

OPERO

DELEGATED MANAGEMENT IN PRACTICE

Lessons from KIWASCO's Master Operators

KIWASCO
Refresh Life

KISUMU WATER
AND SANITATION
COMPANY LIMITED

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1. Executive Summary

Since 2006, Kisumu Water and Sanitation Company (KIWASCO) has delegated water distribution and customer management in the low-income area settlements to local community actors known as Master Operators (MOs).

In 2024-25, Stone Family Foundation and VOx Impuls funded the Delegated Management Model (DMM) Capacity Development for Sustainability, a project that sought to professionalise a carefully selected five (5) Master Operators out of a total of 18+ MOs through providing digital billing systems, training, branding and marketing support.

This project was implemented by a consortium of partners that included, Rural Water Management Solutions (RUWASCO), Elphrods Services, OPERO Services and Water and Sanitation for the Urban Population (WSUP). This report gives insight to the lessons from this work. The 5 MO performance was tracked from August of 2024 to September 2025 and is summarised in figure 1 below;

Fig 1. Master Operators Performance from August 2024 to September 2025



Figure 1 shows how the performance of the master operators compared against Kenya water sector benchmark provided by Water Services Regulatory Board (WASREB) for regulated water service providers. Water coverage and cost coverage had the biggest strain with all the operators serving below the 90% minimum requirement for access and below 150% expected cost coverage ratio that should cater for operational cost and investments.

The Pilot delivered one clear success and exposed a fundamental gap.

The Success: Digital tools gave KIWASCO and its operators genuine visibility into operational performance for the first time. Decisions now could be made from data gathered.

The Gap: Coverage was capped at 35% of households within the MOs defined service areas due to physical extent of their pipe network and infrastructure undermining their revenue potential. The underlying economics of the model leave operators with very thin margins to recover their costs. Professionalization made the problem visible through improved data management and visibility; however long-term commercial viability was not achieved. The pilot exposed underlying structural constraints attributable to a low cost coverage operating tariff, network gaps and lack of an incentive to the MOs.

Addressing these issues would require three things; (i) infrastructure investment to extend networks, (ii) a tariff structure that funds both operators and oversight, and (iii) an accountability system with real incentives.

To further improve the performance of the Master Operators (MOs) and realize true potential, KIWASCO must close these three institutional loops.

2. Background

2.0 Rationale for Delegation

60% of the population in Kisumu is located in low-income areas. KIWASCO adopted the DMM to extend affordable, reliable water services to the residents in low-income settlements such as Nyalenda, Manyatta, and Obunga, areas previously served by informal vendors charging up to KES 20–50 per 20 litre jerrican. By delegating operations, 18 + local operators manage areas under five-year contracts.

This model was first conceived in 2006 with the aim of improving access to low-income households which was characterized by cartels and hindered by lack of city planning. The utility had a Non-Revenue Water of above 65% with 80% of these losses being attributed to low-income areas. Cholera outbreak was also rampant within these areas and frequent vandalism to water infrastructure would often result to service interruption. The utility would suffer low to no collection from the few customers already connected to the grid. These issues necessitated an innovative way of delivering services to low-income areas in Kisumu.

Operations of the DMM in Kisumu have been extensively documented by Water & sanitation for the Urban Populations.

2.1 How does the Delegated Management Model (DMM) work?

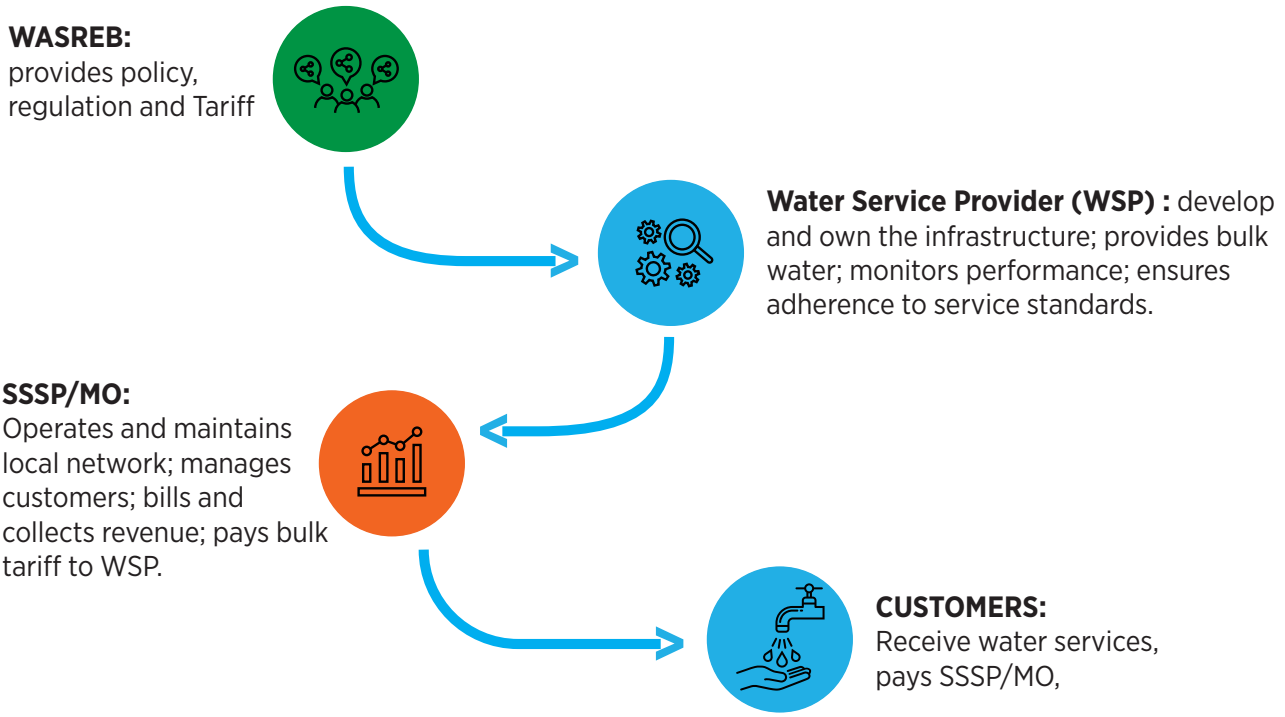
The Delegated Management Model is an arrangement where a licensed water service provider (WSP) delegates daily network operations, maintenance and customer management for a specific defined service area to a local operator or Small-Scale Service Provider (SSSP) which could either be registered private companies or registered community-based organizations.

The WSP retains regulatory oversight, and quality control responsibilities, while the operator handles, daily management of system and its customers such as distribution, meter reading, billing, revenue collection and minor repairs and maintenance along the network. This model creates a partnership between the regulated (WSP) and private operators or community-level actors, bridging the service gap in areas where direct utility operation is not cost-reflective or logistically feasible.

The Delegate Management Model is supported under Kenya's Water Act (2016), which allows utilities to contract third parties under their licenses as long as the Water Services Regulatory Board (WASREB) guidelines are met. WASREB has also published guidelines for regulation of Small-Scale Service providers which defines relationship that should be sustained between the regulated utility and third-party suppliers within their service areas.

This model has been widely used in Kisumu low-income areas, moreover, other utilities in Kenya are increasingly trying to integrate small scale service providers into their water delivery strategies for reaching underserved areas.

Fig 2. Linear Responsibility



The roles for each party are defined as;

WASREB: The regulator provides policy, regulation and approved tariff framework

KIWASCO: The WSP produces and sells bulk water to the MO, develops, expands, rehabilitates the water infrastructure and provides operational oversight and technical support. The utility bears capital investment and service quality risk.

Master Operators: The MO purchases bulk water from WSP, distributes to the customers at the tariff approved, handles operations, customer management and provides monthly performance reports to KIWASCO on key performance indicators. Ultimately, they bare the risk associated to the service provision such as high non revenue and low collection efficiency.

Customer: They receive, and pay for the water and sewer services and acts as ambassadors raising complaints to both WSP and MO in order to improve services.

2. Background

2.2 Where Design Meets Reality

The operationalization of the DMM depends on clear institutionalization and field-level execution.

Our analysis of the actual execution revealed critical systemic challenges and the immediate impact of these gaps.

Specifically, it examined how structural friction such as undefined service areas, tariffs, inconsistent manual reporting and underfunded oversight directly undermined the financial viability, service sustainability and overall performance of the operators.

Table 1: Intended design versus reality and its implication

Issue	Design	Reality	Impact
Service Area Demarcation	WSP provides clear service area boundaries	Undefined and overlapping networks	Unknown growth potential and operator conflict
Tariffs	MOs operate Cost reflective Tariffs	Thin operating margins	Unfunded operations and investments
Infrastructure	WSP develops,extends and rehabilitates network	No expansion and rehabilitation done	Coverage capped, NRW increasing and cost coverage ration falls
Bulk Water Supply	WSP supply's adequate water to MOS	Intermittent and insufficient Supply	Revenue and expansion potential constrained.
Data & Reporting	MOs submit accurate reports	Inconsistent, unverified manual reporting.	Poor decision making
Oversight	WPS provides technical support and handholding	No technical support provided	Stagnation anddeterioration of performance

The delegated management models' support system and institutionalization to achieve the true potential of the MOs remains weak.

3 What pilot revealed

3.1 The Project

In 2024, the Delegated Management Model Capacity Development for Sustainability Project funded by the Stone Family Foundation and Vox Impuls foundation, sought to professionalize and improve the capacity of five (5) Master Operators (MOs).

This was done through a capacity strengthening programme implemented by a consortium of partners. Rural Water Management Solutions (RUWASCO) provided the digital solutions and training to the MOs, Water and Sanitation for the Urban Populations (WSUP) provided technical assistance to the WSP and led conversations with the regulator (WASREB), Elphrods Services provided financing solutions to the MOs and their customers and OPERO services provided quality assurance.

This programme was triggered by stagnation of the MOs. An assessment of 23 MOs conducted by WSUP in 2017 found that weak business management and a lack of entrepreneurial skills were the main drivers to low/slow expansion. Connections simply were not growing despite high potential for expansions; there was low commercial performance of the MOs and a weak human resource capacity.

The key focus of the project was:

Digitisation: A cloud-based digital billing system **Scheme Cloud** developed by **RUWASCO** was deployed to digitise the water billing and payment services while an excel based expense tracker and monthly monitoring tool was introduced to keep a record of all MOs expenses and annual performance against key performance indicators.

All customer manual records were validated and imported into the billing system

Branding and Marketing: The MOs offices were branded with the operator's and KIWASCOs name and logos for a unified identity. Moreover, the MOs were provided with branded PPEs and staff identification cards for easy recognition by customers while conducting field activities.

Social animators were also engaged to support to MOs in marketing activities thereby onboarding new clients and re-engaging old consumers to ensure reconnection and reduction of dormant accounts.

Training: The MOs were trained on business planning, financial management, billing and collection practices, customer service and technical skills for NRW management. This was to ensure that water service provision was done in a professional manner.

Governance: Standard Operating Procedures (SOPs) on customer management, repair and maintenance were developed. Each of the five MOs developed a five (5) year business plan which was approved by KIWASCO.

3.2 The Output

Digitization

All five MOs are now using a digital billing and payment system and report on a monthly basis to KIWASCO on hours of service, new connections, reconnections, complaints and their resolution time, volumes supplied, billed, non -revenue water, collection, expenses and operating cost coverage ratio amongst others.

Standardised Operations

With the introduction of standard operating procedures, there was an improvement in recording field occurrences, customer complaints and resolution mechanism. All the five (5) MOs could reference the same documents in recruitment, customer complaints resolution and leakage repairs.

Connections growth from marketing

Connections grew from roughly 2,800 to over 3,100 driven by intensive marketing, reactivation of dormant accounts and branding of the MO offices which built community trust. Consequently, coverage modestly improved.

Reporting and Operational Performance Visibility

Operational visibility increased through digital tools, improving performance tracking and utility oversight. Key performance Indicators such as hours of service, new connections, reconnections, complaints and their resolution time, volumes supplied, billed, non -revenue water, collection, expenses and operating cost coverage ratio amongst others.

The revenues and costs rose modestly upon utilization of digital reporting systems allowing for a true reflection of MOs performance.

Capacity Enhancement

For the MOs, tools such as the human resource manual would be used for onboarding and managing staff while the business plan provided a roadmap that outlined how they would operate, generate revenue, and maintain compliance. This could be used to source for external funding.

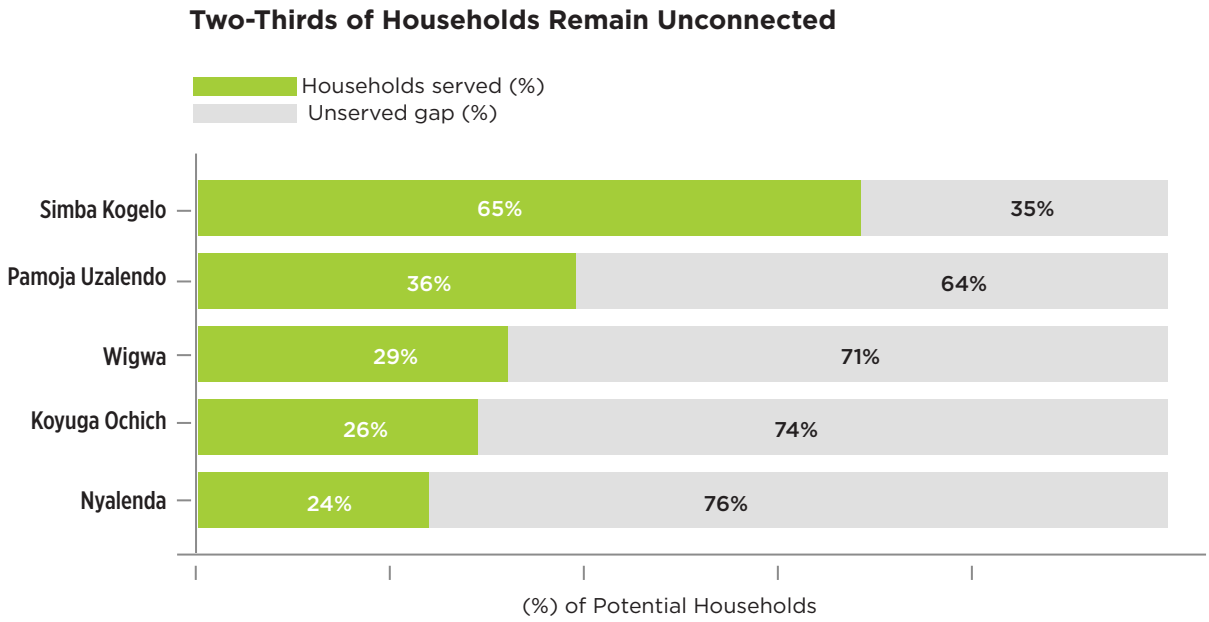
3.3 The Main Constraints

Coverage is constrained by infrastructure not demand

Despite a modest increase in connections during the pilot period, field household assessment conducted revealed a high number of households remained unserved within the MOs defined service areas. A GIS mapping of the MOs infrastructure also revealed network gaps hindering the growth in connections.

Four out of the five operators still served only about a third of households within their service areas as demonstrated in fig 3 because of a lack of pipe network infrastructure.

Fig 3. MOs household coverage



This constraint was physical; there was no infrastructure to connect the remaining two-thirds. Without network extensions, customer growth remains capped regardless of ongoing marketing efforts. On paper, KIWASCO should extend these networks, however in practice, the master operator and customers still bear cost of minor extensions which do not meet the company standards.

Thin Operating Margins

The Master Operators received bulk water from KIWASCO at a cost of 65KES/m3 and retailed that at an average tariff of 83KES/m3. This left a margin of 18 KES/m3 , as demonstrated in fig 4, which must cover staffing, maintenance, non-revenue water losses, billing, transport, and every other cost associated to maintaining the system. The risk is dwindling service quality occasioned by poor and substandard repairs, lack of money to pay and retain competent staff and a lack of incentive to continue providing services.,

Fig 4 Operating margins

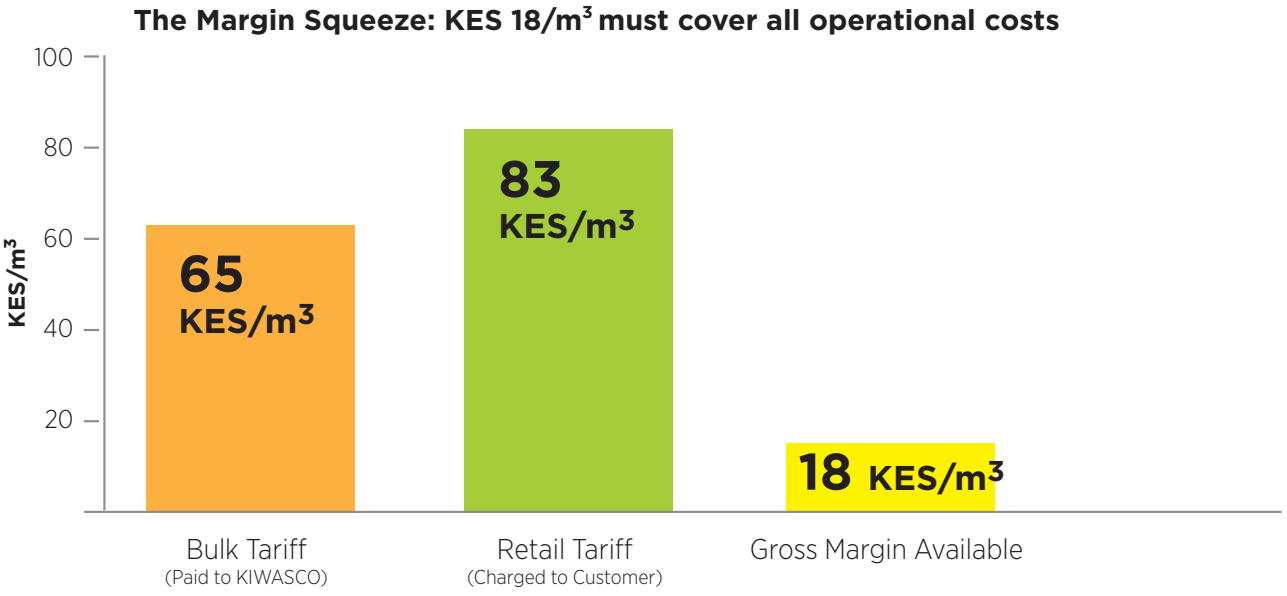


Figure 1: The margin available to operators after paying the bulk tariff

The current arrangement does not generate sufficient and reliable surplus for resilient operations, shocks and reinvestment.

MOs Performance

From Figure 1. Master Operators Performance from August 2024 to September 2025 showed that coverage for all of the MOs remained below the acceptable 90% while majority were within the allowable hours of supply except for two (2) operating below the recommended 21 hours.

Wigwa had the highest non-revenue water above sector benchmark at 38%. Cost coverage ratio was below the sector benchmark of 150% for all MOs. Two (2) MOs were operating below 100%, meaning they were not covering their cost while one (1) was slightly above 100% but still remained at risk of external shocks.

Collection efficiency for a majority of the MOs was above 100% while one (1) MO was at risk of cashflow since it was operating at 96% collection efficiency.

The MOs face significant operational and financial sustainability risks. All operators remained below the recommended service coverage benchmark, limiting both customer reach and revenue potential, while two experienced unreliable water supply. Low-cost coverage ratios across all operators indicate limited financial resilience, with two unable to recover their operating costs and another only marginally breaking even, leaving them vulnerable to external shocks. Additionally, high non-revenue water at Wigwa reflects operational inefficiencies and revenue losses, while one operator's below-target collection efficiency signals potential cash flow challenges that could affect service delivery and maintenance.

3.4 Conclusion

The professionalization programme's clearest achievement was making performance measurable. Before digitization, KIWASCO did not have a reliable way to assess whether operators were sustainable, where losses were occurring, or what interventions would yield returns. That baseline now exists; however, visibility alone does not change the economics: thin margins, ageing infrastructure, and unfunded oversight remain.

The experience reinforces a broader lesson that data is a foundation for better decisions. Reliable performance data enables utilities, regulators, and partners to identify constraints, target investments, and track whether interventions are delivering value. The pilot proved that delegation works within limits set by its architecture.

4 Lessons Learned

The pilot proved that delegation works within limits set by its architecture.

4.1 Insights for KIWASCO and MOs

1. **Fix the economics:** KIWASCO needs to review the tariff structure so that both operators recover actual costs and make minimal investments, this could either be done by reducing cost of bulk water purchase by the MOs or increasing the cost of retail to the customers while retaining bulk purchase price. The current KES 18/m^3 margin is very thin and cannot absorb unpredictable shocks.
2. **Invest in network extension and expansion:** KIWASCO should develop and finance an infrastructure investment plan for each delegated zone. Coverage will remain capped unless the distribution system reaches the households.
3. **Demarcate service areas:** KIWASCO should eliminate overlapping networks between. Unclear boundaries distort operator performance figures in non-revenue water, connections and creates operator conflict, and can make growth targets unclear.
4. **Fund and staff oversight:** The WSP should allocate dedicated budget and personnel for DMM supervision. Unfunded oversight produces unmanaged operators. KIWASCO should consider the management of the DMM running as its own cost centre with cost of oversight catered for from the bulk sale of water while the Investment fund deficit could be subsidised from other utility operations and capital investment support from partners
5. **Digitise all operators:** The WSP should extend digital billing and monitoring to the remaining operators. Without system-wide data, the utility cannot model accurate tariff adjustments, prioritise investment, or benchmark performance.
6. **Introduce performance incentives:** The WSP should link operator rewards to measurable outcomes such as NRW reduction, collection efficiency, connection growth. Good performance should be rewarded and bad performance managed.
7. **Leverage Data:** Now that there is credible data, both the MOs and WSP should use this to inform investment, prioritize interventions and to lobby for support from development partners.

4.2 Insights for Donors and Partners

1. **Fund systems, not just training:** Operator capacity building yields temporary gains unless coupled by tariff reforms, infrastructure investment, and institutional strengthening.

2. **Finance infrastructure in delegated zones:** Targeted capital for network extension and rehabilitation directly removes the binding constraint on operator growth.

3. **Align with national frameworks:** Interventions anchored in WASREB guidelines and utility business strategy are more likely to attract government buy-in and scale across utilities.

4.3 Immediate Next Steps

1. KIWASCO should **map all operator infrastructure** and service boundaries including asset condition assessments and network gaps to establish an evidence base for investment planning.

2. Through internal resources and partnerships, KIWASCO should then **finance the already identified gaps** from the group of five (5) operators to demonstrate that structural investment translates into measurable performance gains.

3. KIWASCO should **strengthen its internal DMM unit** with clear roles, budgets, targets, and accountability for sustained operator support.

5 Adoption Across Utilities

The experience in Kisumu offers practical lessons for utilities across Kenya and the wider region considering or already using delegated management. DMM is context specific and Utilities have to define their primary objective (increase access, manage NRW e.t.c). The core insight is that delegation is not a shortcut to efficiency, it is a governance system that must be deliberately managed and financed.

Strong policy and regulatory foundation:

The utility should first ensure that its approach aligns with WASREB's national guidelines and that there are clear legal and contractual frameworks for engaging delegated operators. Well-developed Standard Operating Procedures (SOPs) are important to define how operators will manage daily activities such as billing, maintenance, and customer service, and to make sure everyone understands their roles and responsibilities.

Financial structure:

The model works best when there is a cost-reflective tariff that allows both the utility and the Small-Scale Service Provider (SSSPs) to cover operational costs and re-invest in improving the system.

Institutionalization:

The utility needs internal systems to oversee and support the delegated operators. This includes having a dedicated team to monitor Small-Scale Service Provider (SSSPs) performance, well-mapped service areas, and an understanding of the infrastructure condition in each zone.

Capacity:

SSSPs should be trained in customer management, record keeping, and basic technical aspects of the work. Continuous mentorship and opportunities for peer learning between operators help build long-term competence and accountability.

Monitoring and Evaluation:

Regular reviews based on clear performance indicators such as NRW, collection efficiency, and service hours allow both the utility and SSSPs to make timely improvements.

When these elements come together, the DMM becomes more than a contractual arrangement, it becomes a partnership model that extends services to underserved areas, enhances local accountability, and builds financial and operational sustainability for the utility

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