

Professionalising rural and small-town water supply management: The need to enhance external support arrangements

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Cover image

Nyangoma Edith, Water Scheme Manager, supervising piped water extension works in the Namayingo Water Supply Scheme in Namayingo District, Uganda.

Overview

This report examines the level of support provided to different management models for rural and small-town water supply services in ten countries: Burkina Faso, Ethiopia, Ghana, India, Mozambique, Nepal, Nigeria, Rwanda, Tanzania and Zambia. A range of different management models are required to reach sustained universal access. These models include variations of self-supply, community-based management (CBM) and public or private utility provision. Strengthening the support that service providers receive under these models is crucial for achieving Sustainable Development Goal (SDG) 6.1 and shifting to more professionalised service provision, particularly in contexts where demand for services is rising and communities are increasingly pressured by climate change.

Key messages

1. Rural and small-town water supply management models include variations of self-supply, community-based management (CBM) and public or private utility provision. While forms of public utility and private operator-based management are often prioritised, the scaling of these models is generally slow and insufficient emphasis has been placed on professionalising CBM.
2. Countries with universal access to water supply services often use a variety of water supply service management models, including forms of supported self-supply and CBM that are tailored to different demographic contexts and technologies. This is particularly common in countries where it is not practical or economically viable for utilities to extend network coverage to all rural communities.
3. All management models need ongoing support to operate effectively and prevent the negative cycle of building, neglecting and then rebuilding infrastructure. This support is required for, but not limited to, technical and financial aspects, organisational development, monitoring and regulation.
4. A wide range of actors hold support functions and can be both internal and external to management model service providers. Internal actors are usually high-level staff within the service provider. For example, regional or national departments within a utility supporting personnel working at an individual water facility. External actors comprise a more diverse set of stakeholders, including local government, technical support agencies, regulators, ministries, the local and international private sector, financial institutions, service provider associations, political, religious and traditional leaders, and non-governmental organisations (NGOs) and civil society organisations (CSOs), amongst others.
5. Crucially, across all management models, a common and often substantial gap persists between the responsibilities established in policy/operational guidelines and the extent of support actually provided.
6. Alternative models to CBM based on public and private provision are not automatically professionalised or even viable if they are not properly supported. For any management model to be professionalised, support needs to be strengthened.
7. The level of support a management model's service provider receives appears to positively influence the quality of service provided.
8. Professionalised management models that include appropriate support to service providers are a vital foundation for ensuring climate resilient service provision.

1. Introduction

Professionalisingⁱ management models for rural and small-town water supply services is crucial to achieving Sustainable Development Goal (SDG) 6.1. Despite substantial progress, 703 million people are still without access to at least a 'basic' drinking water supply service, and 2.2 billion lack a 'safely managed' service¹. Most of these people live in rural and small-town areas of low- and lower-middle-income countries, many of which are considerably off-track for achieving universal access to 'basic' water supply services by 2030¹. The widespread failure to sustainably manage existing water supply services remains a pressing challenge and professionalising the management of rural and small-town water supply services is therefore crucial to accelerating progress towards SDG 6.1. Moreover, professionalised management models that include tailored support to service providersⁱⁱ are vital for ensuring climate resilient service provision.

All service providers need support to ensure sustainable and equitable service delivery. Upper-middle and high-income countries' experiences demonstrate that achieving universal access typically requires multiple management models tailored to different demographic and socio-economic contexts and technologies (see Box 1). This includes variations of supported self-supply, community-based management (CBM) and public or private utility provision. Establishing and operationalising support for service

providers is crucial to professionalising any management model. The support required varies according to the complexity of service providers' responsibilities, the scale of their service areas and the type of technology involved. Types of support range from technical and financial aspects to organisational development and monitoring and regulationⁱⁱⁱ.

This study assesses the extent to which support functions are performed under management models for rural and small-town water supply services. It also identifies the steps required to enhance the support that service providers receive and enable professionalisation. It builds on previous studies that focused on professionalising rural water supply management by assessing the extent to which mandated support functions are performed^{2,3,4}.

The study covers 13 areas of support across four categories and assesses the support provided by internal and external actors to service providers within different management models (see Table 1). Internal actors are usually high-level staff within the service provider. For example, regional or national departments within a utility supporting personnel working at an individual water facility. External actors comprise a more diverse set of stakeholders, including local government, technical support agencies, regulators, ministries, the local and international private sector, financial institutions, service

ⁱ The term 'professionalisation' is often used interchangeably to refer to: (1) Strengthening CBM by formalising roles and responsibilities; moving away from a reliance on unpaid and untrained volunteers towards employing trained and paid staff; adopting good managerial practices; and providing more systematic support to communities, and (2) Adopting alternative management models, most commonly involving public utilities and the private sector⁵.

ⁱⁱ 'Service provider' refers to the actor (individual, community committee, local government, public utility or private operator) responsible for performing the day-to-day operations of a rural water supply scheme, or some aspect of them.

ⁱⁱⁱ Support is also required for other actors within management models, including households (e.g. subsidising household connections), sub-national governments (e.g. performing often expansive service authority functions), and regulatory actors (e.g. expanding regulatory activities to rural contexts).

provider associations, political, religious and traditional leaders, and non-governmental organisations (NGOs) and civil society organisations (CSOs), amongst others.

The study was conducted in ten WaterAid offices – Burkina Faso, Ethiopia, Ghana, India, Mozambique, Nepal, Nigeria, Rwanda, Tanzania and Zambia – and the global office. In each country, management models for rural and small-town water supply services were mapped. This included compiling information from primary and secondary sources about the quality of services delivered and the support responsibilities of different actors for each model.

Participatory workshops were held with sector stakeholders, including ministries, regulators, technical agencies, sub-national governments, service providers, development partners and CSOs, to determine the extent to which mandated support functions were being performed effectively. This evaluation was

based on a four-point scale ranging from ‘non-existent’ to the highest level of ‘desired’ support (see Table 2). The workshops also identified sector priorities for improving the management of rural and small-town water supply services and enhancing the support given to service providers. The study drew upon lessons learned from models in Ireland, Peru and Uganda.

The findings from this multi-country study are synthesised in the rest of this report. Section 2 details the rural and small-town water supply management models used across the ten focus countries. Section 3 presents findings that demonstrate the extent to which these management models receive the support they require. Section 4 concludes by outlining the steps required to enhance the support that service providers receive and enable professionalisation. Country-specific findings and recommendations are available in the ten individual country briefs.

Table 1: Support dimensions and their components for rural and small-town water supply management models

Dimension	Components
Technical	Under the management model, service providers are supported to perform regular preventative maintenance, conduct or ensure timely repairs when breakdowns occur, procure quality spare parts, and perform the required water quality management functions effectively.
Financial	Under the management model, service providers receive financial support to cover shortfalls in their operational and capital maintenance expenditure.
Organisational development	Under the management model, service providers receive refresher training for performing key technical and financial functions and are supported to resolve any conflicts/grievances that may emerge.
Monitoring and regulation	Under the management model, service providers are monitored, incentives and sanctions are consistently applied, performance reports are produced and shared, and a clear tariff setting process and guidelines exist and are followed.

Box 1: A plurality of management models for rural and small-town water supply services (Ireland)

In the mid-1990s, Ireland's rural water supply sub-sector faced significant challenges. Facilities lacked appropriate treatment, service providers failed to receive relevant and consistent support, and there was insufficient business organisation and forward planning⁶. However, these challenges were overcome by embracing a range of management models that accounted for different consumer groups' needs and preferences, especially those in more sparsely populated rural areas. Of note, 11% of Ireland's population is served by a mixture of privately operated schemes, part-private operated schemes based on CBM with the delegation of some technical functions (i.e. maintenance, repairs, water quality management) to private operators, and household self-supply⁷.

The Irish Government has actively supported these models. It provides grant funding for infrastructure improvements and helps finance the National Federation of Group Water Schemes which is the representative body for the community-owned group water schemes and provides a wide-ranging set of technical, organisational development, and monitoring support as part of wider efforts to professionalise rural water supply services management⁷. This federation-based model helps to ensure service continuity in rural areas. The model is similar to that found in a number of other European countries (e.g. Austria, Denmark, Finland and Spain) where it is not economically viable for utilities to extend services to all rural communities and CBM remains prevalent.

Jessica (left) stands by the waterpoint while other community members collect water at the water points underneath the recently built elevated water storage and water supply in Ha-Mangilasi, Vhembe district, Limpopo province, South Africa.



2. Management model overview

A wide-ranging set of management models are applied for rural and small-town water supply services. Figure 1 presents a typology of management models for rural and small-town water supply services and specifies the actors performing service provider, service authority and regulatory functions. An increasingly diverse set of management models are applied as countries look to professionalise the management of rural and small-town water supply services and move away from unsupported forms of CBM. This includes a commonly applied form of CBM based on water committees performing service provider functions with support from the local private sector and local government (CBM 1). It also covers CBM variations where private operators are formally delegated the responsibility for providing technical functions such as preventative

maintenance, spare parts procurement and repairs (CBM 2) and where associations or federations are established to support the management of rural water supply services (CBM 3). The typology also includes self-supply and models based on private service provision, including schemes owned and operated by typically informal private operators (PRIVATE 1) and models based on delegation and oversight by sub-national government (PRIVATE 2), utilities (PRIVATE 3), and asset-holding entities (PRIVATE 4). Finally, a growing set of countries prioritise public service provision through national or sub-national utilities managing rural and small-town water supply services (PUBLIC 2), while in a smaller set of countries, local government units or departments are managing some services (PUBLIC 1).



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Federesi Nadongo (right) technical supervisor of Buyende Water Supply, supervising the fixing of water pipes for the clean water extension works to Nambula and Mutukula villages, Buyende District, Uganda.

Figure 1: Types of management models for rural and small-town water supply services. Adapted from WaterAid, 2018⁴.

	Self-Supply	Community-Based Management			Private Service Provision				Public Service Provision	
	Self-Supply: Water supply facility is purchased and managed by individual household or small-set of households	CBM 1: Water committee management with external support from sub-national government and local mechanic	CBM 2: Water committee with some technical functions formally delegated to private operator or local mechanic	CBM 3: Water committee management with support from associations or Federations of service providers	Private 1: Privately owned and operated schemes (invest, build, operate) – typically informal operators	Private 2: Private operator management with O&M function delegation by sub-national government	Private 3: Private operator management with O&M function delegation by a utility	Private 4: Private operator management with O&M function delegated to a specialised asset holding entity	Public 1: Local government unit or department direct management	Public 2: National or sub-national utility direct management
Regulatory Functions	Some standards (e.g., for water quality) developed but regulatory mandates often not defined	Regulatory agency, ministry, sub-national government or delegated third-party entity (i.e., utility)						Independent regulatory agency, designated entity (i.e., Ministry) and / or asset holding entity	Designated entity (i.e., Regulator, Ministry) or informal self-regulation	Independent regulatory agency or designated entity (i.e., Ministry)
Service Authority Functions		Sub-national government, or other (i.e., utility)								
Service Provider Functions	Household	Water committee			Formal or Informal Private Operator	Formal Private Operator			Sub-national government unit or department	National or sub-national utility
		Local Mechanic	Private Operator or Local Mechanic	Association or Federation						
Country Examples	Ethiopia; Ghana; Madagascar; Nepal; Nigeria; Tanzania; Zambia	Ethiopia; Ghana; India; Madagascar; Mozambique; Nepal; Nigeria; Peru; Tanzania; Zambia	Burkina Faso; Ethiopia; Uganda	Ireland	Ghana; Mozambique; Nigeria	Burkina Faso; India; Madagascar; Mozambique	Rwanda; Zambia	Mozambique	Madagascar; Mozambique; Nepal; Zambia	Ethiopia; Ghana; Mozambique; Nepal; Rwanda; Tanzania; Zambia; Uganda

Across all ten focus countries, governments recognise the need to professionalise rural and small-town water supply management, which includes strengthening CBM and adopting a wider range of management models. There is a common understanding of the weaknesses in unsupported CBM and a desire to adopt more professionalised models based on strengthened CBM and public or private provision. Progress in defining more professionalised models and detailing the specifics of their application (e.g. roles and responsibilities, service areas, target scale) varies considerably. Zambia and Uganda, for example, have developed detailed strategy documents outlining their vision for professionalisation. However, in countries such as Nigeria, there is a commitment to professionalise the management of rural and small-town water supply services, but the models to be adopted and scaled are yet to be determined.

In most countries, this trend towards professionalisation recognises the importance of adopting multiple management models tailored to different demographic and socio-economic contexts and technologies. In Mozambique, for example, several forms of private service provision have been adopted based on the service area's size⁸. Likewise, in Zambia, professionalisation centres on commercial utilities, but this includes both direct delivery and commercial utilities delegating service provider functions to private operators⁹.

CBM remains predominant in the focus countries, with the scaling of alternative, more professionalised models representing a long-term process of change and investment over multiple decades (see Box 3). While significant progress has been made in introducing and defining more professionalised management models, there are substantial challenges in applying these models at the desired scale. These challenges are often linked to the limited financial viability of achieving cost recovery from managing rural and small-town water supply services and the reluctance of many governments to cover the gap with public funds.

As an example, in Tanzania, the District and Township Water Supply and Sanitation Authorities expanded their coverage by 29% in the financial year 2021-22, but still only have a modest 181,960 water connections (for a rural population of over 40 million people)¹⁰. Likewise, the rural water utilities in Ethiopia, Zambia's commercial utilities, and Rwanda's Water and Sanitation Corporation have each been recently granted expanded mandates for rural and small-town water supply provision, but only serve a small proportion of the rural population. An interesting illustration of the common challenges preventing the scale-up of more professionalised models in Ghana is shown in Box 2.

These examples demonstrate that CBM 1 – water committee management with external support from sub-national government and local mechanics – remains the dominant model.

Box 2: Ghana's challenge in scaling-up more professionalised rural and small-town water supply management models

Ghana has benefitted from introducing more professionalised rural and small-town water supply management models. The Community Water and Sanitation Agency (CWSA) is transitioning from a government-owned technical support agency to a rural-focused utility, and safe water enterprises (SWEs)^{iv} now operate across Ghana. CWSA manages 179 (generally) larger piped water supply facilities, while six SWEs manage more than 720 facilities that serve over 1.4 million people. Nevertheless, CBM remains the predominant model, with water and sanitation management teams managing over 32,000 point water sources and 800 piped water supply facilities. Several factors explain the modest progress in scaling-up more professionalised models. Most notable are:

- CWSA has been acting as a rural-focused utility on a pilot basis since 2017. While the 2024 National Water Policy promotes the model, legal instruments such as CWSA's Act have yet to be modified to formally approve and confirm the new role.
- CWSA and SWEs struggle to cover operational and capital maintenance expenditures from tariffs. This means they require financial support from the Government of Ghana and development partners to cover the capital expenditures (and sometimes the operational and capital maintenance expenditures) required to expand the model.
- Public-private partnership policies and frameworks are not designed for the scale and context of the rural water sector, and there is currently no clear framework for SWEs to take over the management of existing facilities.
- There are no targets or formalised incentives for scaling up the CWSA or SWE models.

Low- and lower-middle-income countries are prioritising models based on public utilities and private operators, with a common trend towards consolidation. By grouping together rural water supply schemes into larger service areas or expanding existing service providers' responsibilities across multiple service areas, consolidation is an important growing trend¹¹. It most commonly occurs through expanding public utility provision to rural and small-town contexts by establishing dedicated rural-focused utilities (Ghana, Uganda, Ethiopia) or pushing existing urban-focused utilities to expand into rural and small-town contexts (Uganda, Rwanda, Zambia, Nepal)².

Several countries, including Mozambique, Burkina Faso and Ghana, have also emphasised expanding private operator provision through build-own-operate

agreements or delegation by local government, utilities or asset-holding entities. Many government and development partner initiatives seek to strengthen CBM, for example, by enhancing the technical support water committees receive and improving revenue generation and financial management^{3,12}. However, when compared to models based on private or public utility provision, less emphasis has been placed on establishing more professionalised variations of CBM or enabling actors, such as local governments and the local private sector, to perform their mandated support functions¹³. The generally slow pace at which public utility and private operator-based models are expanding raises an important question about whether the sector can ensure professionally managed rural and small-town water supply services in the short- to medium-term.

^{iv} Safe water enterprises (SWEs) combine an adapted technology with a social entrepreneurial approach.

Box 3: Uganda's vision for managing rural and small-town water supply services

Uganda has made considerable progress in defining desired professionalised models for rural and small-town water supply services. They recognise the need for multiple service delivery models that are based on a combination of national – National Water and Sewerage Corporation (NWSC) – and sub-national –Umbrellas for Water and Sanitation (UWS) – utilities, as well as a strengthened form of CBM in which technical functions such as preventative maintenance, procuring spare parts, and repairs are formally delegated to area service providers (which could be a private sector organisation, NGO, NWSC, UWS or a handpump mechanics association)^v.

With financial support from the Government of Uganda and technical assistance from development partners, NWSC and UWS's provision is expanding comparatively rapidly (NWSC manages facilities in 258 towns, UWS serves over 380 towns) and delivering vital improvements in service delivery¹⁴. Delegation of technical functions from water committees to area service providers is resulting in improved service levels – one area service provider achieved a 98% functionality rate across 18 districts and facilities serving over 320,000 people¹⁵. However, considerable challenges impede the model's scaling. These include a shortage of potential area service providers, local private sector capacity constraints, the financial viability of rural water supply service provision, and barriers to contracting private operators.



Community members fetching water at the water points underneath the recently built elevated water storage tanks in Ha-Mangilasi, Vhembe district, Limpopo province, South Africa.

Forms of household self-supply and private operator provision are present in most countries but are often not formally recognised. Self-supply exists and is common across all ten focus countries but only a small set of countries (e.g. Ethiopia) formally recognise the model and actively promote self-supply. Likewise, in several countries (e.g. Ghana, Nigeria), informal private operators provide water supply services without any formal recognition, approval or regulation by government institutions. The scale of these unsanctioned models is surprising. In Ghana, for example, over 300 informal private operators were identified across just six of the 261 districts.

^v Service users have to opt-in to both the UWS and area service provider models.

3. Summary findings

A wide range of actors hold support functions and can be both internal and external to the management models' service providers.

The extent to which these support functions are officially defined varies considerably between countries and management models. In Ghana, for example, the Community Water and Sanitation Agency (CWSA) has provided detailed guidance about the support that water committees (Water and Sanitation Management Teams) should receive, including the frequency and scope of monitoring, maintenance and repairs, and ensuring proper water quality. However, gaps persist in the definition of support responsibilities for Ghana's other management models, particularly in relation to monitoring and regulation.

The water treatment station of Manjakandriana's water supply, Manjakandriana commune, Analamanga region, Madagascar.

Across all management models, a common and often substantial gap persists between the support responsibilities established in policy/operational guidelines and the actual amount of support provided.

The level of support that management models' service providers receive was assessed against 13 components in four categories – technical, financial, organisational development, and monitoring and regulation (see Table 1). During participatory workshops, a four-point scale, ranging from 'non-existent' to the highest level of 'desired' support, was used to assess levels of support.

Table 2 presents the level of support that each management model was reported to receive in relation to the established policy or operational guidelines. While several areas of good performance stand out, and important variations exist between management models and countries, there is a persistent trend of service providers not receiving the specified support across multiple key areas under a range of management models.



Table 2: Extent of support to management models' service providers

■ **Not defined**

Support responsibilities not defined in policies, guidelines or strategies for this dimension

● **Non-existent**

Support is not provided for this dimension.

■ **Limited**

Some support is provided but substantial limitations exist.

■ **Good**

Meaningful support is provided but important limitations remain, and support is not provided as per guidelines.

■ **Desired**

Support is provided as per guidelines but some very small limitations may remain.

Country	Management model	Technical	Financial	Organisational development	Monitoring and regulation
Burkina Faso	Water user associations (CBM 2)				
	Private operators (PRIVATE 2)				
Ethiopia (Amhara and Oromia regions)	Water, sanitation and hygiene committees (CBM 1)				
	Water user associations (CBM 2)				
	Rural water utilities (PUBLIC 2)				
	Umbrella utilities (PUBLIC 2)				
Ghana	Water and sanitation management committees (CBM 1)				
	Safe water enterprises (PRIVATE 2)				
	Community Water and Sanitation Agency (PUBLIC 2)				
India (Madhya Pradesh State)	Village water and sanitation committees (CBM 1)				
	Bulk water providers (PRIVATE 2)				
Mozambique	Water committees (CBM 1)				
	Independent private water suppliers (PRIVATE 1)				
	Delegated private operator by local authorities (PRIVATE 2)				
	Delegated private operator by Water Supply and Sanitation Infrastructure Board (PRIVATE 4)				
	District Services of Planning and Infrastructure (PUBLIC 1)				
Tanzania	Community-based water supply organisations (CBM 1)				
	District and township water supply and sanitation authorities (PUBLIC 2)				
Zambia	Village-WASH committee (CBM 1)				
	Private operator with commercial utility delegation (PRIVATE 3)				
	Local authority with commercial utility delegation (PUBLIC 1)				
	Commercial utility (PUBLIC 2)				
Nepal	Water and sanitation user committees (CBM 1)				
	Water boards (PUBLIC 1)				
	Kathmandu Upatyaka Khanepani Limited (PUBLIC 1)				
	Nepal Water Supply Direct Provision (PUBLIC 2)				
Nigeria (Bauchi and Enugu States)	Water committees (CBM 1)				
	Private operators (PRIVATE 1)				

Despite the predominance of CBM, of all the formally recognised models it typically receives the least support.

CBM (especially CBM1 – water committee management with external support from sub-national government and local mechanics), performs very poorly and receives the least support in all but one country (Nigeria). Weaknesses are evident across each of the four areas of support – technical, financial, organisational development, and monitoring and regulation – illustrating the extent of the challenge.

The underlying causes of poor support for water committees under this management model include:

- Limited local government budgets (insufficient fiscal decentralisation).
- Absence of a sufficiently strong private sector to assist effectively with technical functions (e.g. maintenance, repairs, procuring spare parts).
- The inability of water committees to raise sufficient revenue to cover the cost of support from available sources (e.g. local mechanics).

Formally transferring important technical functions (e.g. maintenance, repairs, procuring spare parts) from water committees to the private sector (CBM2) is an effective method for ensuring some of the requisite support is provided under CBM (see Box 4). However, challenges persist in scaling-up this model.

Box 4: Delegating technical functions to private operators (Burkina Faso)

In Burkina Faso, local authorities (communes) became service authorities in 2009 and are obliged to delegate the operation and maintenance of handpumps and small piped schemes to water user associations or private operators under an ‘affermage’^{vi} contract. Private operators receive relatively more support than water user associations which rely on informal support from local technicians for maintenance and struggle due to a lack of formal contracts and financial support from communes. Private operators, meanwhile, receive refresher training from the government through the regional and provincial water and sanitation directorates, and are supposed to receive technical and financial support from communes for major repairs to facilities with a lifespan of more than 15 years. Private operators are also better regulated through their contract with the communes and better monitored through their report submissions.

^{vi} ‘Affermage’ contracts are generally public-private sector arrangements under which the private operator is responsible for operating and maintaining the utility but not for financing the investment

Significant variations exist in the support that private operators and utilities receive.

The study found a common trend towards consolidation, with countries prioritising models based on public utilities and private operators. The level of support these service providers receive is typically greater than that given to water committees (see Box 4). However, substantive disparities exist between and within countries concerning the extent of support that service providers receive. The level of that support is often not commensurate to service providers' increased responsibilities when managing more complex infrastructure.

In Ethiopia, for example, over 80 rural water utilities were recently established and benefit from greater levels of support from woredas and zonal or regional water and energy bureaus, than water, sanitation and hygiene committees, and water user associations. However, refresher training on technical and financial aspects is insufficient given the scale and complexity of the schemes they are managing and key gaps exist in the technical, financial, organisational development, and monitoring and regulation support that they receive. Conversely, in Zambia, commercial utilities have developed internal mechanisms to provide the necessary technical support to staff at scheme level, and the model benefits from being monitored and regulated effectively by the National Water Supply and Sanitation Council (NWASCO). Additionally, in Mozambique, significant disparities exist in the level of support that service providers receive under the three different forms of private service provision that are present (see Table 2).

Private operators that were delegated services by the Water Supply and Sanitation Infrastructure Board were considered to have a good overall level of financial, organisational development, and monitoring and regulation support. However, private operators under the two other models (PRIVATE 1 and PRIVATE 2) received only limited support across all four dimensions that were assessed.

Local governments face material and financial constraints that impede their ability to provide wide-ranging support.

As a service authority with responsibilities under most management models, local governments are expected to perform an extensive set of support functions for a range of service providers. This is most pronounced under CBM, where local government is typically responsible for providing a broad spectrum of support that encompasses technical assistance, refresher training, financing major repairs, monitoring (e.g. quality of services, financial performance) and conflict resolution.

In many instances, local governments are also responsible for supporting different forms of public and private service provision (e.g. monitoring and regulating private operators or conflict resolution). This administrative decentralising of responsibilities has not been accompanied by decentralised human, material or financial capacity to perform the mandated duties. For example, in Madagascar, local authorities (communes) are supposed to have a Water, Sanitation, Hygiene Technical Department to support and monitor service providers. However, in reality, these departments lack the requisite technical and financial capacity, which results in service providers (especially water point committees) receiving hardly any of the mandated support functions (see Table 2).

Box 5: Lack of financial support mechanisms for service providers (Ethiopia)

In Ethiopia, there is no clear government policy to provide financial support to service providers for operational and capital maintenance expenditure. As a result, there is either no maintenance funding that can be identified in budgets at woreda and zonal level, or maintenance expenditure proves hard to identify because it does not often come from budgets explicitly earmarked for maintenance¹⁶. This leads to significant unfunded operation and maintenance activities by service providers. For example, utilities rarely spend sufficient resources on capital maintenance to sustain service levels and their funding gaps cannot be economically or politically covered through tariffs alone¹⁷.

There is a common lack of sufficient financial support for service providers to cover life-cycle costs.

Service providers face considerable challenges in raising sufficient revenue to cover the operational, capital maintenance and capital expenditure required for sustainable service delivery. In several cases (e.g. Safe Water Enterprises in Ghana) this is despite concerted efforts and a wide range of interventions to increase revenues and reduce operational costs, such as subsidised household connections, tariff increases, pre-paid and smart meters, online billing software, and modified staffing structures¹⁸.

As well as the difficult operational reality of providing services in rural and small-town contexts, there is a shortage of financial support from external actors to help service providers cover life-cycle costs. The financing support dimension was consistently the weakest (see Table 2) and the case of Ethiopia (see Box 5) illustrates the challenges faced in most countries. Established in 2017, Uganda's 'Umbrellas for Water and Sanitation' is one notable exception. The Ministry of Water and Environment recognise the challenge of sustainable service delivery and provide regular subsidies and financial incentives to the two forms of public utility provision^{vii,19}.



WaterAid/Apag Annankra

Sampson Tettey, Programme Manager stands in front of Kabre Primary School's water system in Ghana.

^{vii} For example, in 2019-20, the Ministry of Water and Environment provided US \$650,000 in subsidies to the 'Umbrellas for Water and Sanitation' to help cover the cost of service provision.

Box 6: Monitoring and regulating community-based organisations to support the professionalisation of rural and small-town water supply management models (Peru)

In 2016, the National Superintendence of Sanitation Services' (SUNASS) mandate was expanded to cover rural water supply, and SUNASS began regulating rural water and sanitation across Peru. Since then, SUNASS has produced yearly benchmarking reports, developed a differentiated regulatory framework for community-based organisations (CBOs) and implemented an information system for rural service providers to monitor CBOs' performance (e.g. quality of service, financial sustainability). Crucially, the regulatory framework for urban areas has been adjusted and tailored to the rural context.

In line with this is the pro-active approach adopted by SUNASS that documents performance, identifies schemes that require assistance, and provides guidance and support to improve performance rather than focusing on punitive measures and sanctions. SUNASS is now looking to expand its regulatory activities and address related weaknesses such as the lack of resources at municipal level to pay for qualified staff.

Efforts to improve rural water supply regulation are starting to happen and are centred on public utilities and private operators.

Effective regulation is an important factor in professionalising rural and small-town water supply services and can contribute to improved performance²⁰. However, regulating service providers in rural areas is not widely applied because of the nature of service provision – there are often thousands of small providers, usually serving small, sparsely distributed populations. Despite these issues, a small set of countries are taking important steps to enhance regulation²¹. In Zambia, for example, the National Water Supply and Sanitation Council (NWASCO) developed a dedicated strategy for providing and regulating rural water supply services²². NWASCO now directly regulates the growing proportion of rural and small-town water supply services provided by Zambia's 11 commercial utilities, and indirectly regulates the services provided by private

operators and local authorities under delegated management contracts with the commercial utilities. However, as with other countries that have taken important steps to enhance rural water supply monitoring and regulation (e.g. Mozambique and Tanzania), these efforts are comparatively recent and largely neglect CBM. Important challenges persist in regulating public and private service providers and water committees, including the need to develop dedicated regulatory mechanisms and regulator capacity. The result is that, at present, rural and small-town provision remains largely unregulated in most countries. Peru offers a rare exception in the substantive steps it has taken to enhance monitoring and regulation of rural and small-town water supply services managed under CBM (see Box 6).

Box 7: The need to operationalise the Jal Jeevan Mission's Capacity Building Plan (India)

In 2019, India launched the Jal Jeevan Mission (JJM) to provide piped water to all rural households by 2024. They invested huge amounts of money (estimated US \$54 billion) in new schemes that were handed over to community or private service providers^{viii}. Key resource centres, funded by JJM on a 100% grant basis, are mandated to build the capacity and understanding of JJM stakeholders, including service providers (e.g. village water and sanitation committees), by identifying training needs and providing training as per specific guidelines on water quality monitoring, operation and maintenance, source sustainability, and use of solar energy, amongst others. However, experience in Madhya Pradesh has shown that the capacity building plan is weak, with service providers only receiving initial training during the scheme handover. This undermines JJM's desired shift from being primarily a water supply infrastructure development programme to one focused on enabling long-term sustainable service delivery under professionalised management models.

Training programmes and refresher training for developing service provider capacity are typically very weak, with a shortage of government-led initiatives.

Most countries have training or capacity building centres (e.g. technical and vocational education, training colleges or institutions), and refresher training responsibilities are defined. Nevertheless, across management models there is a gap in providing refresher training and programmes focused on building service providers' technical and financial management capacity. Only a few instances of 'good' and 'desired' performance for organisational development were found in this study (see Table 2).

Box 7 is illustrative of the challenges in this area and highlights the need to operationalise the Jal Jeevan Mission's capacity development plan. Moreover, while many utilities and some large private operators have capacity development plans and dedicated Human Resource departments with capacity development responsibilities, resource limitations result in most technical assistance and capacity development initiatives being externally funded. Several of the Organisation for Economic Cooperation and Development – Development Assistance Committee (OECD-DAC) countries (e.g. Australia, USA, New Zealand, Iceland) provide examples of the steps that can be taken to build the capacity of community-based organisations¹⁹. To illustrate this, Box 8 details Ireland's National Federation of Group Water Schemes that supports its members on a comprehensive set of topics.

^{viii} Under JJM, every household should receive a functional household tap connection providing 55 litres per capita per day.

Box 8: Ireland's National Federation of Group Water Schemes

From the 1950s to 1970s in Ireland, an ever-increasing number of group water schemes (community-level cooperative structures) were introduced to manage rural water supply facilities under CBM. Due to a lack of support, these were often poorly managed and schemes fell into a state of disrepair, with severe water quality challenges emerging. This led to vital reforms, with the National Federation of Group Water Schemes established to support more effective management. This has centred on:

- Developing and running training programmes (e.g. technical, governance) and providing an avenue for service providers to receive support on specific topics (e.g. remote sensors).
- Supporting communities to delegate vital technical functions (i.e. maintenance, repairs, procuring spare parts, water quality management) to professional private operators.
- Successfully advocating for the Government of Ireland to introduce financial incentives (subsidies, grants) to cover elements such as water treatment upgrades.
- Introducing systems for hazard analysis and control, and enhanced monitoring of service quality.

Ultimately, it has led to a substantial improvement in service levels. For example, E.coli compliance levels on group water schemes have risen from around 60% in 2004 to 94.1% in 2023.

The example from Ireland highlights the importance and broad relevance of many of the key trends in managing rural and small-town water supply services across sub-Saharan Africa. These include the importance of supporting different service providers, consolidating, the value of delegating more complex technical functions to specialised providers, and the need to sustainably finance and often subsidise the full life-cycle cost of rural water supply services.

The level of support a management model's service provider receives appears to positively influence the quality of service provided.

Figure 2^{ix} uses data from this study (see Table 2) and a wide range of (imperfect) secondary data that was available on quality of service (reliability, water quality) from each management model^x to give a simplified overview of the link between the level of support that a management model's service provider receives and the quality of service provided. It does not represent a

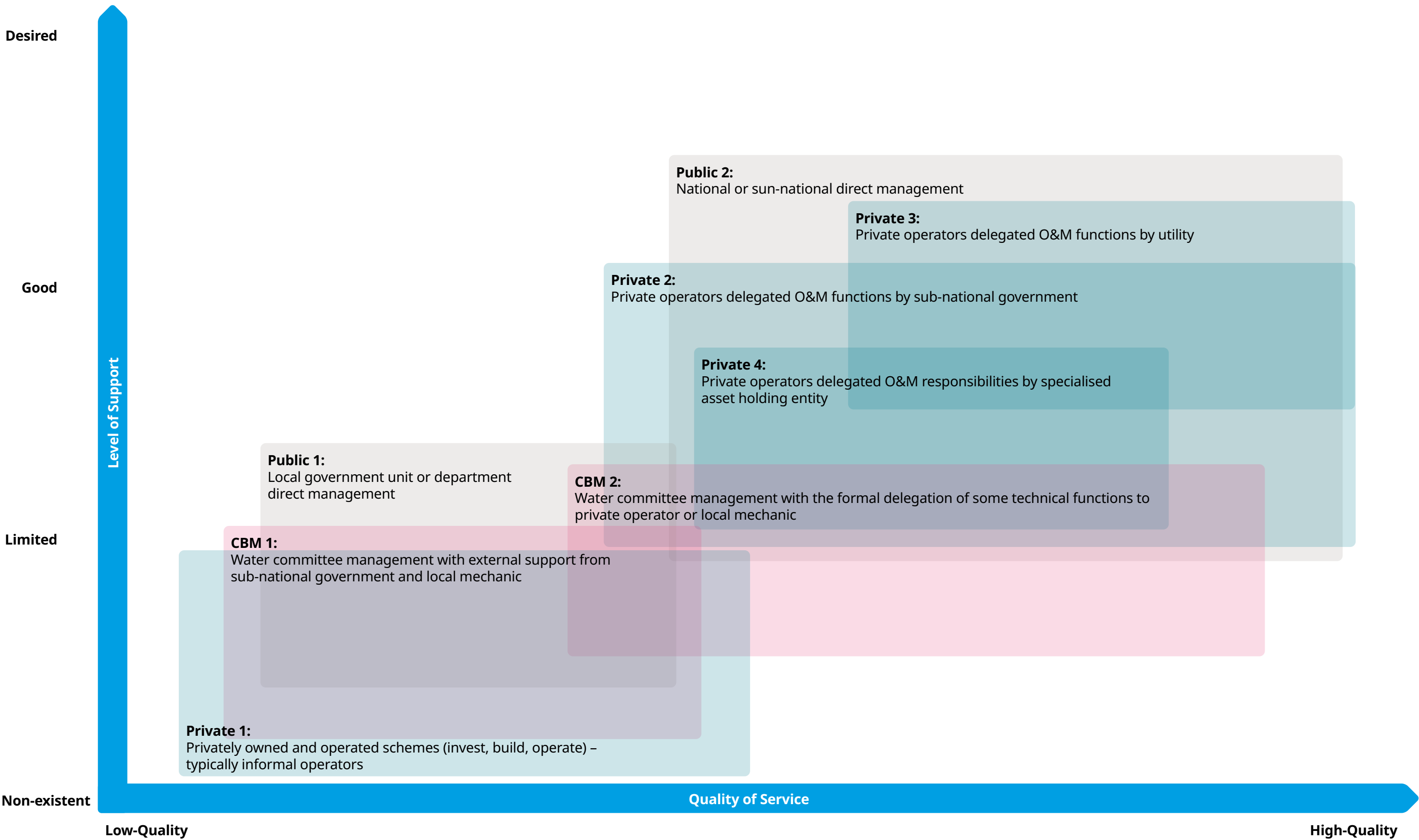
comprehensive summary applicable to all countries and management models; there are variations and outliers and it does not account for other important factors such as the technology being managed or the scale of the service provider's operations. Nevertheless, Figure 2 demonstrates an important apparent overall trend: as the level of support that a management model's service provider receives increases, the quality of service provided improves.

The size of the blocks in the figure vary according to the degree of variance in the quality of service provided by the management model and the level of support provided to service providers under different models. For many categories of management models (e.g. PUBLIC 1), it highlights the support provided to service providers under different examples of the same model (e.g. rural water utilities in Ethiopia, commercial utilities in Zambia). It also reflects how lack of support affects the viability of all models and that support needs to be strengthened for any management model to be professionalised.

^{ix} CBM 3 is not included in this figure because it was not present in any of the ten focus countries included in the primary data collection for this study.

^x See references^{2,3,4,8,10,12,14,15,18,22,23,24,25,26,27}

Figure 2: Level of support and quality of service found in the study. Adapted from Lockwood & Smits, 2011²⁸.



4. Steps for enhancing service provider support

Enhanced support for service providers is critical for professionalising rural and small-town water supply services and accelerating progress towards SDG 6.1. Achieving universal access to water has typically required multiple management models that are tailored to different contexts and technologies because no single model can cost-effectively serve the wide variety of demographic, socio-economic and geographic contexts encompassed under the term 'rural'.

Establishing and operationalising processes that support service providers is crucial to professionalising management models. These include building capacity, addressing financial challenges, enhancing monitoring and regulation, and enabling service providers to draw on actors with greater skills and resources to carry out functions that are beyond their capabilities. However, across all management models, a common and usually substantial gap persists between the support responsibilities established on paper and the extent of support provided in practice.

The actions required to address the situation vary between countries. However, there are three common, interlinked steps that should be undertaken by government institutions (e.g. ministries, regulators, technical agencies) with support from development partners to enhance the support that service providers receive, enable professionalisation, and, ultimately, accelerate progress towards SDG 6.1 across all contexts.

- **Step one: Vision and strategy formulation.** Work with government institutions to assess existing management models and the support required for service providers, and compile best practices for professionalising rural and small-town water supply management (e.g. alternative management models, strategies and initiatives for strengthening or scaling-up management models). Based on the findings, support government institutions to define a long-term vision for professional management, with a costed strategy for achieving it. The strategy should recognise the need for multiple models tailored to different contexts and set out each model's desired scale and service areas and the contexts in which they are to be applied. The costed strategy should include incentives for scaling-up desired models, provisions for enhancing the technical, financial, organisational development, monitoring and regulatory support that service providers receive from internal and external actors, and any necessary policy and legislative changes. Support to service providers must be commensurate with the service provider's mandate, the scale of their operations and the level of technological complexity.
- **Step two: Management model strengthening.** Help government institutions and development partners to implement initiatives and ongoing interventions aligned with the vision and costed strategy. This includes assisting and incentivising internal and external actors to enhance the support provided to service providers, modifying existing programmes, and developing and implementing new initiatives to support the scale-up of more professionalised management models, and ensuring necessary support functions are performed. At the same time, activities should not undermine professional management (e.g. providing maintenance and repair services for free, without addressing the root causes of poor asset management).
- **Step three: Learning and refinement.** Assist government institutions to ensure mechanisms are in place for assessing the impact, strengths and weaknesses of initiatives to support service providers. Dedicated platforms should exist to coordinate stakeholders and enable learning and best practices to be fed back to relevant parties and the wider WASH sector, and to facilitate wider uptake and continuous improvement.

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