having governance functions and those having service provision roles. Coordination between different government bodies may also be an issue, particularly where some functions are decentralised and others are deconcentrated.	In Zimbabwe, officially, both districts and government agencies form part of the District Water and Sanitation Sub-Committee (DWSSC) as coordination body. In practice, many NGOs by-pass this body, particularly since the on-set of the political and economic crisis, through which local authorities lost both legitimacy and financial clout. A compounding complexity is the tension between Rural District Councils as decentralised branches of government and the Ministry of Health which is a deconcentrated body.	

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9. Monitoring and information systems for full service delivery	This element refers to mechanisms and systems in place for collecting all kinds of information on water systems (schemes) in the districts, and access to these for use by different stakeholders in planning processes. It is also closely related to issues of access to information and accountability, both upwards and downwards to communities.	Honduras has a SIAR, which contains information for all water supply systems in an area, including their performance indicators. However, this is not easily accessible at municipal level, but is used mainly by province-based technicians. The SIAR is limited to water supply aspects, but there is interest to expand this to include sanitation information as well.	
10. Strategic planning for full life cycle for service delivery (capital projects, operations and post-construction support) at intermediate level	Under this element, the focus is on medium-term strategic planning approaches and mechanisms for the full life cycle of delivery of services, according to the defined norms and standards, so entailing both capital investments and ongoing provision, and post-construction support for the entire area of jurisdiction at intermediate level. This also refers to how priority setting and targeting of investments is done to different groups within the area of jurisdiction. For example, are specific measures in place to target the most vulnerable and poorest groups? Are there pro-poor policies or criteria? Are investments biased to certain areas?	South Africa uses the water services development plan for district planning of water services, which aims to identify both new investment needs and needs related to the support of existing services.	
11. Financial planning for all life-cycle costs	This element refers to the financial component of strategic planning (see previous element). Such planning should consider all costs: CapEx, OpEx, CapManEx and direct support costs. It includes all income and sources of income, including tariffs, transfers (from national government), taxes, donor grants, and both public and private investments. It also refers to the consistency between planning and availability of sources of funding (grants, direct investments, customer tariffs and contributions) to cover these costs, including both public and private financing mechanisms. Of particular importance is the clarity and consistency in terms of expected contributions of different customer groups, and inversely the targeting of subsidies, if any. Although this element is part of the previous one, it is so crucial, yet often not done properly, that it is a different element here.	Uganda's conditional grant specifies the percentages of this grant to be used for CapEx, CapManEx and support costs (though not using those terms). However, districts plan more in an ad hoc way. In Ghana, district development funds aim to add performance benchmarks, linked to financial disbursements and future earmarking.	

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12. Project implementation approaches	This refers to the approaches followed by actors at intermediate level, both in capital projects and ongoing support. Of particular importance is the standardisation of aspects such as creation of demand for improved services, and health and hygiene promotion, but also the use of supporting tools, such as manuals and guidelines. Another aspect is how these approaches are articulated in short-term (annual) planning cycles, as well as in project cycles.	In Uganda, government manuals and guidelines exist for the implementation of capital projects. Everyone is supposed to follow these. UWASNET, as umbrella body for NGOs, promotes that these are also used by NGOs, but in practice there is patchy take-up by some NGOs. Even though these manuals emphasise the need for demand creation and participatory planning approaches, in reality, little attention is given to these software issues in project implementation.	
13. Capacity (resources, supply chain, structures, systems and procedures, etc.) to fulfil functions during the entire life cycle of service provision and to carry out governance functions	Apart from clear responsibilities, there must be capacity at the intermediate level for both service provision and governance functions. Capacity refers to human resources (management, technical assistants, private operators, hardware shops, etc.) within the area, as well as material (computers, vehicles, etc.). The type of capacity required differs along the stages of the life cycle and types of system. In the post-construction support phase, spare part supply chains are relevant for example, while during capital investment projects, hardware and machines are needed, alongside expertise in software.	In many countries, there may be lack of access to skills and services to maintain water systems. This could equally apply to legal advice.	
14. Embedding water services delivery in framework for IWRM	Sustainability of rural water supply services is affected more and more by increased competition over water resources. Rural water supply services therefore need to take into account water resources issues, and in that being based on the principles of IWRM (Dublin principles). This implies that at levels above the community (sub-catchment, district, etc.) an assessment is made of available resources and how these affect service delivery. Both strategic planning at intermediate level and planning of capital works need to be done within such a framework for IWRM. In addition, efforts need to go into promotion of representation of the rural water supply sector in platforms for water resources management. Under this element, an analysis should be made on how this is taken into account in services delivery. In many countries, this implies looking at the interface between local government and water resources institutions.	In South Africa, planning and allocation of water resources defines a Basic Human Needs Reserve for rural water supply, which needs to be taken into account during catchment allocation. Lack of appropriate water resources management institutions and regulations have led to many water supply systems affected by groundwater level decrease in different states in India.	

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15. Appropriate technology options	Technology options must be appropriate for the physical and socio-economic environment. Under this element, the focus is on the range of options available to communities to support full coverage, sustainability and the ability to respond to changing demand for higher levels of service. A key issue is finding a balance between the development and use of innovative technologies and standardisation to allow economies of scale, in for example the supply chain.	Zimbabwe has standardised rural water supply technologies, particularly the so-called bush pump. This has helped setting up supply chains and improved spare part availability. However, it has also stifled technological innovation. The rope pump has become a sector standard in Nicaragua and has also helped to improve sustainability.	
Service provision level:			
16. Institutional arrangement for service provision	At community level, effective service providers need to be in place to manage the service. This can either be CBOs, under the community management approach, or other service provision and management models (private operators, etc.). This element focuses on the type of providers that exist legally, as well as the type of contractual arrangements and regulations in place (service agreement, lease contract, etc.). Much of this should reflect national policy, but there is frequently local innovation and variation.	In Colombia, the law identifies four service delivery modalities (CBM, private, utility, municipal). In some countries there is the presumption that community water committees are formal entities, but in quite a number of cases they may have no legal standing which can be problematic in a number of aspects.	
17. Mechanisms and approaches for customer participation in the full life cycle of the service	The basis for sustainability is laid during capital works projects. During such works, demand is created for services and capacity is developed at community level to operate and manage the services, in the form of CBOs or other local operators. Ample evidence shows the importance of participatory planning tools and approaches in this. The same applies to other phases in the life cycle. During the operation and maintenance this can come in the form of mechanisms for customer relations and feedback to service providers. Under this element, the focus is on the mechanisms and approaches for customer participation, and the quality of this, during the full life cycle.	Again, the community score card developed by WaterAid is one example of this type of accountability mechanism.	

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18. Financial arrangements for water services provision	This element looks at the financial arrangements for water services provision. A first aspect is clarity on expected customer contributions in different stages of the life cycle, including initial contributions to capital works in the case of CBM, or other upfront investment arrangements. Another aspect are the arrangements in place for sound financial management, such as the possibility for CBOs to open bank accounts, have access to commercial loans, billing software or audits by independent auditors.	Legally established CBOs in Colombia have to open a bank account, once they are established with the chamber of commerce. In Honduras, municipalities are supposed to ensure auditing of the accounts of CBOs.	

About Triple-S

Triple-S (Sustainable Services at Scale) is an initiative to promote 'water services that last' by encouraging a shift in approach to rural water supply—from one that focuses on implementing infrastructure projects to one that aims at delivering a reliable and indefinite service. The initiative is managed by IRC International Water and Sanitation Centre in the Netherlands in collaboration with agencies in different countries and with funding from the Bill & Melinda Gates Foundation. In Ghana, Triple-S is hosted by the Community Water and Sanitation Agency (CWSA).

About *Ghana: Lessons for Rural Water Supply—Assessing progress towards sustainable service delivery*

This study, commissioned by Triple-S, seeks to shed light on the progress in achieving scaled-up sustainable rural service delivery. It examines a number of service delivery models currently being implemented in Ghana, by identifying their strengths, challenges and limitations. The study also identifies key conclusions for achieving more sustainable service delivery in Ghana. It is one of 13 country studies done as part of a broader international study.

For more information and access to other country reports, literature reviews, and the synthesis document please visit www.waterservicesthatlast.org. The Ghana study is also available from www.cwsagh.org.

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