Global prospects to deliver safe drinking water services for 100 million rural people by 2030

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Global prospects to deliver safe drinking water services for 100 million rural people by 2030

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Authors

- **Kristina Nilsson** | Independent consultant
- **Rob Hope** | Smith School of Enterprise and the Environment, University of Oxford
- **Duncan McNicholl** | Uptime
- **Saskia Nowicki** | School of Geography and the Environment, University of Oxford
- **Katrina Charles** | School of Geography and the Environment, University of Oxford

Contact: kristina.l.nilsson@gmail.com

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Contents

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Executive summary

The climate crisis and global pandemic have accelerated the urgency of providing safe drinking water services around the world. Global progress to safe drinking water is off-track with uncertain and limited data on the extent and performance of rural water service providers to inform policy and investment decisions. This report documents a global diagnostic survey to evaluate the status and prospects of rural water service providers from 68 countries. The service providers describe providing drinking water services to a population of around 15 million people through over 3 million waterpoints.

The data provides information on the scale and sustainability of rural water services to examine:

- The extent and type of professional water service provision in rural areas globally;
- Self-reported metrics of operational and financial performance; and,
- The size and scope of current rural service providers that could transition to results-based funding.

Five major findings emerge. First, most service providers aim to repair broken infrastructure in three days or less. Second, almost all service providers reported at least one type of water safety activity. Third, most service providers collect payments for water services. Fourth, about one third of service providers reported major negative shocks to their operations from the COVID-19 pandemic. Fifth, non-governmental service providers in low income countries less often report receiving subsidies for operations, and more often report paying part of user fees to government, including through taxes.

Most rural water service providers are working towards provision of affordable, safe and reliable drinking water services. Key barriers to progress include sustainable funding and delivery of services at scale. We propose four conditions to promote scale and sustainability based on policy alignment, public finance, professional service delivery, and verifiable data. To illustrate these conditions, we consider the differing context and service delivery approaches in the Central African Republic and Bangladesh. We conclude by identifying a group of 77 service providers delivering water services for about 5 million people in 28 countries. These 77 service providers report operational metrics consistent with a results-based contracting approach. Technical assistance might support many more to progress. We argue that government support and investment is needed to rapidly progress to the scale of 100 million people to provide evidence of pathways to universal drinking water services for billions more.

Photo by DFID, Rafiqur Rahman Raqu

1 Background

The climate crisis and the global health pandemic have converged to make billions of people's lives and livelihoods in rural areas less secure and their futures more uncertain. This has increased the urgency and salience of addressing the challenge of providing safe and reliable drinking water in homes, communities, schools and healthcare facilities. The latest global data show the world is 'off track' to meet the target of basic water services outside the home within a 30 minute round trip (1). Over two billion people lack the higher standard of safely-managed water which is on-site, free of contamination and available on demand. Globally, four out of five people without basic water live in rural areas. The avoidable and high costs on the lives, livelihoods and prospects of rural populations, particularly girls, women, the sick, the old and other vulnerable groups, are well-known (2). International development aid will not meet the projected costs for Sustainable Development Goal for safe and affordable water (3). This means that current funds must be used more wisely and it is important to build the case for additional funding.

The increasing severity, frequency and unpredictability of flood and drought events has put rural water infrastructure under unprecedented pressure. Work to improve sensor technologies to continuously monitor infrastructure has increased our understanding of water use behaviour and revealed the poor operational performance of many rural water systems (4,5). For example, a major global gap exists for drinking water safety management, which includes monitoring water quality and sanitary hazards, taking action to prevent or treat contamination and reporting results (6). Contamination is regularly reported for 'improved' water sources (7) and more frequently in rural areas (1). When handpumps or small piped schemes break, even minor repairs can take weeks or months (8). The COVID-19 pandemic has further exposed the limited resilience of the operation and maintenance of rural water infrastructure. While government and donors mobilised to support and fund free or subsidised water services provided by urban utilities (9,10,11), the uncoordinated and largely unregulated rural water sector faced more challenging conditions.

This report explores the role of results-based funds as an emerging approach to improve and sustain the daily delivery of safe and reliable drinking water. Results-based funding aims to improve the allocation of risks to link financial rewards to desired performance outcomes. It is an approach that is associated with global trends to decentralise the roles of government, to promote competition in the delivery of public services and to use incentives backed by information for performance contracts (12). The approach has been applied to rural water services in different modalities, including output-based aid (13), payment by results (14) and results-based funding (15).

While the labels may change, the premise is broadly consistent: to make funding contingent on the delivery of outcomes. This means service providers carry more risk, which has implications for applicability and efficacy in rural contexts that lack the institutional structures, population density, wealth and political salience of urban areas. Results-based funding will not magically resolve all these issues but it does prioritise delivery of services and offer space to rethink existing models and structures. This markedly differs from the approach used in pursuing the Millennium Development Goal for water, which prioritised building water supply infrastructure as the outcome and did not adequately consider the sustainability of services.

A key gap has been the availability of service delivery models operating locally with professional capacity and accountable mandates. Professional service providers are characterised by contractual arrangements with water users and government authorities with sanctions if they fail to deliver to an agreed standard of reliability, water quality or price (affordability) (see 16). The positive news is that an emerging cohort of professional service providers performed well in ensuring high levels of reliability during the pandemic demonstrating that professional service delivery models can work in a crisis (9,17).

The purpose of this global diagnostic report is to evaluate the scale and scope of rural water service providers to consider prospects to reach 100 million people with safe and reliable drinking water services. Thinking at such scales is urgently needed to support progress towards the goal of universal services by 2030. This report presents the results of a survey that explored the global landscape of rural water provision to inform:

- The extent and type of professional water service provision in rural areas globally;
- Self-reported metrics of operational and financial performance; and,
- The size and scope of current rural service providers that could transition to results-based funding.

Photo by Sonia Hoque

2 Methodology

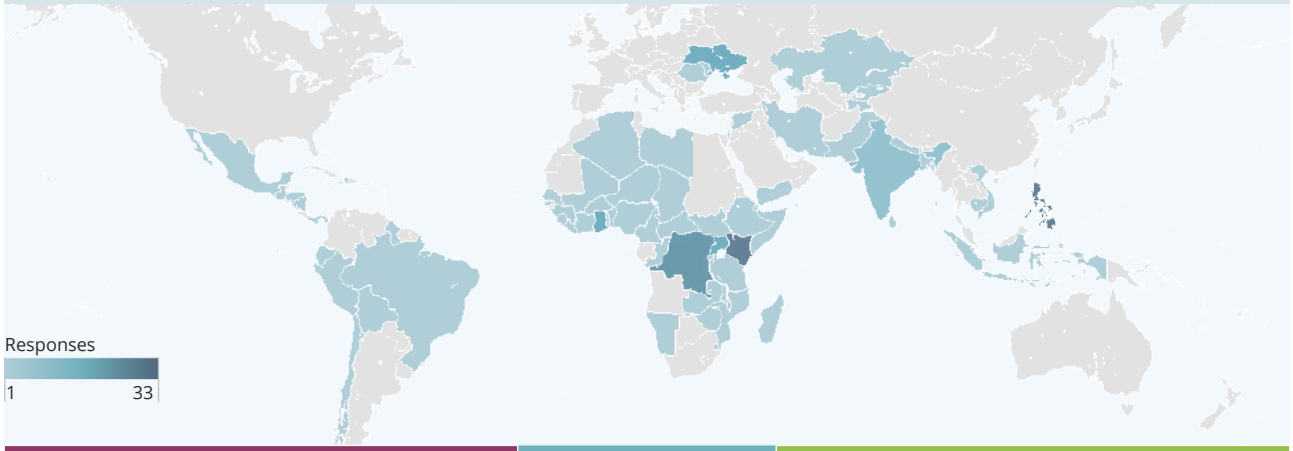
For the global diagnostic survey of rural water service providers, an online survey in English, French, Spanish, Portuguese, Russian, and Mandarin was available for rural water service providers to respond to between 26 May to 1 July, 2021. Participants were informed of the survey objectives, and participation was voluntary, with ethical permission for the survey approved by the University of Oxford. Responses are confidential and anonymous. The survey included questions about the characteristics of service providers, their operations including the types of services delivered and working arrangements, and an optional section about the data kept by service providers. The survey was promoted through the RWSN network and partner organisations by email, e-newsletters, and social media. Respondents and contacts were also invited to suggest possible respondents, who were individually contacted by email and invited to participate.

A total of 448 responses were received. Data were cleaned to remove duplicate and non-relevant responses (30 instances), and responses from organisations that were not involved in ongoing rural water service delivery (60 instances), leaving 358 responses. Responses were read and adjusted to classify 'other' and free-response field answers, correct for mutually-exclusive responses, and to identify government-like service providers (83 subnational and 18 national level) for separate analysis. A limited amount of verification was attempted with nine service providers that reported working with the largest quantities of infrastructure (over 100,000 waterpoints) to verify the scale of their operations. A set of sector experts were also engaged to review responses from government-like service providers to verify key questions and provide additional input on their operational contexts. Data analysis was conducted using Excel, R4.1.1, and Tableau.

3 Response

A total of 358 rural water service from 68 countries responded. This section presents a description of these service providers to contextualise the analysis of findings. Additional detail on response figures is included in Annex 1, and the survey is included as Annex 2.

Figure 1: Location and number of responses from rural water service providers



Infrastructure		358 responding rural water service providers	Population served	
460,000	Handpumps		Less than 5000	106
2,557,000	Piped waterpoints		5,000–50,000	113
			More than 50,000	139

3.1 Population

The 358 service providers that responded to the survey are estimated to be serving a population of around 15 million people. As the questions were focused on understanding the scale of service providers, this population figure is a rough estimate, based on self-reported assignment to a single category describing the population (with categories ranging from less than 1,000 people to over 100,000 people) served with water services. The largest option of 'over 100,000 people' served, was chosen by 107 service providers. Service providers are also likely to have calculated their population served differently, based on different degrees of closeness. Further work would be needed to provide a more precise estimate.

3.2 Infrastructure and services

These 358 service providers serve over 3 million waterpoints. This includes about 460,000 handpumps and about 2.6 million piped waterpoints, including taps, kiosks, and household or yard connections. Some service providers also used other infrastructure, including springs and water delivery in tanker trucks or bottles. This figure is a rough estimate, based on self-reported totals of infrastructure used. As with the population figures, different service providers are also likely to have calculated their infrastructure totals differently, and included more or less active management and oversight of this infrastructure. Further work would be needed to provide a more precise estimate.

Over four in five service providers (81%) report managing the functionality of waterpoints, through activities including direct response to waterpoint breakdowns, indirect response to waterpoint breakdowns by engaging external operations and maintenance services, preventative maintenance, non-systematic maintenance, and managing daily operations of waterpoints. Less than one in ten (9%) were involved in monitoring waterpoint functionality but not in management.

Additional information about infrastructure and services:

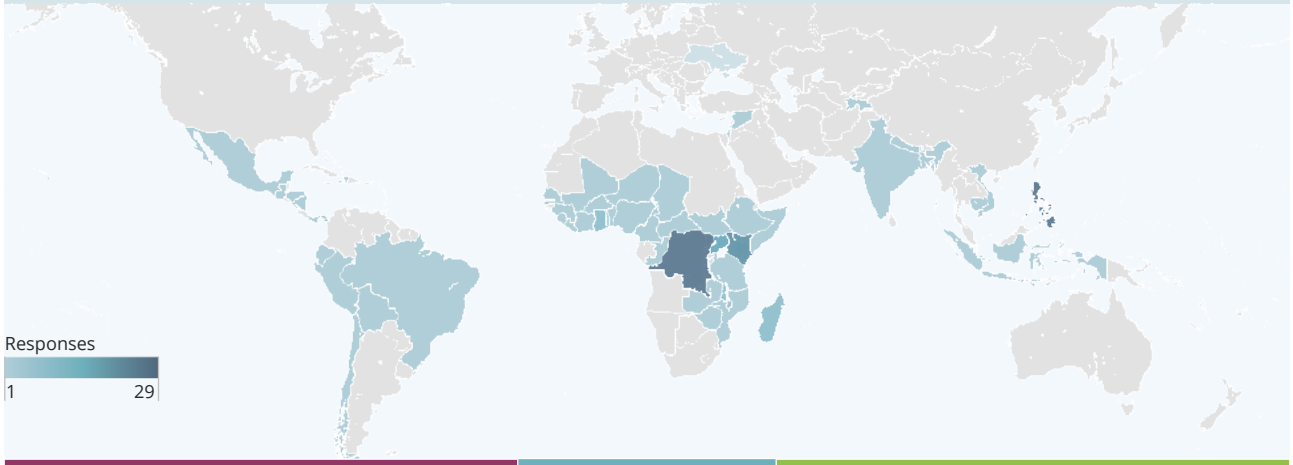
- A majority of service providers (57%) described using two or more types of infrastructure.
- A minority (44%) described using both household and communal infrastructure for water service delivery.
- Slightly more service providers described delivery through communal infrastructure (74%) than delivery through household level infrastructure (66%).
- Service delivery including taps was much more represented (82%) compared to service delivery including handpumps (37%).
- A majority of service providers (76%) also provide water services to institutions, such as schools or health care facilities.

3.3 Respondent types

Service providers self-identified as providing water services to rural populations, and were asked to consider this rural group when responding to the survey. The survey did not specify a definition for rural, and some respondents indicated that they also provided water services to peri-urban or urban populations.

The global diagnostic survey response included 257 responses from non-governmental service providers: these accounted for 72% of the responses. These were the main expected type of respondent, and include various types of international, national, and local non-governmental organisations (NGOs), community-based organisations (CBOs), associations, committees, social ventures, and private sector enterprises, with many service providers self-identifying as a mixture of these. These types of service providers were anticipated to include the most applicable candidates for future participation in results-based funding.

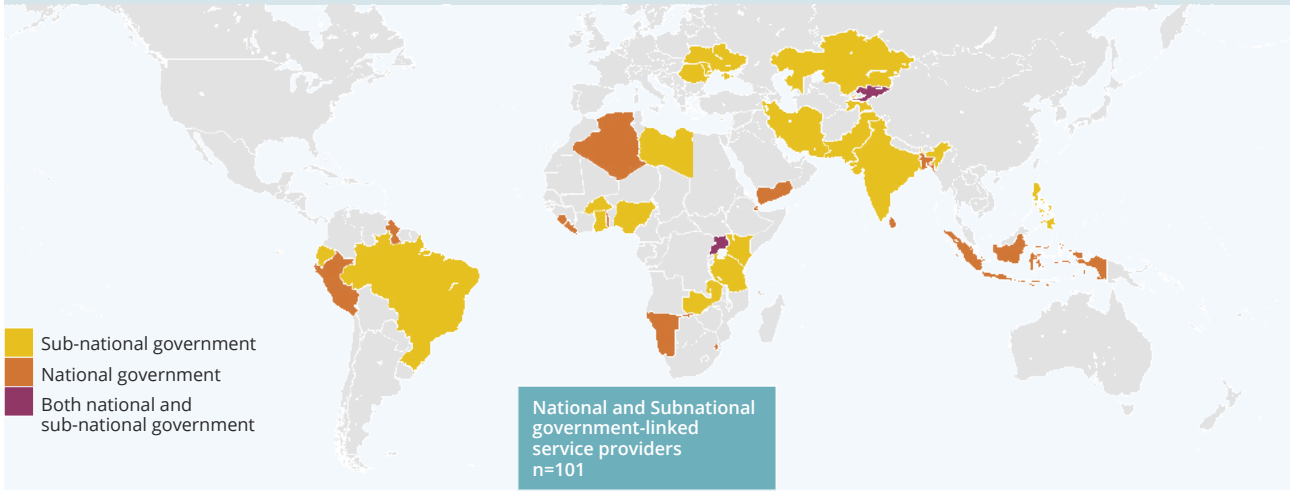
Figure 2: Location and number of responses from non-governmental rural water service providers



Infrastructure		Non-governmental service providers n=257	Population served	
125,000	Handpumps		Less than 5000	75
769,500	Piped waterpoints		5,000–50,000	89
			More than 50,000	93

Governments also responded at national (18 responses, or 5% of responses) and subnational (83 responses, or 23% of responses) levels. Respondents include national ministries, decentralised government departments, government utilities, and government umbrella agencies. Some of these described roles in direct service delivery, including utility-like operators, while others provide oversight from a distance or include a mixture of different types of roles. It is difficult to clearly distinguish sub-categories or types among these different government-linked service providers; for this reason, in the analysis of findings, the responses from government-linked service providers were considered separately from non-governmental service providers. This response from government-linked service providers and government agencies may signal interest and willingness to engage with results-based funding for rural water services.

Figure 3: Location of responses from national and subnational government-linked rural water service providers



3.4 Legal arrangements

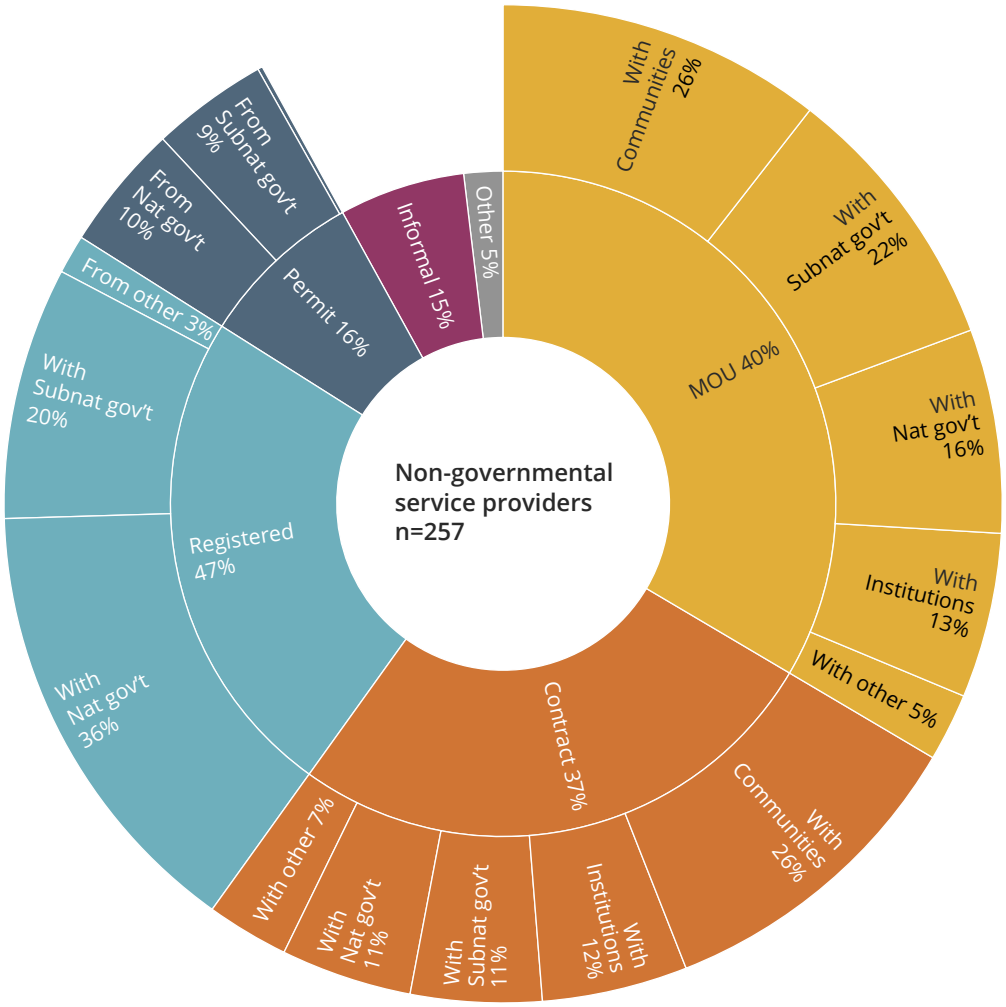
Survey questions on legal arrangements may have been interpreted differently by government-linked service providers, and so this section describes only responses from 257 non-governmental service providers. Most reported having at least one type of formal arrangement underpinning their work (85%), and many had two or more types of arrangements (56%). These types of arrangements included registrations, permits or licenses, memorandums of understanding, or contracts for service provision.

Most also had such arrangements with two or more types of entities (52%), which were categorised as including national governments, sub-national governments, public institutions, or communities.

A minority of non-governmental service providers (15%) described their operations as being only informal and unregistered. More than half of these were from the Philippines (15 responses) or the Democratic Republic of the Congo (7 responses).

Photo by Lars Schoebitz

Figure 4: Legal arrangements of non-governmental rural water service providers. Multiple responses were possible; the total of percentages is greater than 100



Additional information about legal arrangements:

- 74% of non-governmental service providers reported having legal arrangements with at least one government entity.
- 44% reported having arrangements with communities.
- Nearly all of those with arrangements with communities also had arrangements with government (8% of non-governmental service providers had arrangements with communities but not with government).

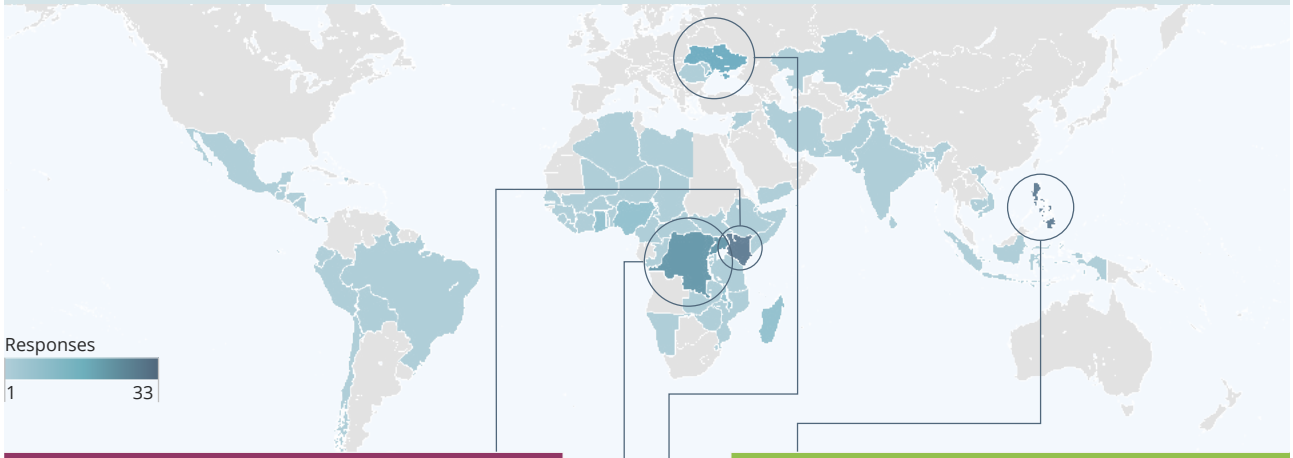
3.5 Representativeness

The responses received from the 358 service providers cannot be considered representative of all rural water service providers. The survey was targeted towards especially those in low and middle income countries, and this is reflected in the responses received.

A minority of responses were received from high and upper-middle income countries (9%), while most responses came from lower-middle income countries (55%) and low income countries (36%).

The responses also included clusters of high responses from certain countries. Kenya, Ukraine, Democratic Republic of Congo, and the Philippines each had 25 or more responses from service providers. The responses from Kenya include a diverse set of service providers with different organisational structures and operating approaches, while the responses from Ukraine, Democratic Republic of Congo, and the Philippines each had more homogenous clusters of responses from similar service providers.

Figure 5: Country response clusters from rural water service providers



Kenya n=33

0 National gov't SPs **12** Subnational gov't SPs **21** Non-gov't SPs	All 21 non-gov't SPs are formally registered
1,322 Handpumps 179,355 Piped WPs	22 Report receiving a subsidy

Philippines n=31

14 Non-gov't SPs are formally registered	0 National gov't SPs **2** Subnational gov't SPs **29** Non-gov't SPsb
1 Report receiving a subsidy	0 Handpumps 15,817 Piped WPs

Democratic Republic of Congo n=28

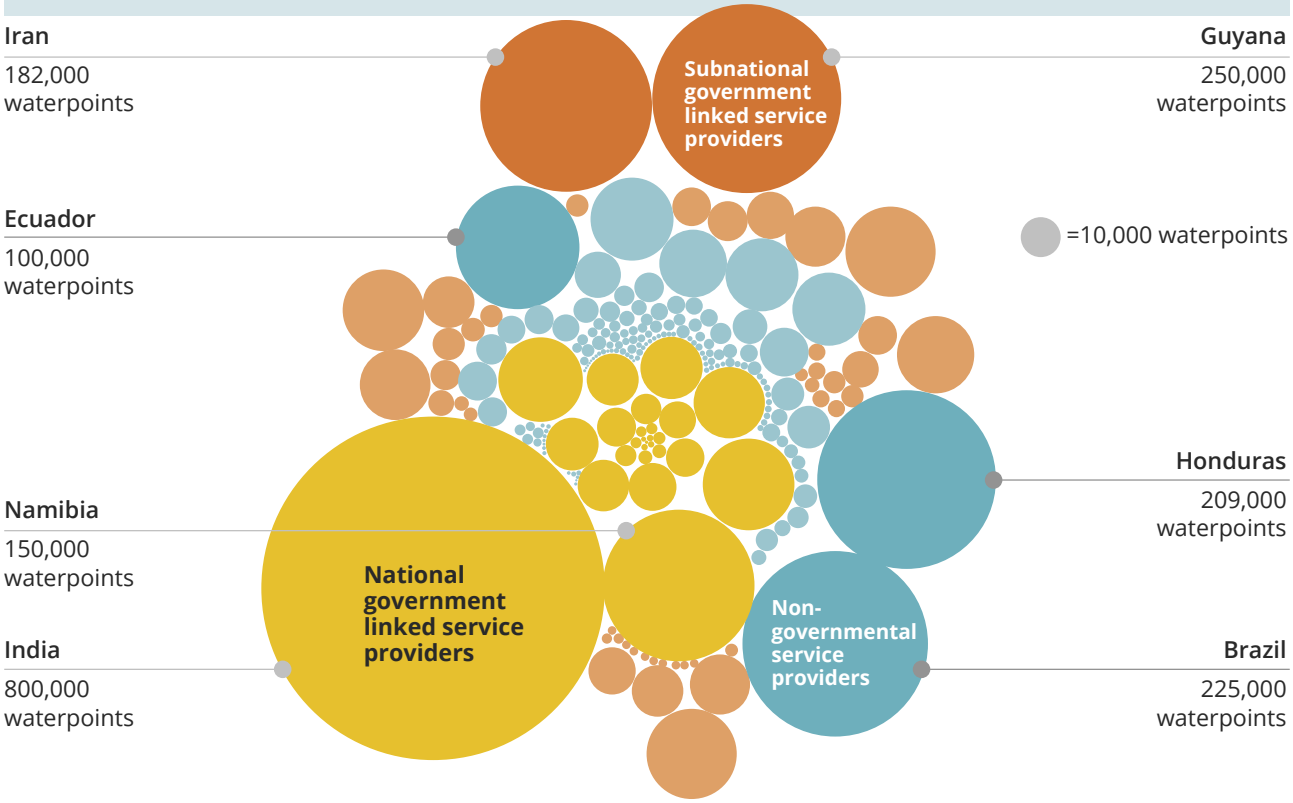
0 National gov't SPs 0 Subnational gov't SPs **28** Non-gov't SPs	21 Non-gov't SPs are formally registered
121 Handpumps 1,702 Piped WPs	5 Report receiving a subsidy

Ukraine n=25

All 3 non-gov't SPs are formally registered	0 National gov't SPs **22** Subnational gov't SPs **3** Non-gov't SPs
14 Report receiving a subsidy	37 Handpumps 54,206 Piped WPs

The responses also included a few large service providers. Seven respondents reported working with over 100,000 waterpoints, which, together, account for 64% of the total waterpoints represented by the responding service providers. Some of these, and other large service providers, appear to be large national and subnational entities, including some utilities, which interact with multiple other institutions and service providers: further research to unpack their roles and responsibilities would be needed to better understand these responses.

Figure 6: Responses from largest scale service providers. Number of waterpoints is rounded to the nearest thousand



These responses provide a large and geographically diverse view of rural water service providers, and show a high degree of formally established non-governmental providers, as well as interest from government-like providers in results-based funding. They also include over-representation of some types of infrastructure, and in particular concentrations of responses. These responses provide perspective on the scale and activities of particular services, but skew quantitative analysis of the overall dataset.

Photo by Saskia Nowicki

4 Findings

This section presents findings considering the responses received from the 257 non-governmental service providers targeted for the global diagnostic study. In keeping with the survey wording, they are referred to here as service providers, though some may self-identify differently, including as small or safe water enterprises (18).

There is also a presentation of findings from the 101 government-linked service providers. The global diagnostic survey was not specifically designed with service providers linked to government in mind, but respondents included a wide range of entities who described many different roles in service delivery, which were difficult to clearly distinguish into sub-categories or types for analysis. Because of this wide range of responses, and some differences in how they may have interpreted survey questions, findings about this subgroup must be interpreted with more caution. These are presented separately in section 4.6.

The numbers behind the percentages described in this section are provided in Annex 1.

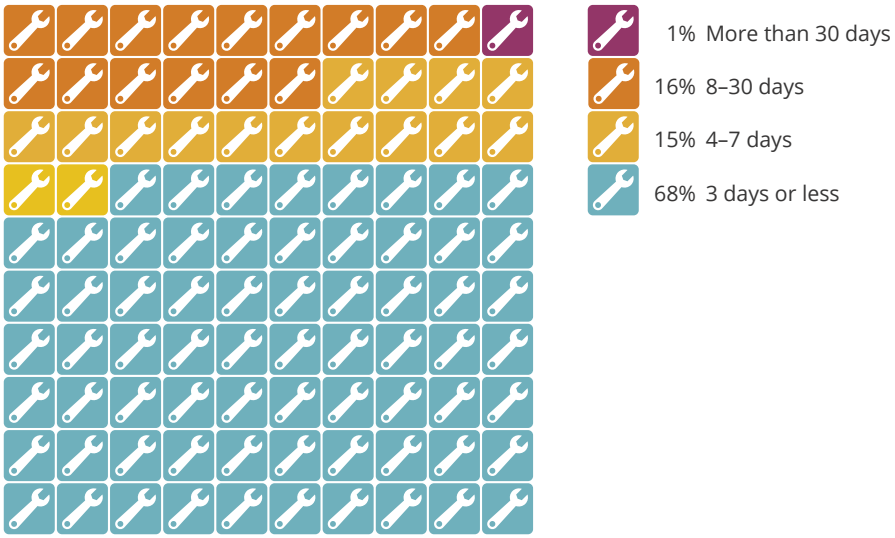
Highlighted findings

Responses from 257 non-governmental service providers	
Reliability	Most service providers aim to repair broken infrastructure in 3 days or less.
Water safety	Almost all service providers reported at least one type of water safety activity.
Revenue collection	Most service providers collect payments for water services.
Subsidies	Service providers in low income countries less often report receiving subsidies for operations, and more often report paying part of user fees to government (including through taxes).
Shocks	About one third of rural water service providers reported major negative impacts to their operations from the COVID-19 pandemic.

4.1 Reliability

Most service providers aim to repair broken infrastructure quickly. Of the 173 reporting breakdown response as part of their operating model, **most service providers (68%) aim to repair broken infrastructure in 3 days or less**.

Figure 7: Target breakdown response times



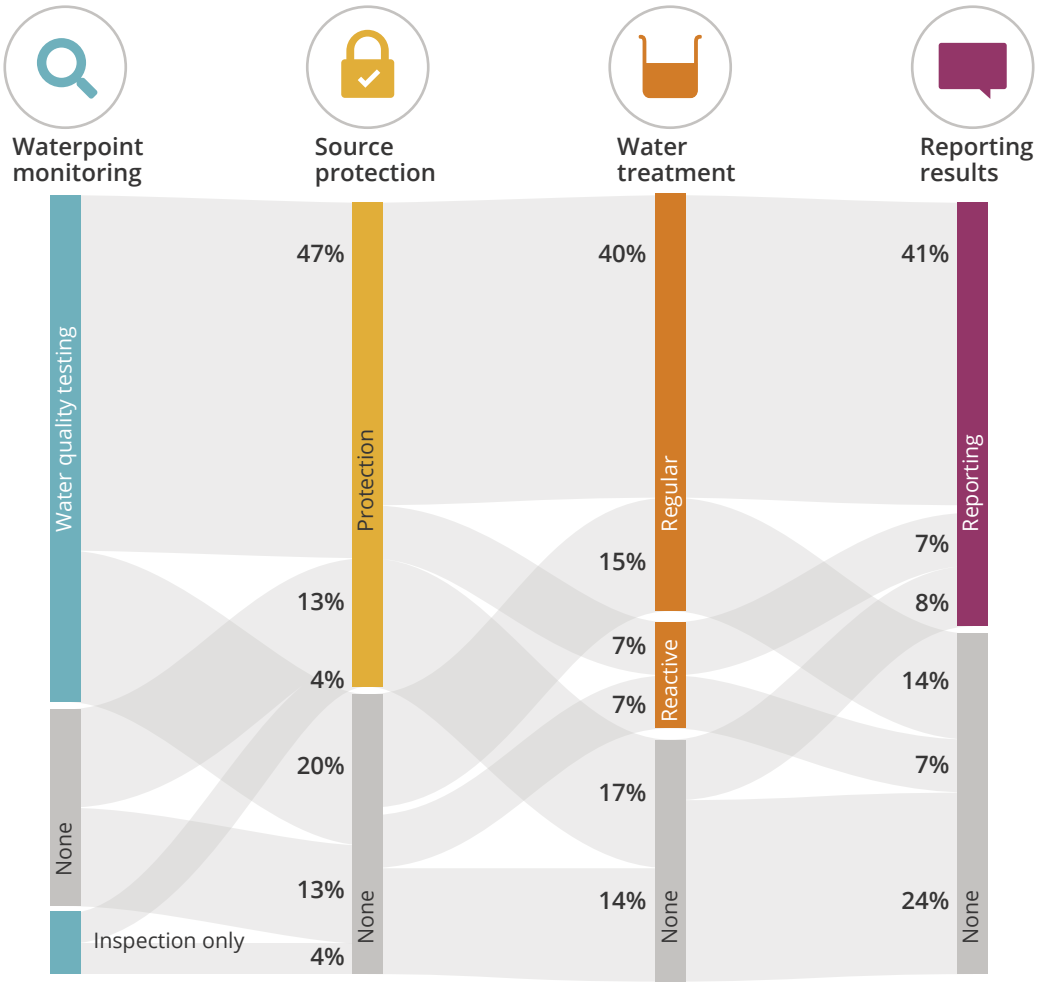
4.2 Water safety

Almost all service providers (98%) reported they are engaged in at least one type of water safety activity, in some combination of the following:

- Waterpoint monitoring: including regular water quality testing (31%), sanitary inspection (7%), or both (36%)
- Water source protection activities to prevent faecal contamination (64%)
- Treating water supplies: including regular treatment (16%), reactive treatment in response to water quality issues (14%), or both (39%)
- Reporting water quality results to operators or managers (12%), to government (16%), or both (28%)
- Encouraging water users to address safety issues through activities focused at the point-of-use (homes, schools, or clinics): through water quality testing (50%), water treatment (33%), hygiene training (71%), or reporting results to users (55%).

One third (31%) described doing a suite of activities including waterpoint monitoring, taking measures to protect water sources from contamination, regularly treating water supplies, and reporting monitoring results to operators, managers, or government.

Figure 8: Reported waterpoint safety activities

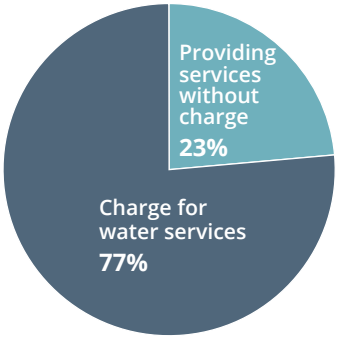


4.3 Revenue collection

Most service providers (77%) collect payments for water services. This rate decreases slightly from high and upper-middle (84%) and lower-middle income countries (80%), compared to low income countries (72%).

Service providers that are not charging for water more often reported major negative impacts of the COVID-19 pandemic on their operations (52%, compared to 25% of service providers charging for water services).

Figure 9: Proportion of service providers charging for water services



Payment for services
77% receive some form of payment

Additional findings about revenue collection:

- Providers charging for water services more often include piped infrastructure (part of infrastructure used by 83% of charging providers, compared to 62% of non-charging providers).
- Among providers serving institutions such as schools or healthcare facilities, less than half (39%) report receiving payments from these institutions.
- Providers charging for water services more often reported regularly monitoring waterpoints, treating water supplies, and reporting to operators, managers, or government (41%, compared to 23% of non-charging providers).

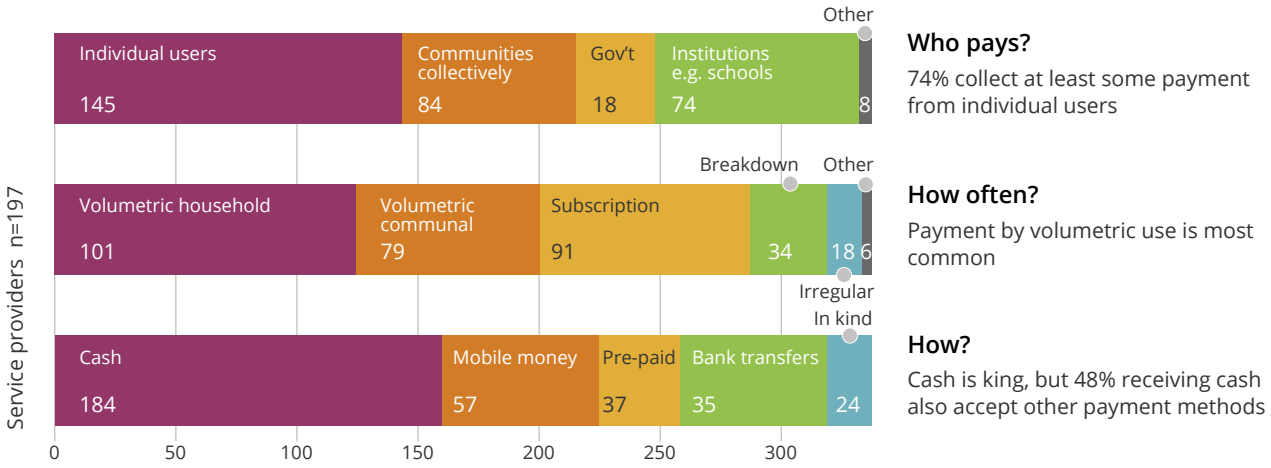
4.3.1 Revenue collecting service providers

This section about user payments for water includes only the subset of 197 service providers where users are paying for services. Non-charging providers are excluded.

Among service providers collecting payments for water services, there is high use of systematic payment methods (77%) that do not include payments on breakdown or other irregular payments. These systematic payment methods included combinations of payments by volume of water (for metered household water supply, and/or communal waterpoints) and payments by subscription period (each week, month, or year).

Among service providers collecting payments for water services, there is a high reliance on cash (accepted by 93% of charging providers), including many who only receive payments in cash (48% of charging providers). An additional few (5%) receive only cash and in-kind payments.

Figure 10: Payment methods for water services. A service may use more than one payment method



User payments were described as being used for a variety of purposes. Some providers (23%) used payments partially for repayment of a loan. Some providers (23%) reported paying part of users fees to government (including through taxes). **Service providers in low income countries more often report paying part of user fees to government** (including through taxes) (35%, compared to 14% in lower-middle and 13% in high and upper-middle income countries).

About half (50%) of providers reported that some payments stayed in the community. This includes several (19%) where all payments stayed in the community and were not paid to any other source. Payments staying in the community was common in the Philippines and Democratic Republic of the Congo.

The practice of some payments staying in communities was highest among charging providers in lower-middle income countries (64%), where it was used more often than in high and upper-middle (38%) and low income countries (37%).

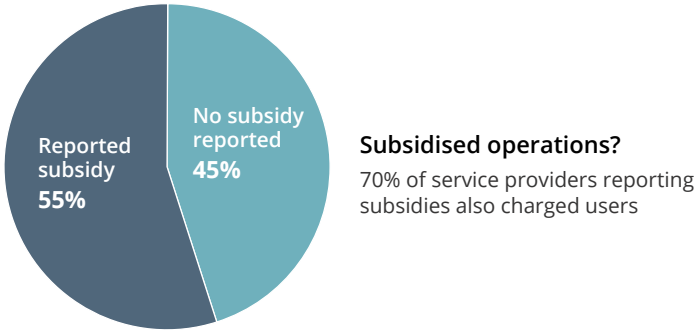
Additional findings about revenue collecting service providers:

- Providers using only systematic payment methods more often reported regularly monitoring waterpoints, treating water supplies, and reporting to operators, managers, or government (45%, compared to 27% of providers who include non-systematic payment methods).
- Some service providers (29%) accept payments through mobile money. Nearly half of those were from Kenya (17 service providers) and Uganda (8). This form of payment was especially common in Kenya, where it was accepted by nearly all (94%) providers charging for water services. However, it was only rarely the exclusive payment type, with nearly all (96%) of these service providers accepting other forms of payment alongside mobile money.

4.4 Subsidies

Over half (55%) of all non-governmental service providers report receiving financial support to subsidise the local costs of water service provider operations, from sources including governments, donors, non-governmental organisations (NGOs), and the private sector. The other service providers do not report receiving operational subsidies, without providing evidence users generate sufficient revenue for operational and capital costs. This requires more investigation and cautious interpretation. Service providers who report receiving subsidy accounted for most (70%) of those providing services without charging a fee.

Figure 11: Proportion of service providers that report receiving subsidies for operations



Service providers in low income countries less often report receiving subsidies for operations (49%) compared to providers in lower-middle (56%) and high and upper-middle income countries (84%).

Few (12%) service providers report receiving subsidies for operations from government. Service providers in high and upper-middle income countries more often report receiving subsidies for operations from government (53%) compared to providers in lower-middle (14%) and low (3%) income countries. Taken together with findings described above, **service providers in low income countries less often report receiving subsidies for operations, and more often report paying part of user fees to government (including through taxes)**, while service providers in high and upper-middle income countries more often report receiving subsidies, including from government.

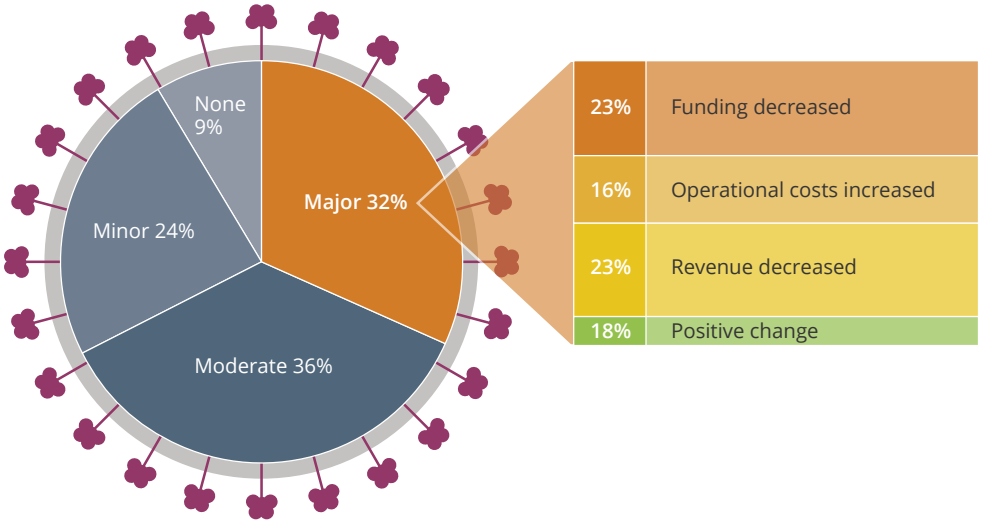
Photo by Sonia Hoque

4.5 Shocks

About one third (32%) of rural water service providers reported major negative impacts to their operations from the COVID-19 pandemic. These negative impacts included decreased funding support (23%), decreased revenue collection (23%), and increased operational costs (16%).

The most impacted service providers were more often not charging for water services (38%), compared to those describing moderate, low, or no impacts of COVID-19, who were more rarely (17%) providing services without charge.

Figure 12: Impacts of COVID-19 pandemic on service providers



Additional findings about shocks:

- The rate of major negative impacts varied only slightly between country income groups (major impacts reported by 26% in high and upper-middle income countries, compared to 30% in lower-middle income countries, and 35% in low income countries).
- There was considerable variation between some countries, with much less frequent reports of major negative impacts from some of the countries most highly represented in the survey response: these included the Democratic Republic of the Congo (11% with major negative impacts), and the Philippines (13% with major negative impacts).
- Service providers who do include reliance on payments after breakdowns or other irregular payments more often reported major negative impacts of the COVID-19 pandemic on their operations (50%, compared to 18% of service providers using only systematic payment methods).

4.6 Government-linked service providers

Responses from government-linked service providers were considered separately from non-governmental service providers for analysis. Many, however, exhibited similar trends as the findings about non-governmental service providers. These included most of the key findings, which are presented below. The set of government-linked service providers includes a wide range of entities who described many different roles in service delivery, which were difficult to clearly distinguish into sub-categories or types for analysis, and so these findings must be interpreted with more caution.

- **Reliability**: Most government-linked service providers (72%) aim to repair broken infrastructure in 3 days or less. This is comparable to the rate of 68% for non-governmental service providers.
- **Water safety**: Almost all government-linked service providers (97%) reported at least one type of water safety activity. This is comparable to the rate of 98% of non-governmental service providers. One third (30%) described doing a suite of activities including waterpoint monitoring, taking measures to protect water sources from contamination, regularly treating water supplies, and reporting monitoring results to operators, managers, or government. This is comparable to the rate of 31% for non-governmental service providers.
- **Revenue collection**: Most government-linked service providers (82%) collect payments for water services. This is comparable to the rate of 77% for non-governmental service providers. There is a high use of systematic payment methods (86%) that do not include payments on breakdown or other irregular payments. This is comparable to the rate of 77% for non-governmental service providers. There is still a high reliance on cash (accepted by 67% of charging providers), but few who only receive payments in cash (22% of charging providers). These are lower than the rates of 93% acceptance of cash, and 48% only receiving cash for non-governmental service providers.
- **Shocks**: About one third (35%) of government-linked service providers reported major negative impacts to their operations from the COVID-19 pandemic. This is comparable to the rate of 32% for non-governmental service providers. Those providing services without charge were equally represented among those who reported major negative impacts (17%) and those who did not (18%), while major negative impacts for non-charging providers were reported more often by non-governmental service providers.

5 Discussion

Our findings indicate that most rural water service providers are working towards provision of affordable, safe and reliable drinking water services. Key barriers to progress include sustainable funding and delivery of services at scale. We propose four conditions to promote scale and sustainability based on policy alignment, public finance, professional service delivery, and verifiable data. To illustrate these conditions, we consider the differing context and service delivery approaches in the Central African Republic and Bangladesh. We conclude by identifying a group of service providers who report metrics consistent with a results-based contracting approach and consider how technical assistance might support many more to progress towards 100 million people with safe and reliable drinking water services supported by results-based funding.

5.1 Barriers to scale and sustainability

5.1.1 Shocks

The COVID-19 pandemic affected the operational performance and financial status of urban and rural water sectors in 2020. One third of respondents in this study (32%) reported major negative impacts. These centred on reduced revenue, increased costs and reduced funding support. A study of urban utilities in Latin America finds similar results with reduced consumption, particularly in non-residential demand with higher average tariffs, leading to a reduction in average bill collection and cash flows of between 11.6% and 49.1% (11). Utilities with stronger financial systems fared better, similar to findings from this study.

Resilience to impacts of the pandemic increases with service providers that reported regular payments for water services and financial management services. For example, the severity of impact from COVID-19 decreases as the share of service providers charging for water services increases. We see a pattern of higher COVID-19 impacts from service providers without financial data. For example, of those reporting major impacts, a service provider with financial data is less likely to report a major impact (29%) than a provider without financial data (52%). Directing subsidies or results-based funding to service providers with financial management systems will likely be a more effective, transparent and sustainable approach.

5.1.2 Subsidies

Subsidies are contentious though common in the drinking water sector. For example, the World Bank estimates an annual operational subsidy for urban utilities in the order of USD300 billion, without inclusion of capital expenditure or major geographies, such as India or China (19). Of the sample of 1,549 urban utilities evaluated, one third (35%) are estimated to cover their local operating costs, and this sample only reflects utilities with regular reporting of usable data. Even utilities that report covering local operating costs might not be financially sustainable when full infrastructure life-cycle costs are included.

Rural water subsidies are the poor cousin in water sector funding. Low population density, multiple deprivations and weak government regulation conspire to complicate the design and delivery of effective and fair subsidies in rural areas. Here, we have indicative data about the frequency of subsidies received from governments (12%) for 257 rural water service providers. Overall, a subsidy is much more likely to have been provided from a donor organisation than from a government. By country income category, we find service providers in the lowest income category are less likely to have access to a subsidy yet report more often user payments being transferred to governments. Our findings also noted a number of potential benefits to water safety linked to subsidies. This may suggest an unmet need for subsidies, particularly among service providers in low income countries, and that subsidies, if well targeted and supported by effective and transparent financial management, could improve the safety of rural water services.

5.2 Conditions for scale and sustainability

We propose four conditions to promote scale and sustainability of rural water service providers. The conditions attempt to address challenges between policy, regulation and service delivery. While contexts and political priorities inevitably vary, the mutually supporting roles of clear policy goals, independent regulation and effective service delivery help to advance but do not guarantee outcomes. The four conditions are a) policy alignment, b) public finance, c) professional service delivery, and d) verifiable data.

Policy alignment speaks to the policy priorities and legal obligations at national and sub-national levels. In some countries, there is a constitutional and legally binding commitment to provide all citizens with safe drinking water. This does not necessarily lead to high quality services though can provide a clear framework to allocate responsibilities between the government, a water services regulator and service delivery models. The latter may be non-prescriptive allowing different institutional forms, from a public utility working in urban and rural contexts to social enterprises focussing on deprived rural areas. Political processes and leadership are essential to coordinate multiple actors who may unintentionally waste limited resources in competing activities.

Public finance is a key dimension of the policy context to support professional service delivery. Public finance needs to consider the blend and sustainability of public funds, donor transfers and user tariffs. With constraints to achieve full cost recovery from tariffs in most rural contexts along with insufficient and volatile donor funding, public finance is necessary to provide sustainable and inclusive services. Results-based funding from public sources can complement user payments to support service sustainability and scale. In all cases, public finance needs to be well-targeted, efficient, fair and smart. Without public funding, progress to universal and safe drinking water services will stall.

Professional service delivery reflects a contractual approach where the risks and responsibilities in the delivering of affordable, reliable and safe drinking water services are allocated clearly and fairly between service providers, users and authorities. A service provider will be mandated to fulfil certain roles in proportion to its capacity and be visible to government in one of the many institutional arrangements we discussed in section 3.4. Water users in communities, schools or healthcare facilities receive a minimum guaranteed service level determined by national or local government. Regular monitoring and reporting to relevant authorities would result in action and sanctions in the case of violation of specific conditions (see 16). This would include water quality standards and water safety which are often not adequately addressed in most rural contexts today. Technical assistance and funding may be necessary to support the transition to a professional service delivery model.

Verifiable data are central to assessing and funding rural service providers. Verifying data in rural contexts is challenging and can lead to high costs with implications for sustainability of services. Advances in sensor technologies offer new opportunities to improve the accuracy and availability of data. Despite challenges and costs, verification becomes more practical when considered alongside the other three conditions. Linking data systems to professional service delivery, potentially as a requirement for public finance, could motivate development of innovative robust and low-cost methods. Existing services may already be generating data that can be usefully captured and channelled when the need for particular indicators is clearly understood and the associated costs are justified. Without means to monitor delivery, results-based funding is not feasible.

The sequencing and state of these conditions naturally varies by country. Two examples illustrate different starting points from a rural service provider to a national government.

Photo by Al Helal

5.2.1 Conditions for scale and sustainability in Central African Republic

The Central African Republic (CAR) has a developing policy environment but a large-scale and established professional service provider that is delivering results and reporting data. Political, economic and security issues in CAR have created an extremely challenging environment for lives and livelihoods. Since 2004, Water for Good's professional service delivery approach has progressively supported gaps in governance and developed a context-adapted approach at scale. Over time, the continuity and improving quality of services delivered in 9 of the 16 prefectures to some 800,000 people, or about 1 in 5 of the national population, provides a foundation for the government to review and strengthen its policy and practice nationally.

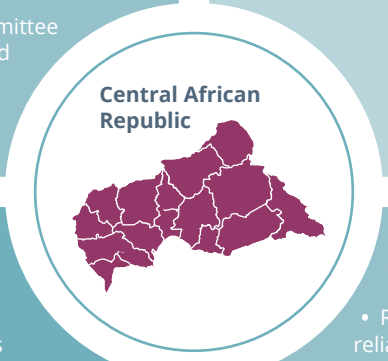
Figure 13: Conditions for scale and sustainability in Central African Republic

Policy alignment
Evolving

- Updated 'National Policy and Strategy Document for Water and Sanitation' reinforces the framework for public-private partnerships
- The Ministry of Hydraulics created a committee with service providers to define public and private sector roles and responsibilities
- Regional WASH Coordination Platform regularly meets to align service delivery

Public finance
Early

- Reliance on development grants and loans
- No systematic funding for rural maintenance services



Professional services
Established

- Circuit rider service model maintains a network of nearly 2,000 rural handpumps
- Recently expanded to include design, build and operation of community piped waterpoints
- Users regularly pay a share of service costs

Verifiable data
Evolving

- Routine maintenance visits monitor reliability with electronic reporting
- Piloting digital monitoring technologies

5.2.2 Conditions for scale and sustainability in Bangladesh

In Bangladesh, the 1998 National Policy for Safe Water and Sanitation sets out clear objectives with a government mandate for delivery from national to local levels. In 2015, the Government of Bangladesh met the MDG of improved water access as a major outcome aligned to the 1998 policy. This progress reflects both major government investments and equally large household investments in water supply infrastructure (20). A vibrant market of private drillers has helped install shallow tubewells for millions of households across the country, though often with uncertain water quality. Recognising the shift to drinking water services from water infrastructure access for the SDG, the government has recognised the need for a network of regional laboratories that can test for geogenic and microbiological contamination. National monitoring has provided an evaluation of the extent and severity of multiple water quality hazards, including arsenic, *E.coli*, salinity and manganese (21). Climate resilience compounds these challenges with shocks from monsoonal and cyclonic flooding leading to reduced water quality (22,23). In 2021, the Government of Bangladesh has co-developed the SafePani model to pilot a professional service delivery model in the coastal region (24).

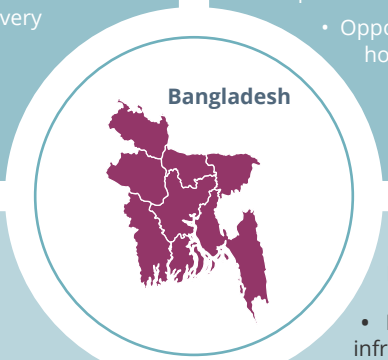
Figure 14: Conditions for scale and sustainability in Bangladesh

Policy alignment
Evolving

- Established commitment to high quality services and SDG delivery
- No independent regulation of service delivery
- New professional service delivery being advanced
- Opportunity to improve sector coordination and reporting

Public finance
Evolving

- Reliance on development grants and loans
- Emphasis on building infrastructure
- Opportunity to leverage scale scale of private household investments



Professional services
Early

- Emergence of professional service providers with limited scale
- No common contracting model
- Facilities are managed independently
- Uncertain business environment and legal status
- Limited coordination or evaluation of public waterpoint services

Verifiable data
Early

- Periodic assessment of national public infrastructure
- Limited records of drinking water services
- Water quality a known concern with multiple hazards

Engagement with rural service providers or governments can provide different starting points to advance development of conditions for scale and sustainability of resilient services. Survey data provide perspective on such potential opportunities. Further work is needed around government actor responses to address questions on roles, responsibilities and public financing arrangements. Non-government service providers, however, can be more immediately engaged. Next, we consider criteria for prioritising engagement of service providers for potential participation in a results-based funding model.

Photo by Sonia Hoque

6 Next steps

A standardised results-based based funding approach is currently being tested in seven African countries and could be expanded to include other non-government service providers (17). Eligibility criteria currently include: providing professionalised service delivery through a maintenance model, users paying for services, and requiring subsidy to sustain those services.

Based on the results of the survey and subject to verification, it appears that 77 service providers could be contracted in a results-based funding model in the near future. These respondents cover services for about 5 million people in 28 countries. Additional considerations surrounding data, water safety, legal arrangements and public funding can further prioritise which of these service providers to engage first.

Figure 15: Criteria for service providers potentially eligible for results-based funding

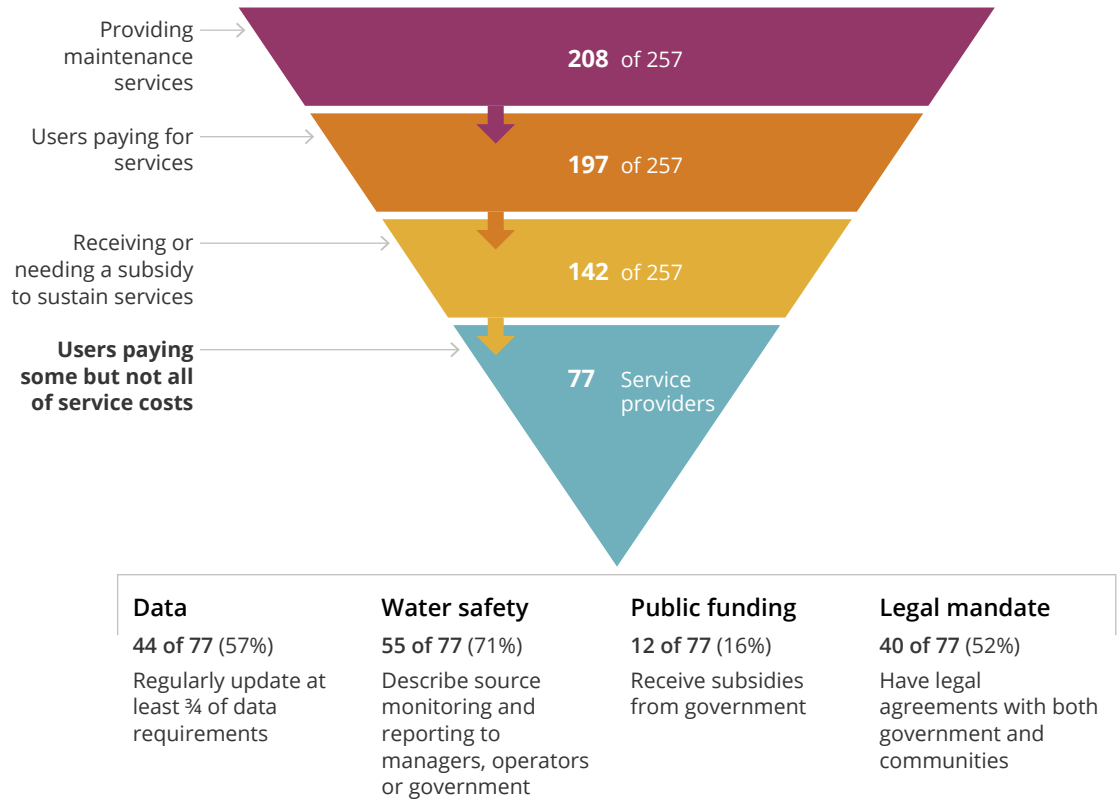
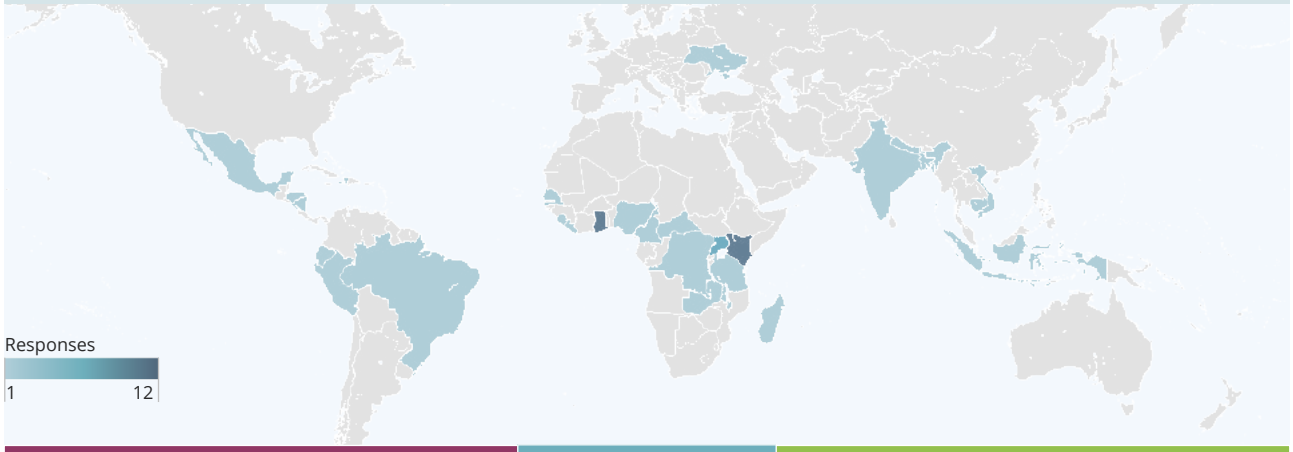


Figure 16: Location and number of service providers potentially eligible for results-based funding



Infrastructure		Potentially eligible service providers n=77	Population served	
460,000	Handpumps		Less than 5000	11
2,557,000	Piped waterpoints		5,000–50,000	23
			More than 50,000	43

Resources permitting, eligible service providers could be vetted and contracted in the near future. Remaining service providers with gaps in data, legal arrangements or otherwise could be supported towards subsequent engagement. Service providers that understand how data requirements link to funding will have incentives to strengthen their systems.

The relatively small number of currently eligible services points to a clear opportunity for technical assistance. A first step would consider building capacity with service providers on service requirements and data standards for results-based funding. The majority, however, likely require more considerable support to improve service models, operating capacities and technical proficiencies. The need for such support could be extended to the incubation of early stage service providers that could be developed in tandem with infrastructure investments.

Technical assistance and appropriate incentives could also be used to strengthen water safety. This could be structured to work towards an established water safety record (preventative actions and monitoring, and treatment where applicable), to demonstrate that they are progressing towards safe water. These could be modelled after similar expectations on reliability. Another area for strengthening could be how service providers are reporting water quality data to users, managers or the governments. Implementing or expanding water quality testing can create a threat to cooperation between users, managers and governments (25); SPs already reporting data are less likely to find this data disruptive to their operations.

Direct results-based contracting with additional service providers provides an accessible opportunity for impact but would only be a step towards resilient services at scale. The value of engaging non-government service providers in a variety of countries is amplified if it can provide evidence and insights to support wider adoption and adaptation by governments and other stakeholders. If strategic support for a known collection of services can illustrate how conditions for scale and sustainability can be developed, pathways towards services for 100 million people will emerge.

6.1 Further considerations

The global diagnostic provides new perspectives on the scale, scope and challenges of rural service provision. Some service providers appear eligible for engagement with known results-based funding systems that could form a pathway to reliable services for about 5 million people in 28 countries. Pursuing this opportunity could create meaningful impacts for rural communities, schools and healthcare facilities, develop valuable service data, and further test the efficacy of results-based funding models.

But questions remain. Wider engagement is needed to rapidly progress to the scale of 100 million people to provide stronger evidence of pathways to universal services for billions more. Results-based contracts for already eligible service providers is one entry point. The interest from government and non-government actors begins to landscape the multiple partnerships that will be necessary to develop the conditions for service sustainability and scale. Future work can explore alternative pathways that include a) national government engagement to shape policy and public finance; b) adaptation and adoption of results-based models within government service providers such as utilities; and c) technical assistance to accelerate development of new or emerging rural service providers.

Photo by Cliff Nyaga

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Annex 1: Calculation of findings

3.2 Infrastructure and services

Among 358 service providers:		
Finding	Percentage	Sample size
Described activities linked to managing the ongoing functionality of water services	81%	358
Involved in monitoring waterpoint functionality but not in management	9%	358
Described using two or more types of infrastructure	57%	358
Described using both household and communal infrastructure for water service delivery	44%	358
Described delivery through communal infrastructure	74%	358
Described delivery through household level infrastructure	66%	358
Service delivery including taps	82%	358
Service delivery including handpumps	37%	358
Service providers also provide water services to institutions, such as schools or health care facilities	76%	358

3.4 Legal arrangements

Among 257 non-governmental service providers:		
Finding	Percentage	Sample size
Reported having at least one form of formal arrangement underpinning their work	85%	257
Reported having two or more types of formal arrangements underpinning their work	56%	257
Have arrangements with two or more types of entities	52%	257
Described their operations as being only informal and unregistered	15%	257
In the Philippines or the Democratic Republic of the Congo, among those who described their operations as being only informal and unregistered	56%	39
Reported having legal arrangements with at least one government entity	74%	257
Reported having legal arrangements with communities	44%	257
Had arrangements with communities but not with government	8%	257

3.5 Representativeness

Among 358 service providers:		
Finding	Percentage	Sample size
Responses from high and upper-middle income countries	9%	358
Responses from lower-middle income countries	55%	358
Responses from low income countries	36%	358
Waterpoints reported by the seven respondents describing over 100,000 waterpoints, among total reported waterpoints of respondents	64%	3,017,695

4.1 Reliability

Among 257 non-governmental service providers		
Finding	Percentage	Sample size
Service providers aiming to repair broken infrastructure in 3 days or less, among those reporting breakdown response as part of their operating model	68%	173

4.2 Water safety

Among 257 non-governmental service providers		
Finding	Percentage	Sample size
Service providers reporting they are engaged in at least one type of water safety activity	98%	257
Reported waterpoint monitoring, including regular water quality testing but not sanitary inspection	31%	257
Reported waterpoint monitoring, including sanitary inspection but not regular water quality testing	7%	257
Reported waterpoint monitoring, including both regular water quality testing and sanitary inspection	36%	257
Reported water source protection activities to prevent faecal contamination	64%	257
Treating water supplies, including regular treatment, but not reactive treatment in response to water quality issues	16%	257
Treating water supplies, including reactive treatment in response to water quality issues, but not regular treatment	14%	257
Treating water supplies, including both regular treatment and reactive treatment in response to water quality issues	39%	257
Reporting water quality results to operators or managers, but not to government	12%	257
Reporting water quality results to government, but not to operators or managers	16%	257
Reporting water quality results to both operators or managers, and government	28%	257
Encouraging water users to address safety issues through activities focused at the point-of-use (homes, schools, or clinics): through water quality testing	50%	257
Encouraging water users to address safety issues through activities focused at the point-of-use (homes, schools, or clinics): through water treatment	33%	257
Encouraging water users to address safety issues through activities focused at the point-of-use (homes, schools, or clinics): through hygiene training	71%	257
Encouraging water users to address safety issues through activities focused at the point-of-use (homes, schools, or clinics): through reporting results to users	55%	257
Described doing a suite of activities including waterpoint monitoring, taking measures to protect water sources from contamination, regularly treating water supplies, and reporting monitoring results to operators, managers, or government	31%	257

4.3 Revenue collection

Among 257 non-governmental service providers		
Finding	Percentage	Sample size
Collect payments for water services	77%	257
Collect payments for water services, among high and upper-middle income country respondents	84%	19
Collect payments for water services, among lower-middle income country respondents	80%	124
Collect payments for water services, among low income country respondents	72%	114
Reported major negative impacts of the COVID-19 pandemic on their operations, among service providers providing services without charge for water services	52%	60
Reported major negative impacts of the COVID-19 pandemic on their operations, among service providers charging for water services	25%	197
Include piped infrastructure as part of infrastructure used, among charging providers	83%	197
Include piped infrastructure as part of infrastructure used, among non-charging providers	62%	60
Reported receiving payments from institutions such as schools or healthcare facilities, among providers serving these institutions	39%	190
Reported regularly monitoring waterpoints, treating water supplies, and reporting to operators, managers, or government, among charging providers	41%	197
Reported regularly monitoring waterpoints, treating water supplies, and reporting to operators, managers, or government, among non-charging providers	23%	60

4.3.1 Revenue collecting service providers

Among 197 non-governmental service providers where users are paying for services		
Finding	Percentage	Sample size
Use of systematic payment methods that do not include payments on breakdown or other irregular payments	77%	197
Receive some payments in cash	93%	197
Only receive payments in cash	48%	197
Only receive payments in cash and in-kind payments	5%	197

Among 197 non-governmental service providers where users are paying for services		
Finding	Percentage	Sample size
Providers using payments partially for repayment of a loan	23%	197
Providers reporting paying part of user feess to government (including through taxes)	23%	197
Providers reporting paying part of user fees to government, among respondents in low income countries	35%	82
Providers reporting paying part of user fees to government, among respondents in lower-middle income countries	14%	99
Providers reporting paying part of user fees to government, among respondents in high and upper-middle income countries	13%	16
Providers reported some or all payments stayed in the community	50%	197
Providers reported all payments stayed in the community	19%	197
Providers reported some or all payments stayed in the community, among lower-middle income countries	64%	99
Providers reported some or all payments stayed in the community, among high and upper-middle income countries	38%	16
Providers reported some or all payments stayed in the community, among low income countries	37%	82
Reported regularly monitoring waterpoints, treating water supplies, and reporting to operators, managers, or government, among providers using only systematic payment methods	45%	153
Reported regularly monitoring waterpoints, treating water supplies, and reporting to operators, managers, or government, among providers non-systematic payment methods	27%	44
Receive some payments through mobile money	29%	197
Receive some payments through mobile money, among service providers in Kenya	94%	18
Receive some payments through mobile money, while also accepting other forms of payment	96%	57

4.4 Subsidies

Among 257 non-governmental service providers		
Finding	Percentage	Sample size
Report receiving financial support to subsidise the local costs of water service provider operations	55%	257
Report receiving a subsidy, among those providing services without charge	70%	60
Report receiving a subsidy, among providers in low income countries	49%	114
Report receiving a subsidy, among providers in lower-middle income countries	56%	124
Report receiving a subsidy, among providers in high and upper-middle income countries	84%	19
Report receiving a subsidy from government	12%	257
Report receiving a subsidy from government, among providers in high and upper-middle income countries	53%	19
Report receiving a subsidy from government, among providers in lower-middle income countries	14%	124
Report receiving a subsidy from government, among providers in low income countries	3%	114

4.5 Shocks

Among 257 non-governmental service providers		
Finding	Percentage	Sample size
Reported major negative impacts to their operations from the COVID-19 pandemic	32%	257
Reported major negative impacts to their operations from the COVID-19 pandemic, including decreased funding support	23%	257
Reported major negative impacts to their operations from the COVID-19 pandemic, including decreased revenue collection	23%	257
Reported major negative impacts to their operations from the COVID-19 pandemic, including increased operational costs	16%	257
Providing services without charge, among those reporting major negative impacts to their operations from the COVID-19 pandemic	38%	81
Providing services without charge, among those reporting moderate, low, or no impacts of the COVID-19 pandemic	17%	176

Among 257 non-governmental service providers		
Finding	Percentage	Sample size
Reported major negative impacts to their operations from the COVID-19 pandemic, among providers in high and upper-middle income countries	26%	19
Reported major negative impacts to their operations from the COVID-19 pandemic, among providers in lower-middle income countries	30%	124
Reported major negative impacts to their operations from the COVID-19 pandemic, among providers in low income countries	35%	114
Reported major negative impacts to their operations from the COVID-19 pandemic, among providers in the Democratic Republic of the Congo	11%	28
Reported major negative impacts to their operations from the COVID-19 pandemic, among providers in the Philippines	13%	29
Reported major negative impacts to their operations from the COVID-19 pandemic, among providers including payments after breakdowns or other irregular payments	50%	44
Reported major negative impacts to their operations from the COVID-19 pandemic, among providers using only systematic payment methods	18%	153

4.6 Findings about government-linked service providers

Among 101 government-linked service providers		
Finding	Percentage	Sample size
Service providers aiming to repair broken infrastructure in 3 days or less, among those reporting breakdown response as part of their operating model	72%	71
Service providers reporting they are engaged in at least one type of water safety activity	97%	101
Described doing a suite of activities including waterpoint monitoring, taking measures to protect water sources from contamination, regularly treating water supplies, and reporting monitoring results to operators, managers, or government	30%	101
Collect payments for water services	82%	101
Use of systematic payment methods that do not include payments on breakdown or other irregular payments, among those collecting payments for water services	86%	83
Receive some payments in cash, among those collecting payments for water services	67%	83
Only receive payments in cash, among those collecting payments for water services	22%	83
Reported major negative impacts to their operations from the COVID-19 pandemic	35%	101
Providing services without charge, among those reporting major negative impacts to their operations from the COVID-19 pandemic	17%	35
Providing services without charge, among those reporting moderate, low, or no impacts of the COVID-19 pandemic	18%	66

Annex 2: Global diagnostic survey

The following pages show the diagnostic survey details.

The REACH RWSN 100 Million Initiative

Global Diagnostic of rural water service providers -- Diagnostic mondial des prestataires de services d'eau en milieu rural -- Diagnóstico global de proveedores de servicios de agua rurales -- Diagnóstico global de fornecedores de serviços de água rural -- Программа глобальной диагностики организаций, осуществляющих водоснабжение в сельской местности -- 农村地区供水服务提供商的全球诊断

Please select your language at the top right of the page -- Veuillez sélectionner votre langue en haut à droite de la page -- Seleccione su idioma en la parte superior derecha de la página -- Por favor, selecione seu idioma no canto superior direito da página -- В правой верхней части странице выберите язык -- 请在页面右上角选择您的语言 *

In what language are you viewing this questionnaire?

- ◯ English
- ◯ Français
- ◯ Português
- ◯ Español
- ◯ Русский
- ◯ 普通话

About this questionnaire

This questionnaire is to collect information about rural water service providers, to categorise the types of providers and to estimate the scale and potential of a global results-based funding model. This is a first round of data collection, and a second follow-up study is planned with a subset of water service providers. Because of this anticipated follow-up study, the questionnaire asks for your name and the name of your organisation, as well as the country where you work. If your organisation works in more than one country, please return to complete the questionnaire again for each country where you operate. This survey is being conducted by REACH and RWSN.

Questionnaire consent

Ethical permission for the survey has been approved by the University of Oxford. All responses will be kept confidential and anonymous. Participation is voluntary and you can stop at any time. The findings will be shared publicly and you will be advised in advance. RWSN and SKAT will retain contact details beyond the duration of the 100M Initiative. More information is available on the RWSN website.

By clicking 'OK', I consent to participating in this questionnaire. *

- ◯ OK

This questionnaire is for **rural water service providers**, which are organisations or groups responsible for providing drinking water services to homes, communities, schools, or healthcare facilities, or maintenance services on rural water infrastructure. *

- ◯ Yes, I am answering this survey on behalf of a rural water service provider organisation or group

Please answer all questions in this survey based on your operations over the last 12 months. *

- OK

Service provider information:

What is the name of the rural water service provider? *

Company or organisation name

What is your name? *

Please indicate your email address: *

Your email will only be used for this research, stored safely and later deleted unless you give permission to RWSN to support their wider membership activities..

Where do you provide water services (country)? *

If your organisation works in more than one country, please return to complete the questionnaire again for each country where you operate.

- Afghanistan
- Albania
- Algeria
- American Samoa
- Andorra
- Angola
- Anguilla
- Antigua and Barbuda
- Argentina
- Armenia
- Aruba
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bermuda
- Bhutan
- Bolivia (Plurinational State of)
- Bonaire
- Bosnia and Herzegovina
- Botswana
- Brazil
- British Virgin Islands
- Brunei Darussalam
- Bulgaria
- Burkina Faso
- Burundi
- Cabo Verde
- Cambodia
- Cameroon
- Canada
- Cayman Islands
- Central African Republic
- Chad
- Channel Islands
- Chile
- China
- China (Hong Kong Special Administrative Region)
- China (Macao Special Administrative Region)
- Colombia
- Comoros
- Congo
- Cook Islands
- Costa Rica
- Côte d'Ivoire
- Croatia
- Cuba
- Curaçao
- Cyprus
- Czech Republic
- Democratic People's Republic of Korea
- Democratic Republic of the Congo

- Denmark
- Djibouti
- Dominica
- Dominican Republic
- Ecuador
- Egypt
- El Salvador
- Equatorial Guinea
- Eritrea
- Estonia
- Eswatini
- Ethiopia
- Falkland Islands (Malvinas)
- Faroe Islands
- Fiji
- Finland
- France
- French Guiana
- French Polynesia
- Gabon
- Gambia
- Georgia
- Germany
- Ghana
- Gibraltar
- Greece
- Greenland
- Grenada
- Guadeloupe
- Guam
- Guatemala
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Holy See
- Honduras
- Hungary
- Iceland
- India
- Indonesia
- Iran (Islamic Republic of)
- Iraq
- Ireland
- Isle of Man
- Israel
- Italy
- Jamaica
- Japan
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kuwait
- Kyrgyzstan
- Lao People's Democratic Republic
- Latvia
- Lebanon
- Lesotho
- Liberia
- Libya
- Liechtenstein
- Lithuania
- Luxembourg
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Malta
- Marshall Islands
- Martinique
- Mauritania
- Mauritius
- Mayotte
- Mexico
- Micronesia (Federated States of)
- Monaco
- Mongolia
- Montenegro
- Montserrat
- Morocco
- Mozambique
- Myanmar
- Namibia
- Nauru
- Nepal
- Netherlands
- New Caledonia
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- North Macedonia
- Northern Mariana Islands
- Norway
- Oman
- Pakistan
- Palau
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Poland
- Portugal
- Puerto Rico

- Qatar
- Republic of Korea
- Republic of Moldova
- Réunion
- Romania
- Russian Federation
- Rwanda
- Saint Helena
- Saint Kitts and Nevis
- Saint Lucia
- Saint Pierre and Miquelon
- Saint Vincent and the Grenadines
- Samoa
- San Marino
- Sao Tome and Principe
- Saudi Arabia
- Senegal
- Serbia
- Seychelles
- Sierra Leone
- Singapore
- Sint Eustatius and Saba (Caribbean Netherlands)
- Sint Maarten (Dutch part)
- Slovakia
- Slovenia
- Solomon Islands
- Somalia
- South Africa
- South Sudan
- Spain
- Sri Lanka
- Sudan
- Suriname
- Sweden
- Switzerland
- Syrian Arab Republic
- Tajikistan
- Thailand
- Timor-Leste
- Togo
- Tokelau
- Tonga
- Trinidad and Tobago
- Tunisia
- Turkey
- Turkmenistan
- Turks and Caicos Islands
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom of Great Britain and Northern Ireland
- United Republic of Tanzania
- United States of America
- United States Virgin Islands
- Uruguay
- Uzbekistan
- Vanuatu
- Venezuela (Bolivarian Republic of)
- Viet Nam
- Wallis and Futuna Islands
- West Bank and Gaza Strip
- Western Sahara
- Yemen
- Zambia
- Zimbabwe

Where in is the service provider working? *

Please list the regions, provinces, districts, or counties where your organisation operates.

Estimated population served with water services in by your organisation: *

- Less than 1,000 people
- Between 1,000 and 5,000 people
- Between 5,000 and 20,000 people
- Between 20,000 and 50,000 people
- Between 50,000 and 100,000 people
- More than 100,000 people

Type of rural water service provider:

A) What type of service provider are you? *

Select which best describes your organisation

- [ ] Government (including including national, sub-national, parastatals, government-owned utilities)
- [ ] Private (including private companies, social enterprises, privately-owned utilities)
- [ ] NGO (non-governmental organisation) or CSO (civil society organisation)
- [ ] INGO (international non-governmental organisation)
- [ ] CBO (community-based organisation)
- [ ] Association (including Mechanic Associations, Water User Associations, WUAs)
- [ ] Volunteer community committee (including Water Management Committees, WMCs)
- [ ] Other:

Other: please specify *

.....

B) What types of rural water infrastructure do you provide services for? *

Describe the water supply infrastructure in place that your organisation provides services to: Select as many as apply

- [ ] Communal handpumps
- [ ] Private household handpumps
- [ ] Kiosks/tap stands (off premises piped water)
- [ ] Household/yard taps (on premises piped water)
- [ ] Protected spring
- [ ] Bottled water delivery
- [ ] Tanker truck water delivery
- [ ] Other:

Other: please specify *

.....

Total number of handpumps: *

.....

Total number of piped waterpoints, including taps, kiosks, and household/yard connections: *

.....

What types of services do you normally provide? *

Describe the services of your organisation: Select as many as apply

- [ ] Managing revenues and/or funds for water services
- [ ] Operations and maintenance services
- [ ] Monitoring and support services
- [ ] Construction and/or rehabilitation for water services

What types of financial management services do you normally provide? *

Select as many as apply

- [ ] Managing funds for building new water supply infrastructure
- [ ] Managing funds for rehabilitation of existing water supply infrastructure
- [ ] Managing funds for operation costs of infrastructure
- [ ] Managing funds for maintenance costs of infrastructure
- [ ] Water tariff setting
- [ ] Billing of water users (including communities, schools, healthcare facilities)
- [ ] Direct collection of water fees from users (including routine user payment collection)
- [ ] Receiving user fees collected by communities (service provider does not directly manage collection from users)
- [ ] Generating funds from proposals to donors and others

What types of operations and maintenance services do you normally provide? *

Some operations and maintenance happens on breakdown, as routine services, or a combination: Select as many as apply

- [ ] Response to waterpoint breakdown events
- [ ] Preventative maintenance of waterpoints on a routine schedule
- [ ] Non-systematic maintenance and support
- [ ] Water quality intervention (treatment)
- [ ] Building new water supply infrastructure
- [ ] Rehabilitating existing water supply infrastructure
- [ ] Engaging external operations and maintenance service to respond to waterpoint breakdowns
- [ ] Day-to-day operation of water supply infrastructure

What is your target response time (in days) to repair breakdowns? *

.....

What types of monitoring and support services do you normally provide? *

Select as many as apply

- [ ] Capacity building support to water managers and users (communities, schools, healthcare facilities)
- [ ] Support to communities on water user fee collection
- [ ] Water quality intervention (treatment)
- [ ] Water Safety Planning (WSP)
- [ ] Routine sanitary inspections
- [ ] Routine water quality monitoring
- [ ] Documenting data from sensors/meters of waterpoint functionality
- [ ] Documenting reports of waterpoint breakdowns from users or local officials
- [ ] Routine monitoring of functionality of waterpoints
- [ ] Routine monitoring of water user satisfaction
- [ ] Routine reporting to government on water service provision
- [ ] WASH behaviour change support

What types of construction and/or rehabilitation services do you normally provide? *

Select as many as apply

- [ ] Construction of new water supply infrastructure
- [ ] Rehabilitation of water supply infrastructure

Optional: Do you provide any other services not described?

C) What type of ongoing water quality management do you provide? *

Describe the water quality services of your organisation: Select as many as apply

- [ ] Regular treatment at waterpoint or scheme (including chemical or biological treatment)
- [ ] Water quality intervention (including chemical or biological treatment) in response to water quality issues
- [ ] Regular treatment of water at point-of-use (e.g. home, school, or clinic)
- [ ] Water Safety Planning (WSP)
- [ ] Routine sanitary inspections
- [ ] Regular water quality monitoring at waterpoint
- [ ] Regular water quality monitoring at point-of-use
- [ ] Reporting on water quality to users
- [ ] Reporting on water quality to water supply operators or managers
- [ ] Reporting on water quality to government
- [ ] Hygiene training
- [ ] Water source protection
- [ ] None
- [ ] Other:

Other: please specify *

D) Are regular payments collected for water services? *

- ( ) Yes, regular payments (including cash or in-kind) are collected
- ( ) No, it is a free service with no regular payments collected

How are payments collected for water services? *

Describe how payments are collected for water services: Select as many as apply

- [ ] Payments by volume of water: metered household water supply
- [ ] Payments by volume of water: communal waterpoint
- [ ] Payments by subscription period (each week, month, or year)
- [ ] Payments when there is a breakdown to repair
- [ ] Irregular or ad hoc payments
- [ ] Other:

Other: please specify *

Indicate how much of the revenue collected from user payments is collected in each way (in an average year):

Payments by volume of water: metered household water supply *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Payments by volume of water: communal waterpoint *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Payments by subscription period (each week, month, or year) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Payments when there is a breakdown to repair *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Irregular or ad hoc payments *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Other: "" *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Who pays the service provider for water services? *

Describe how payments are collected for water services: Select as many as apply

- [ ] Individual users
- [ ] Communities (collective payment)
- [ ] Government
- [ ] Institutions (including schools, healthcare facilities)
- [ ] Other:

Other revenue sources: please specify *

Indicate how much of the revenue collected from user payments for water services are collected from each group (in an average year):

Revenue is from individual user payments *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Revenue is from community payments (collective payment) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Revenue is from government payments *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Revenue is from institution payments (schools, healthcare facilities) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Other: "" *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

What payment methods are accepted for water services? *

Describe how payments are collected for water services: Select as many as apply

- [ ] Cash
- [ ] Mobile money
- [ ] Pre-paid (including tokens, cards, vouchers, electronic credit)
- [ ] Bank transfer
- [ ] In-kind payment (including vegetables, fruit, animals, livestock)
- [ ] Other:

Other payment method: please specify *

Indicate how much of the revenue collected from user payments for water services is collected in each way (in an average year):

Cash *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Mobile money *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Pre-paid (including tokens, cards, vouchers, electronic credit) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Bank transfer *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

In-kind payment (including vegetables, fruit, animals, livestock) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Other: "" *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Once user payments are collected, where do the funds go? *

Describe how payments collected for water services are used: Select as many as apply

- [ ] Payments to government (including taxes)
- [ ] Payments to the service provider
- [ ] Payments to repay loans/debts of the service provider
- [ ] Payments stay in the community
- [ ] Other:

Other: please specify *

Indicate how much of the total payments collected are paid to each group:

Payments to government *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Payments to the service provider *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Payments to repay loans/debts of the service provider *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Payments stay in the community *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Other: "" *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

Do you regularly receive other financial support to subsidise the local costs of the water service provider operations? *

- [ ] No, user fees cover all costs of water service provision
- [ ] Yes, financial support from the national government
- [ ] Yes, financial support from sub-national government
- [ ] Yes, financial support from donor organisations
- [ ] Yes, financial support from NGOs (non-governmental organisations)
- [ ] Yes, financial support from INGOs (international non-governmental organisations)
- [ ] Yes, financial support from the private sector (companies, businesses, enterprises)
- [ ] Yes, financial support from other:

Other: please specify *

Indicate how much of the total financial support or subsidies received are from each group:

From national government *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

From sub-national government *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

From donor organisations *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

From NGOs (non-governmental organisations) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

From INGOs (international non-governmental organisations) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

From private sector (companies, businesses, enterprises) *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

From other: "" *

Less than one-third | Approximately half | More than two-thirds | All | Don't know

E) What arrangements guide how your organisation provides water services? *

Consider arrangements with national government (including regulator), sub-national government, institutions (including schools, healthcare facilities), or communities. Select as many as apply

- [ ] Informal (non-registered) operator
- [ ] Registered company or organisation
- [ ] Water service permit or license
- [ ] Memorandum of understanding (MoU)
- [ ] Signed contract for service provision
- [ ] Other

With whom do you have a registration as a company or organisation? *

Select as many as apply

- [ ] With national government (including regulator)
- [ ] With sub-national government
- [ ] With other:

Other: please specify *

From whom do you have a water service permit or license? *

- [ ] From national government (including regulator)
- [ ] From sub-national government
- [ ] From other:

Other: please specify *

With whom do you have a memorandum of understanding (MoU)? *

Select as many as apply

- [ ] With national government (including regulator)
- [ ] With sub-national government
- [ ] With public institutions (including schools, healthcare facilities)
- [ ] With communities
- [ ] With other:

Other: please specify *

With whom do you have a signed contract for service provision? *

Select as many as apply

- [ ] With national government (including regulator)
- [ ] With sub-national government
- [ ] With public institutions (including schools, healthcare facilities)
- [ ] With communities
- [ ] With other:

Other: please specify *

Other contractual arrangements: please specify what the arrangements are, and whom they are with *

F) How much has the current COVID-19 pandemic affected your operations in the past 12 months, as described in all of these survey questions? *

Please consider how different your answers to the questions in this survey would be if the COVID-19 pandemic had not occurred.

No impact | Minor impacts | Moderate impacts | Major impacts

If major impacts: In what ways did the current COVID-19 pandemic most affect your operations? *

- [ ] Revenue collection increased
- [ ] Revenue collection decreased
- [ ] Operational costs increased
- [ ] Operational costs decreased
- [ ] Funding support increased
- [ ] Funding support decreased
- [ ] Other:

Other: please specify *

Data collected by rural water service provider:

Development of a reference group of water service providers

REACH and RWSN are planning to establish a reference group of rural water service providers to study how a potential results-based funding model might be able to work to support improved access to water services for 100 million people by 2030. This would involve collecting operating data from service providers over a period of a few months about their operations. If your organisation might be interested in being included in this reference group, we would like to ask a few more questions about the data your organisation collects.

Would you be willing to answer a few more multiple-choice questions about the data your organisation collects? *

Please select "Yes" if you would like to be considered for inclusion in the reference group.

- ( ) Yes
- ( ) No

1) Do you have data about the scale of water services supported by your organisation in ? *

- ( ) Yes
- ( ) No

If no:

- ( ) No, but we plan to start keeping a list
- ( ) No, but we would be willing to start keeping a list
- ( ) No, it is unlikely that we would keep this information

Which of the following does your data include? *

Select as many as apply.

- [ ] Number of handpumps
- [ ] Number of kiosks/tap stands
- [ ] Number of household connections
- [ ] Number of schemes
- [ ] Number of schools
- [ ] Number of healthcare facilities
- [ ] Volume of water produced (m^3)
- [ ] Water quality data
- [ ] Population served with water services
- [ ] Other:
- [ ] I don't know

Other: please specify *

How frequently do you update this data? *

- ( ) Weekly
- ( ) Monthly
- ( ) Quarterly
- ( ) Annually
- ( ) Other:

Other: please specify *

When was this data last updated? *

Please provide the date or an estimate of the date of the last update:

yyyy-mm-dd

Do you have historical data? *

- ( ) No, we keep only current data
- ( ) Yes

Starting what month and year do you have historical data? *

yyyy-mm

2) Do you keep a list of all the waterpoints supported by your organisation in ? *

- ( ) Yes
- ( ) No

If no:

- ( ) No, but we plan to start keeping a list
- ( ) No, but we would be willing to start keeping a list
- ( ) No, it is unlikely that we would keep this information

Which of the following does your data include? *

Select as many as apply.

- [ ] GPS coordinates of each waterpoint
- [ ] Type of each waterpoint (including pump type)
- [ ] Waterpoints serving institutions (schools, healthcare facilities)
- [ ] Population served by each waterpoint
- [ ] Unique name/ID of each waterpoint
- [ ] Other:
- [ ] I don't know

Other: please specify *

How frequently do you update this data? *

- ( ) Weekly
- ( ) Monthly
- ( ) Quarterly
- ( ) Annually
- ( ) Other:

Other: please specify

*

When was this data last updated?

Please provide the date or an estimate of the date of the last update:

yyyy-mm-dd

*

Do you have historical data?

*

- No, we keep only current data
- Yes

Starting what month and year do you have historical data?

*

yyyy-mm

3) Do you track service breakdowns of the waterpoints supported by your organisation in ?

*

- Yes
- No

If no:

- No, but we plan to start keeping a list
- No, but we would be willing to start keeping a list
- No, it is unlikely that we would keep this information

Which of the following does your data include? *

Select as many as apply.

- [ ] Unique name/ID of the affected waterpoint
- [ ] GPS coordinates of the affected waterpoint
- [ ] Breakdown start date
- [ ] Breakdown end date (repair date)
- [ ] Breakdown duration (days)
- [ ] Type of the affected waterpoint
- [ ] Cause of breakdown
- [ ] Cost of repair
- [ ] How the breakdown was reported
- [ ] Other:
- [ ] I don't know

Other: please specify *

Do you have current data? *

- ( ) Yes
- ( ) No

Do you have historical data? *

- ( ) No, we keep only current data
- ( ) Yes

Starting what month and year do you have historical data? *

yyyy-mm

4) Do you have financial data about your water services in ? *

- ( ) Yes
- ( ) No

If no:

- ( ) No, but we plan to start keeping a list
- ( ) No, but we would be willing to start keeping a list
- ( ) No, it is unlikely that we would keep this information

Which of the following does your data include? *

Select as many as apply.

- [ ] Revenue collected from water users (USD or other currency)
- [ ] Volume of water sold (m^3)
- [ ] Non-revenue water (%, m^3, or USD or other currency)
- [ ] Direct costs: Cash expenditure for spare parts, maintenance tasks, personnel and other activities directly involved in operations support
- [ ] Indirect costs: Cash expenditure for overheads, management support and organizational costs incurred to support the rural service
- [ ] Excluded revenue: Grants donations and other income not received from service users or service authorities
- [ ] Excluded costs: Asset depreciation and other non-cash costs
- [ ] Other:
- [ ] I don't know

Other: please specify *

How frequently do you update this data? *

- ( ) Weekly
- ( ) Monthly
- ( ) Quarterly
- ( ) Annually
- ( ) Other:

Other: please specify *

When was this data last updated? *

Please provide the date or an estimate of the date of the last update:

yyyy-mm-dd

Do you have historical data? *

- ( ) No, we keep only current data
- ( ) Yes

Starting what month and year do you have historical data? *

yyyy-mm

5) Would your organisation be willing to consider sharing some operational and financial data about your operations in with REACH and RWSN for research about a potential funding mechanism to support rural water service providers like you? *

- ( ) Yes
- ( ) Maybe
- ( ) Probably not

If you answered "Maybe," please indicate if it is because of any of the following reasons:

- [ ] Unsure if the organisation is allowed to share this information
- [ ] Unsure if the organisation has the information requested
- [ ] Would like to discuss further with REACH and RWSN

If you answered "Probably not," please indicate if it is because of any of the following reasons:

- [ ] User privacy concerns
- [ ] Operator privacy concerns

Optional: Would you like to recommend other rural water service providers or service authorities who should complete this questionnaire?

Please indicate any people (name, role, email addresses, and phone number) who we could approach to further broaden the reach of this study

Optional: Is there any other information you would like to share at this time?

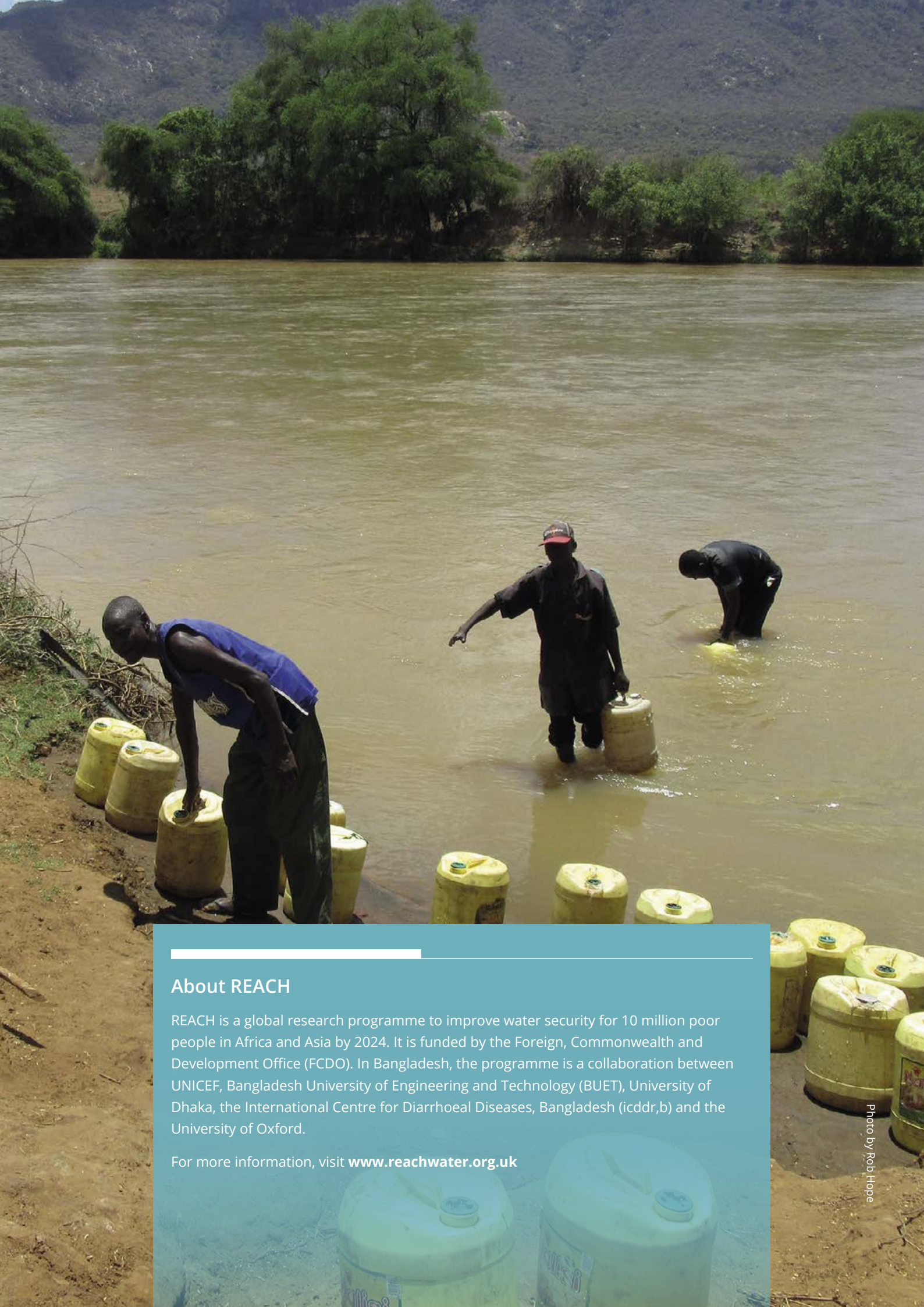
Thank you for your responses to this questionnaire!

Submission instructions

When you click "submit," your responses will be cleared from the form, but will remain in your browser for 5 minutes, or longer if your internet connection is unstable, until they are uploaded: during this time, please do not close your browser. You will be able to see that your response is uploaded when the orange number at the top left of your screen returns to "0" (zero records remaining to upload), and then you can close your browser.

Does your organisation work in more than one country? Please complete the questionnaire again!

If your organisation works in more than one country, please return to the RWSN website to complete the questionnaire again for each country where you operate.



About REACH

REACH is a global research programme to improve water security for 10 million poor people in Africa and Asia by 2024. It is funded by the Foreign, Commonwealth and Development Office (FCDO). In Bangladesh, the programme is a collaboration between UNICEF, Bangladesh University of Engineering and Technology (BUET), University of Dhaka, the International Centre for Diarrhoeal Diseases, Bangladesh (icddr,b) and the University of Oxford.

For more information, visit **www.reachwater.org.uk**

Photo by Rob Hope