

## Rural water management: What Drives Performance?

Summary of RWSN e-discussion

31st October 2022 to 25th November 2022



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RWSN Sustainable Services Theme

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## Background

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### Activities that drive the performance of management arrangements

The combined effects of changing rural landscapes, rising expectations and slow improvement to rural water services are leading to an evolution in approaches to rural water management. For decades, rural water services have been managed by communities with largely disappointing results. Although community-based management (CBM) remains the predominant arrangement, governments are recognizing its limitations and taking steps to improve rural water management performance in different ways often referred to as “professionalization”:

- Strengthening CBM through a combination of training, long-term regularized support or through the establishment of mechanisms for specialized maintenance providers, and/or the creation of more horizontal, groupings or associations of CBM service providers.
- Adopting alternative models through the involvement of public utilities or private operators with more skilled and remunerated staff to either directly operate water supply facilities or to provide outsourced maintenance functions. The adoption of alternative models at the sector level is happening at different scales and often comes about as the result of iterative change processes, lasting over many years and that may involve lengthy sector debates and investments in various levels.
- Rethinking the scale of service provision: through “consolidation” or “aggregation” of water supply schemes across defined service areas to achieve greater financial viability and spread risk, thereby making O&M more viable at scale to attract more professional operators.

As the transition from a more homogenous policy offering (i.e. CBM) to a more pluralist set of management alternatives accelerates across low and middle-income countries, the sector is at an inflexion point in terms of understanding rural water management.

Whilst there is a widespread acceptance that performance is driven by a wide range of financial, institutional, environmental, technical, and social aspects at multiple levels; important knowledge gaps remain on the performance of different management arrangements and the combination of elements that support service delivery performance.

In order to share practices and promote cross-learning, an e-discussion was held from 31<sup>st</sup> October to 25<sup>th</sup> November 2022.

### Overall aim of the e-discussion

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The e-discussion aimed to:

- Gather practitioners’ perspectives and experiences on the practices, WASH systemic aspects and broader contextual factors that drive performance
- Provide an interactive platform for practitioners to discuss perspectives building on an e-survey rolled out in June 2022 on a similar topic

### Methodology

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Members of all four RWSN thematic group lists were invited to participate. During the four weeks, the participants were asked to share their experiences, opinions and ideas, around three sets of questions for each week (see Annex 2):

- Week 1: Activities that drive the performance of management arrangements
- Week 2: Systemic elements that support service delivery performance
- Week 3: Broader contextual elements of service delivery performance

Active members of RWSN jointly moderated each of the weeks, whilst students of the University of St. Gallen produced the weekly summaries, setting out the key points from the discussions (e.g. findings, highlights, gaps). The weekly summaries were produced as follows:

### Week 1

**Moderation:** Aline Saraiva & Daniela Marko (RWSN Secretariat)

**Content:** Ricard Gine (SIWI)

**Summary:** Hanishha Soosai & Fabia Baumgartner (Students from the University of St Gallen)

### Week 2

**Moderation:** Aline Saraiva, Daniela Marko & Eleonore Motte (RWSN Secretariat)

**Content:** Julia Boulenouar & Eleonore Motte (Aquaconsult)

**Summary:** Una Deborah Keller & Fabia Baumgartner (Students from the University of St Gallen)

### Week 3

**Moderation:** Aline Saraiva & Daniela Marko (RWSN Secretariat)

**Content:** Julia Boulenouar (Aquaconsult) & Antoine Delepiere (SIWI)

**Summary:** Alexia Colamonico & Carlota Garcia Esteban (Students from the University of St Gallen)

This synthesis report was collated from the weekly summaries. It is broadly structured along the key topics of the four weeks although in practice some of the discussion on the topics happened outside this timeframe.

## Participants

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The e-discussion started with 997 registered participants from 102 countries, with several new people joining in over the course of the weeks. In total 56 messages were posted to the group, which was continued even after the discussion had formally ended by participants. A list of contributors and the countries they reported on is included in Annex 1.

## Activities that drive the performance of management arrangements

- Main activities that drive service delivery performance
- Entities responsible for adopting these practices
- Variation across service providers
- Practical examples of improvement in service delivery performance

There are many activities implemented in different contexts and countries to address specific issues of the enabling environment:

- **Social Norms:** conduct meetings to consult and discuss with religious and traditional leaders to request their help to support improving WASH in the community
- **Planning:** development of municipal plans for the WASH sector
- **Monitoring, Evaluation and Learning:** establish M & E system in the regional plan
- **Service Delivery Arrangements:** allocate funds for service delivery standard
- **Capacity Development:** provide systematic capacity building (peer learning exposure visit, external exposure learning visit, technical innovative training, mobile data collection system, offline data collection (ODK application, Kobo, Water, etc....) (Myanmar, Magway)

In addition, remote monitoring, through smart handpump sensors, for example, can help digitalise rural water services and overcome the difficulties of physical isolation. The digitalisation of rural water services has a lot to offer, but there is still a lot to learn and share from different contexts, and a lot of space for further research and development.

National governments follow suit from international instruments to define policy, strategy, legislation, plans and budgets. The service authorities follow up with operational activities like operational manuals, training, agreements monitoring and evaluation. The service providers take up the opportunities to implement the required activities for the needed improvements. To put it in a nutshell, the government sets policy, the legislature legislates, and the responsible ministry ensures the operational framework and a mixture of public and private initiatives are implemented.

There are multiple differences across service providers, from which the following three were elaborated on:

- **Community-based management:** The involvement of community leadership in the project process and advocacy for behaviour change that will lead to an improvement of WASH services is very important. People of right standing are found in all communities in religious, social and traditional organisations. They serve as a perfect entry point into the communities to bring about change and participation in any community effort.
- **Public:** This occurs in situations where the local government takes the responsibility to provide water services through the department of water and sanitation.
- **Private:** This is usually done through a contract with a private sector provider which can take the form of managing assets provided by the government or a build-and-operate option.

In practice, the adoption of specific practices led to an improvement in service delivery performance in many cases. An experience from Zambia: There the Jacana SMART Centre made a shift from "Community Based Management" (CBM) to "Family Based Management" (FBM). The result of FBM as compared to CBM is that pump functionality increased from ca. 70% to more than 90%.

## Systemic elements that support service delivery performance

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- Improving water quality
- Accountability and regulation
- Decentralized water governance

New data shows that poor water infrastructure leads to poor water quality. The way of addressing this problem was an intensely discussed topic in the e-discussion. One element, which demonstrates promising results to improve water quality, is better professionalism across all levels f.e. through capacity building as it was done in a project in Uganda. Another aspect to consider is that tackling the problem at its root by including various risk factors in construction and design might help increase water quality as well.

Furthermore, the impact of climate change on water quality shouldn't be underestimated. Especially coastal areas seem to be affected due to the high salinity and intensive farming. Building dams or irrigation projects aim for better water availability. Nevertheless, they don't solve the issue of water quality.

Water service provision as well as handling wastewater, require funding to bring benefits to the quality of water. A project in Uganda with seminars focusing on the concerns and needs of communities surrounding water has shown that education can be a first step in the right direction.

For Accountability, a need for action exists in all dimensions (social, political, administrative, and financial). Particularly improving the quality of relationships between stakeholders (state, service providers and users) is seen as a necessary step. An education workshop in Nigeria was mentioned as a practical example of mapping accountability relations, where as a result, participants were able to formulate action plans.

Policymakers, beneficiaries and other stakeholders need a better understanding of water supply systems. Regarding regulation, SIWI has developed an approach called WASHREG to help policymakers understand WASH regulations better.

Both accountability and regulation require measures against corruption. Developing standard operating procedures (SOPs) and f.e. including them in contracts can be helpful.

The case of Tajikistan's decentralized and demand-driven water governance model has been pointed out. The transfer of responsibility to the local government and communities proved to improve sustainability and willingness to pay for water services.

## Broader contextual elements of service delivery performance

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- The role of infrastructure in guaranteeing water quality
- Diversity, equity and inclusion in WASH structures
- Five fundamental criteria to achieve sustainability
- Hand-pump data

In week 3 the e-discussion hosted by the RWSN Sustainable services covered several topics regarding the role of the infrastructure in guaranteeing water quality, the need for more diversity, equity, and inclusion (DEI) in Water, Hygiene and Sanitation (WASH) structures, the roadmap towards more sustainability and last, but not less important, the matter of hand-pumps data.

The main conclusion that emerged during the discussion on ensuring water quality was that skills, knowledge, permanent supervision during operations and overall clear instructions are essential to guarantee the success of infrastructure operations. The focus was on the concrete example of borehole siting and construction. Moreover, Standard Operating Procedures might be the starting point for improving the situation. To continue, the lack of DEI in WASH structures is a highly debated topic together with the difficulty of influencing decision-

making in clean water and sanitation matters. Currently, a large amount of evidence is still needed. Furthermore, five fundamental criteria to achieve sustainability were enlightened. These highlight the need for choosing and conferring a management and maintenance system to each infrastructure, using a realistic economic model, embedding DEI and considering profitability and at the same time also a common-sense law in less advantaged economic contexts. Finally, a brief exchange was made on the availability of hand-pump data in Africa. The latter may be accessed through the Water Point Data Exchange (WPdx) online platform which disposes of a big variety of usable material and information on the matter. To conclude, delivery performance requires a series of elements to be successful. Also, politics, through decision-making, plays a big role in influencing performance management. The inclusion of DEI in WASH structures has potential for improvement such as having sustainability as a realistic goal.

## Conclusions

Looking back at these rich and insightful contributions to the e-conference, the following points emerged as overall conclusions:

- Many activities are implemented in different contexts and countries that drive service delivery performance, i.e. conducting meetings and discussing with religious and traditional leaders to request their help to support improving WASH in the community, developing municipal plans for the WASH sector, and allocating funds for service delivery standards. Different entities are involved in adopting these practices, such as national governments and service providers. There are differences across service providers, from which the following three are the most common: community-based management, public, and private.
- Improving the quality of relationships between stakeholders (state, service providers and users) is essential to improve accountability. Improving the understanding of policymakers about WASH regulation is crucial for better regulations. Additionally, sustainability can be improved through decentralization and demand-driven water governance. Finally, better construction and design might be the most cost-effective way to improve water quality.
- In order to assure the completion of infrastructures that are responsible for providing water, the work must be followed. In other words, supervision is fundamental from the beginning to the end of the construction process. This is the only way to guarantee a quality infrastructure and consequently water quality provided by it. The achievement of the Sustainable Development Goals 6 and 10, respectively clean water and sanitation, and reduced inequalities, are still ongoing processes in Water, Hygiene and Sanitation systems. Thus, further efforts and research are required on the matter. Sustainability is a rational and realistic objective that is challenging to accomplish. Therefore, experts argue that five fundamental criteria are required to achieve the goal of sustainability. The five fundamental criteria that need to be taken are: the establishment of a management and maintenance system attached to each infrastructure, consideration of profitability, offering the choice of infrastructure, equalization and a common-sense law in disadvantaged economic contexts.

## References

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### Academic articles

- "Accountability in WASH – Explaining the concept"  
<https://www.unicef.org/media/91311/file/Accountability-in-WASH-Explaining-the-Concept.pdf>
- "Contribution of physical factors to handpump borehole function in Africa"  
<https://www.sciencedirect.com/science/article/pii/S0048969722054420?via%3Dihub>
- "Electronic sensors to monitor functionality and usage trends of rural water infrastructure in Plateau State, Nigeria"  
<https://www.sciencedirect.com/science/article/pii/S2352728522000094>

### Books

- Book: "Rural Community Water Supply"  
<https://practicalactionpublishing.com/book/2556/rural-community-water-supply>

### Studies & Projects

- "Stop the rot: handpump functionality, corrosion, component quality and supply chains"  
<https://www.rural-water-supply.net/en/resources/details/1046>
- "Sustainable Groundwater Development – Professional Drilling"  
[https://www.rural-water-supply.net/en/resources/filter/2\\_32\\_297\\_26](https://www.rural-water-supply.net/en/resources/filter/2_32_297_26)
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- "Water governance and sustainable service delivery in rural Tajikistan"  
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- "Understanding the Links between WASH & Child Nutrition – Part II"  
<https://www.fsnnetwork.org/event/understanding-links-between-wash-child-nutrition-part-ii>
- "National Framework for Operation and Maintenance of Rural Water Infrastructure in Uganda"  
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- "Nigeria Sustainable Urban and Rural Water Supply, Sanitation and Hygiene Program-for-Results"  
<https://projects.worldbank.org/en/projects-operations/project-detail/P170734>

- "Evaluation of The SMART Approach"  
[https://smartcentregroup.com/wp-content/uploads/2022/11/SMART-Centre-report-IRC-final\\_NOV22.pdf](https://smartcentregroup.com/wp-content/uploads/2022/11/SMART-Centre-report-IRC-final_NOV22.pdf)
- "WASH Debate on Market-based WASH"  
<https://www.ircwash.org/events/wash-debate-leveraging-household-investments>
- "Emergency WASH Aid Project" by the Swiss Cameroon Crisis Group (SCCG)  
[https://dgroups.org/\\_legacy/\\_/jqJIHXS1.84c4d074040da8c5](https://dgroups.org/_legacy/_/jqJIHXS1.84c4d074040da8c5)
- "WASH Accountability in Fragile Contexts"  
<https://siwi.org/publications/wash-accountability-in-fragile-contexts/>
- "Performance of rural water service management"  
<https://docs.google.com/document/d/1BG1FVOVB3-SUdmkn5hULYBYIGnnz3-FVii4lvTPHEc/edit>

## Tools & Methodologies

- "Water point data to improve decision-making and increase rural water access"  
<https://www.waterpointdata.org>
- "WASH Accountability Mapping Tools"  
<https://siwi.org/wp-content/uploads/2016/12/wash-accountabilitymapping-tools-brochure-final-2.pdf>
- "A new regulation approach for the WASH sector"  
<https://siwi.org/latest/a-new-regulation-approach-for-the-wash-sector/>
- "Technical Guide on Drinking Water Quality Monitoring"  
<https://www.fsnnetwork.org/resource/technical-guide-drinking-water-quality-monitoring>
- "Improving the WASH BAT as a tool for planning and partnering for sustainability"  
<https://www.unicef.org/documents/review-wash-bottleneck-analysis-tool-bat-improving-wash-bat-toolplanning-and-partnering>
- "WASH Accountability Mapping Tools"  
<https://siwi.org/publications/wash-accountability-mapping.tools-brochure/>

## Other

- "Expert in the global WASH sector"  
[dcampbell@unc.edu](mailto:dcampbell@unc.edu)
- "Webinar on professional drilling management course (Thursday 1st of December)"  
[https://aulasneo.zoom.us/meeting/register/tZYqcuCtqjwvEtdlyMF7UAip\\_Sy6AWDI9aKW](https://aulasneo.zoom.us/meeting/register/tZYqcuCtqjwvEtdlyMF7UAip_Sy6AWDI9aKW)
- "Forum for Monthly WASH Research Updates: What's on tap"  
<https://unc.us12.list-manage.com/subscribe?u=b41c2458c63f1551b2a7a6f44&id=d3d8a21ad0>



## Annexe 1: Contributors

Person	Institution	Country
<b>Antoine Delepiere</b>	SIWI	France
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## Annexe 2: Guiding Questions

### Week 1: Activities that drive the Performance of management arrangements

1. From your perspective, what are the **main activities** that drive service delivery performance (in terms of water quality, accessibility, and reliability)? *These can relate to various levels of the management arrangement (i.e., service provider, service authority or national level).*
2. What are **the entities responsible** for adopting these practices?
3. How do **these vary across service providers** (community-based management, public provision, private provision)?
4. Can you provide **practical examples** of cases where the adoption of specific practices led to an improvement in service delivery performance?

### Week 2: Systemic elements that support service delivery performance

Transparency, accountability, regulation, and financing are often recognised as important prerequisites for water services to last, but the specific mechanisms associated with good performance are not well evidenced. Questions for Week 2:

1. Do you think **other critical elements** of the enabling environment are directly associated with service delivery performance?
2. Can you provide practical examples of effective rural water **transparency and accountability mechanisms** OR **regulatory mechanisms** OR **financing mechanisms** that supported an improvement in service delivery performance?
3. Can provide practical examples of these mechanisms applied as a **package of activities** that supported an improvement in service delivery performance?
4. In your experience, how can these elements be supported effectively? Through which mechanisms?

### Week 3: Broader contextual elements of service delivery performance

Contextual variability is often recognised as playing a role in influencing the performance of various management arrangements. This relates to broader aspects outside the control of any operator, district or even national governments that relate for example to demographics, poverty levels, water availability and politics. However, the exact parameters and their importance vis-à-vis different management arrangements are not well evidenced. Questions for Week 3:

1. In your experience, what are the **contextual factors** that support service delivery performance?
2. What are your thoughts on the role of **demographics** (absolute size of a village population as well as density) in influencing performance? In what way do they play a role and does this vary across management arrangements?
3. What are your thoughts on the role of **water availability** in influencing performance? In what way do they play a role and does this vary across management arrangements?
4. What are your thoughts on the role of **politics** in influencing performance? In what way does it play a role and what specific elements would you consider particularly critical? Do these vary across management arrangements?
5. In your experience, how can these contextual factors be mitigated?