



The Data Dividend

Applying a data integrity methodology to deliver better value for results-based funding for safe drinking water services

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Introduction

Results-based contracts are emerging as an effective, transparent and cost-efficient mechanism for improving rural drinking water investments in low-income and vulnerable contexts. Governments, development banks, foundations, and corporates increasingly recognise their potential to link funding to verified outcomes. Historically, rural water investments have focussed on infrastructure access without sufficient monitoring of the delivery of services. This has led to unsatisfactory results and an unconvincing case for further investment. Often, rural water users are left no better off, as when infrastructure fails they are forced to rely on alternative water sources which are typically more distant, dirty, and expensive.

Since 2020, Uptime has issued results-based contracts to demonstrate that reliable drinking water services can be delivered for an operating subsidy of less than USD 1 per person per year. In 2024, more than 5 million rural people in 16 countries benefited from these contracts with over USD 2.5 million disbursed.

Key to this approach is a cost-effective and robust data integrity methodology that provides verifiable evidence to funders and ensures the accuracy of reported results. Under Uptime's results-based contracts, performance metrics include 96% service reliability, local revenue generation (USD) and water volume delivered to users (m³).¹ In 2025, water safety metrics have also been introduced.² The contract design is intentionally minimal to deliver outcomes efficiently and allow replication and scaling across diverse geographies and service delivery contexts. Performance data from over 6,000 piped schemes and handpumps is published quarterly via a public dashboard (Figure 1).³ Globally, the average cost of ensuring data integrity is less than 9% of the total results-based contract value.

Data integrity is critical to securing and sustaining long-term results-based funding. It generates a “data dividend” by verifying high-quality performance metrics which are valued by governments, donors, corporates, and rural water users. This dividend overcomes the enduring problem of data asymmetry between funding inputs and service outcomes. By reducing the risks of misallocated funds and opaque results, it provides an empirical case for delivering safe drinking water to the most in need. This enhances allocative efficiency and increases value for money for public expenditure. It also supports a stronger case for corporates with social impact commitments to reach vulnerable people beyond their operational locations or associated watersheds. Additionally, it may allow large institutional investors to explore blended finance models, where a small percentage of funds can deliver social and economic impacts to complement the core focus on financial returns.

1 McNicholl et al., 2021. [Delivering global rural water services through results-based contracts](#).

2 Charles et al., 2023. [Results-based funding for safe drinking water services: How a standard contract design with payment for results can accelerate safe drinking water services at scale](#).

3 [Uptime data global dashboard](#).

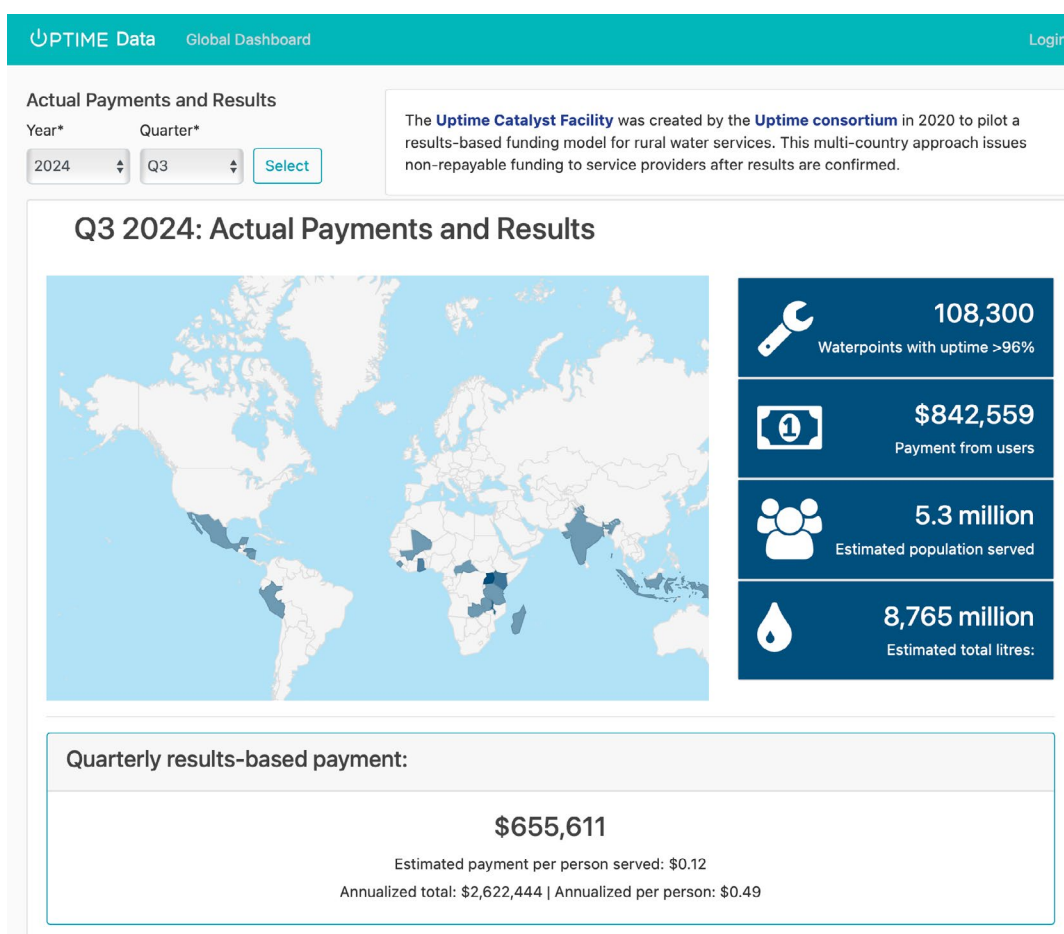


Figure 1: Uptime results-based funding dashboard

This report summarises Uptime’s ongoing work to strengthen our data integrity methodology by balancing the need for high quality data against reasonable costs across varied contexts, service models and infrastructure types. We illustrate how robust data integrity can support results-based contracts for three constituencies:

1. Governments responsible for services in rural schools and clinics

- High quality services delivered to public facilities from professional service providers at low cost can justify public finance for operation and maintenance. Standardised contracts provide ‘regulation by contract’, overcoming the data gap between policy goals and observed performance in rural contexts.

2. Development banks investing in community piped schemes and handpumps

- The case for infrastructure investment should be informed by a sustainable model for service delivery. Data integrity underpins the empirical evidence required to predict revenue from infrastructure choices, enabling the development of more realistic financial models and subsidy strategies.

3. Corporates seeking Volumetric Water Benefits

- Legal and compliance protocols demand verifiable data to justify corporate funding to remote rural locations. Uptime’s data integrity methodology provides a robust approach to quantify and evaluate volumetric water benefits.

Uptime's data integrity methodology

Uptime's data integrity methodology ensures results-based contracts between funders and service providers are effectively executed (Figure 2). The contract defines the terms and outcomes required by the service provider. Results are reported to Uptime Global and are confirmed to the results-based funder through quarterly validation and annual audit and visit cycles. The service provider then receives payments that are calculated based on performance. Payments can be suspended and contracts terminated in cases where there are systematic and consistent discrepancies in data reporting. The Uptime Catalyst Facility provides a regulated vehicle to issue payments and interpret penalties. We describe these rigorous yet practical steps and key considerations in the following sections.

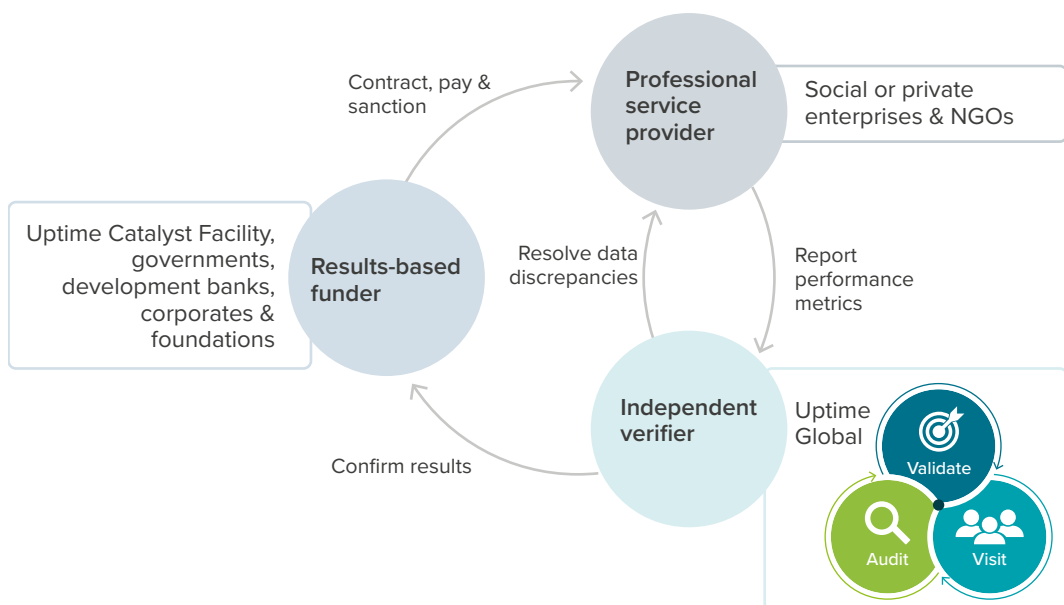


Figure 2: Conceptual overview of Uptime's data integrity methodology

Professional service providers

The effectiveness of results-based contracts depends on the quality and capability of the service provider that is responsible for water supply and maintenance. Historically, community-based management approaches have produced inconsistent and unsatisfactory outcomes, prompting a shift toward professional service providers across rural Africa, Asia and Latin America. Professional service providers are characterised by their ability to operate at scale, technical competence, compliance with local policies and regulations, robust data systems, and commitment to delivering measurable results. These attributes are fundamental to the success of results-based contracts, which rely on credible and timely performance data to validate and verify service delivery and trigger payments.

The structured nature of results-based contracts reinforces these competencies by incentivising service providers to systematically log operation and maintenance activities and report performance in line with a defined data standard. This ensures that data is consistently collected, aggregated, and transmitted through established channels at regular intervals, improving data resolution and providing a clear and prioritised reflection of performance over time.

Before entering into a results-based contract, Uptime applies a rigorous screening process to service providers based on clearly defined eligibility criteria. The assessment focuses on key qualifications, including demonstrated capacity to operate at scale, technical expertise, and the presence of robust systems for data collection and management. As appropriate, this screening step can be integrated into public procurement processes or other established oversight frameworks. In the next section, we discuss examples from Bangladesh and Zambia to illustrate how professional service providers can offer an effective contracting model to attract public finance.

A fundamental challenge in scaling results-based approaches is the limited global availability of professional service providers.⁴ Uptime has shown that results-based contracts with providers already meeting eligibility criteria can reach over five million rural people. However, expanding this model to reach hundreds of millions of people will require increased government leadership, dedicated funding, and targeted technical assistance to support the development and professionalisation of emerging rural service providers.

Performance metrics and measurement

Monitoring the performance of drinking water services in rural, low-resource settings presents numerous challenges. Remote locations are difficult and expensive to access and typically lack reliable internet and electricity. Sophisticated monitoring systems using real-time mobile or satellite communications have not yet been effectively applied at scale in these contexts. Furthermore, affordable and reliable laboratories for water quality testing are rare, and rising costs associated with importing consumables through global supply chains add further complications. Local institutions also frequently operate under constraints in technical capacity, financial resources, and staffing, making the establishment and maintenance of effective data management systems even more difficult.

Considering these constraints, minimising data requirements is essential to ensure that performance reporting remains feasible and cost-effective for service providers and the approach remains scalable across diverse service delivery contexts. Uptime has defined a pragmatic set of performance metrics informed by extensive research, partner experience, and a strong emphasis on outcomes that are achievable in resource-constrained rural settings. These metrics include service uptime (reliability), local revenue, volume of water delivered to users, and water safety assessment and reporting (see Box 1). Uptime's experience and evidence suggests that simplicity in contract design is key to achieving both scale and sustainability.

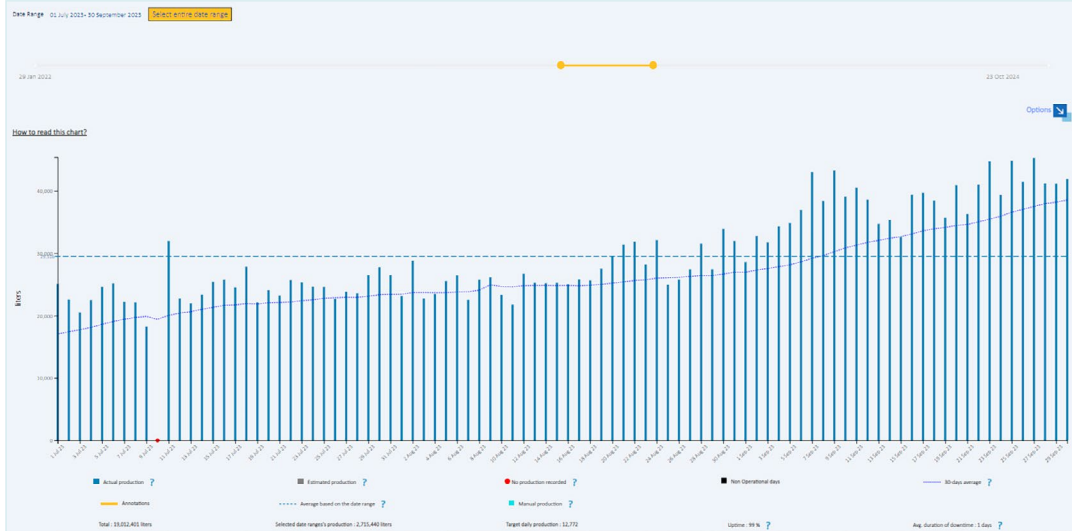
4 Nilsson et al., 2021. [Global prospects to deliver safe drinking water services for 100 million rural people by 2030](#).



Box 1: Data requirements for Uptime's results-based contracts

Uptime (Reliability)

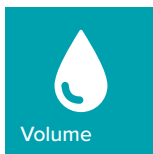
Date-stamped logbooks, mobile apps or *in situ* sensor data of service delivery and repair times;



Screenshot of daily uptime and volume data collected by an automated water meter reader (courtesy of Water Mission)

Issue	
Description of problem	Loose handles
Tick here if it is a breakdown (customer reported)	True
Tick if this is an AquaTrust Life customer	
Assigned to: [Name] Jul 11, 2023	
Resolved - Jul 14, 2023 by [Name]	
Question	Answer
Which technician is completing this repair?	[Name]
Technician arrival date and time	July 12, 2023 1:31 AM Answered: Wed, Jul 12, 2023 4:15 AM 0.8325118° 32.5064547° (+/-) 4.923 m
Photos before repair	 Answered: Wed, Jul 12, 2023 4:16 AM
Description of problem	Broken three rods, buckets and rubber seals
Tick here if it is a breakdown (technician confirmed)	True
Technician resolution date and time	July 12, 2023 4:25 AM Answered: Wed, Jul 12, 2023 4:18 AM 0.8325118° 32.5064547° (+/-) 4.923 m
Photos after repair	 Answered: Wed, Jul 12, 2023 4:19 AM
Description of repairs and materials used	Broken rods were replaced
Closed - Jul 16, 2023 by [Name]	
Question	Answer
Follow up call date & time	July 16, 2023 12:54 PM
Do you approve the quality of the repair?	Yes
The repair was delayed because of the following conditions:	
Notes on repair quality:	They replaced new rods.

Digital handpump breakdown and maintenance record (courtesy of Ugandan Water Project)



Volume

Date-stamped meter readings or *in situ* sensor data;

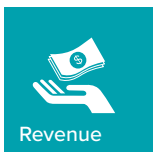
DAILY SALES RECORDS

COMMUNITY: **Safe Water Network**

MONTH: **January 2023**

Day	Start Meter	End Meter	Start Date	End Date	Start Volume	End Volume	Start Date	End Date	Start Volume	End Volume	Start Date	End Date	Start Volume	End Volume
1	21-2145	21-2145	2023-01-01	2023-01-01	100.00	100.00	2023-01-01	2023-01-01	100.00	100.00	2023-01-01	2023-01-01	100.00	100.00
2	21-2145	21-2145	2023-01-02	2023-01-02	100.00	100.00	2023-01-02	2023-01-02	100.00	100.00	2023-01-02	2023-01-02	100.00	100.00
3	21-2145	21-2145	2023-01-03	2023-01-03	100.00	100.00	2023-01-03	2023-01-03	100.00	100.00	2023-01-03	2023-01-03	100.00	100.00
4	21-2145	21-2145	2023-01-04	2023-01-04	100.00	100.00	2023-01-04	2023-01-04	100.00	100.00	2023-01-04	2023-01-04	100.00	100.00
5	21-2145	21-2145	2023-01-05	2023-01-05	100.00	100.00	2023-01-05	2023-01-05	100.00	100.00	2023-01-05	2023-01-05	100.00	100.00
6	21-2145	21-2145	2023-01-06	2023-01-06	100.00	100.00	2023-01-06	2023-01-06	100.00	100.00	2023-01-06	2023-01-06	100.00	100.00
7	21-2145	21-2145	2023-01-07	2023-01-07	100.00	100.00	2023-01-07	2023-01-07	100.00	100.00	2023-01-07	2023-01-07	100.00	100.00
8	21-2145	21-2145	2023-01-08	2023-01-08	100.00	100.00	2023-01-08	2023-01-08	100.00	100.00	2023-01-08	2023-01-08	100.00	100.00
9	21-2145	21-2145	2023-01-09	2023-01-09	100.00	100.00	2023-01-09	2023-01-09	100.00	100.00	2023-01-09	2023-01-09	100.00	100.00
10	21-2145	21-2145	2023-01-10	2023-01-10	100.00	100.00	2023-01-10	2023-01-10	100.00	100.00	2023-01-10	2023-01-10	100.00	100.00
11	21-2145	21-2145	2023-01-11	2023-01-11	100.00	100.00	2023-01-11	2023-01-11	100.00	100.00	2023-01-11	2023-01-11	100.00	100.00
12	21-2145	21-2145	2023-01-12	2023-01-12	100.00	100.00	2023-01-12	2023-01-12	100.00	100.00	2023-01-12	2023-01-12	100.00	100.00
13	21-2145	21-2145	2023-01-13	2023-01-13	100.00	100.00	2023-01-13	2023-01-13	100.00	100.00	2023-01-13	2023-01-13	100.00	100.00
14	21-2145	21-2145	2023-01-14	2023-01-14	100.00	100.00	2023-01-14	2023-01-14	100.00	100.00	2023-01-14	2023-01-14	100.00	100.00
15	21-2145	21-2145	2023-01-15	2023-01-15	100.00	100.00	2023-01-15	2023-01-15	100.00	100.00	2023-01-15	2023-01-15	100.00	100.00
16	21-2145	21-2145	2023-01-16	2023-01-16	100.00	100.00	2023-01-16	2023-01-16	100.00	100.00	2023-01-16	2023-01-16	100.00	100.00
17	21-2145	21-2145	2023-01-17	2023-01-17	100.00	100.00	2023-01-17	2023-01-17	100.00	100.00	2023-01-17	2023-01-17	100.00	100.00
18	21-2145	21-2145	2023-01-18	2023-01-18	100.00	100.00	2023-01-18	2023-01-18	100.00	100.00	2023-01-18	2023-01-18	100.00	100.00
19	21-2145	21-2145	2023-01-19	2023-01-19	100.00	100.00	2023-01-19	2023-01-19	100.00	100.00	2023-01-19	2023-01-19	100.00	100.00
20	21-2145	21-2145	2023-01-20	2023-01-20	100.00	100.00	2023-01-20	2023-01-20	100.00	100.00	2023-01-20	2023-01-20	100.00	100.00
21	21-2145	21-2145	2023-01-21	2023-01-21	100.00	100.00	2023-01-21	2023-01-21	100.00	100.00	2023-01-21	2023-01-21	100.00	100.00
22	21-2145	21-2145	2023-01-22	2023-01-22	100.00	100.00	2023-01-22	2023-01-22	100.00	100.00	2023-01-22	2023-01-22	100.00	100.00
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24	21-2145	21-2145	2023-01-24	2023-01-24	100.00	100.00	2023-01-24	2023-01-24	100.00	100.00	2023-01-24	2023-01-24	100.00	100.00
25	21-2145	21-2145	2023-01-25	2023-01-25	100.00	100.00	2023-01-25	2023-01-25	100.00	100.00	2023-01-25	2023-01-25	100.00	100.00
26	21-2145	21-2145	2023-01-26	2023-01-26	100.00	100.00	2023-01-26	2023-01-26	100.00	100.00	2023-01-26	2023-01-26	100.00	100.00
27	21-2145	21-2145	2023-01-27	2023-01-27	100.00	100.00	2023-01-27	2023-01-27	100.00	100.00	2023-01-27	2023-01-27	100.00	100.00
28	21-2145	21-2145	2023-01-28	2023-01-28	100.00	100.00	2023-01-28	2023-01-28	100.00	100.00	2023-01-28	2023-01-28	100.00	100.00
29	21-2145	21-2145	2023-01-29	2023-01-29	100.00	100.00	2023-01-29	2023-01-29	100.00	100.00	2023-01-29	2023-01-29	100.00	100.00
30	21-2145	21-2145	2023-01-30	2023-01-30	100.00	100.00	2023-01-30	2023-01-30	100.00	100.00	2023-01-30	2023-01-30	100.00	100.00
31	21-2145	21-2145	2023-01-31	2023-01-31	100.00	100.00	2023-01-31	2023-01-31	100.00	100.00	2023-01-31	2023-01-31	100.00	100.00

Logbook of daily water meter readings (courtesy of Safe Water Network)



Local revenue

Records of financial transactions associated with water or maintenance services, such as cash or mobile money payments, bank statements, and audited financial records;

SANDADRANO

Agence : **SANDADRANO**
Tel : **0020 2222 2222**
Email : **info@sandrano.org**
NIF : **000000000** ST : **000000000**
Siège : **000000000**

Dolt : **0000000000000000**
Adresse : **0000000000000000**
FKT : **0000000000000000**
Catégorie : **AB/BS**
Ref Client : **ABBS030**
Ref Compteur : **00076751**
Long : **47.13702** lat : **-19.61666**

novembre 2023
Date d'édition : **24/10/2024**
Date de distribution : **11/12/2023**
Ancien Index : **915.04**
Nouvel Index : **923.15**
Consommation (m3) : **23/11/2023**
8.11

Facture N° : **1 117290 2023**

DETAIL DE LA FACTURE	QUANTITE(m3)	PRIX UNITAIRE(Ar)	Montant(Ar)
Consommation :	8,11		
1ère tranche	8,11	950,00	7 704,50
2ème tranche	0,00	950,00	0,00
Total hors Taxes :			7 704,50
TVA			0,00
Redevance renouvel/extern	0%		154,09
Redevance Eaux usées	2%		154,09
Redevance Branchement Sociaux	2%		154,09
Taxes et surtaxes communale	2%		154,09
Allocation Compteur			0,00
Relance			0,00
Total TTC			8 320,86

Arrêtée la présente facture à la somme de : **HUIT MILLE TROIS CENT VINGT ARIARY QUATRE-VINGT-SIX**

Facture N° : **1 117290 2023**
Dolt : **0000000000000000**
Net à payer : **8 320,86**
En lettre : **HUIT MILLE TROIS CENT VINGT ARIARY QUATRE-VINGT-SIX**

Point de paiement : **din 10 jours après la date de réception**
Ref Client : **ABBS030**
Ref Compteur : **00076751**

SANDADRANO RECUS/AB N° **016680**
Rif client : **0000000000000000**
Nom : **0000000000000000**
Montant en chiffres : **8 320,86**
Montant en lettres : **Eight thousand three hundred and twenty and eight six**
Mode de paiement : ☐ Espèce ☐ Virement bancaire
☐ Chèque ☐ Mobile Banking
☐ Autres (à préciser) : **0000000000000000**
En règlement de : **0000000000000000**
Date : **23/11/23**
Le Client : **0000000000000000** Le Caissier : **0000000000000000**
Téléphone : **0000000000000000**

Invoice and payment receipt for monthly piped water service (courtesy of Sandadrano)



Water Safety

Sanitary inspection and water quality test results and actions, submitted to government authorities and community leadership.

INFORME DE ANÁLISIS DE LABORATORIO DE CALIDAD DEL AGUA

Cliente: Centro de Agua - Piedad Centro
Numero de Muestra: 323-130324
Responsable(s) de Muestreo: Ornela Lora, Yessica Moya
Lugar de Toma de Muestra: Casa urbana, Estación de Jesús Cirón

Localidad: Piedad Centro
Municipio: Maricao **Departamento:** La Paz
Establecimiento de Salud: Marcala

Fecha y Hora de:
Toma de la Muestra: 13/3/2024 08:44 AM
Recepción de la Muestra: 13/3/2024 11:20 AM
Realización del Análisis: 13/3/2024 01:20 PM
Reporte de Resultado: 15/3/2024
Reporte del Informe de Análisis: 18/3/2024

RESULTADOS DE LOS ANÁLISIS BACTERIOLÓGICOS Y FÍSICOS

Tipo de Agua: Acueducto
Cantidad de Agua Utilizada (mL): 100
Tiempo de Incubación (horas): 24
Dilución: ---

Coliformes Totales (UFC/100 ml): <1
Coliformes Termotolerantes (UFC/100 ml): <1
E. coli (UFC/100 ml): <1

¿Según análisis bacteriológico, el agua es apta para consumo humano? SI

Método: Standard methods for examination of water and wastewater 20th ed.

Parámetro	Unidad	Valores Normales (VN)	Valores Máximos Admisibles (VMA)	Resultados
Total Sólidos Disueltos (TDS)	mg/L	--	1,000	---
Temperatura	°C	18 - 30	---	---
Turbiedad*	NTU	1	5	1.8
Conductividad	us/cm	400	---	---

*Análisis realizados con Sension TMS Conductivity Meter, STABLO-CAL Stabilized Formazin Turbidity Standards for use with any turbidimeter, HACH

RESULTADOS DE LOS ANÁLISIS QUÍMICOS

Parámetro	Unidad	Valores Normales (VN)	Valores Máximos Admisibles (VMA)	Método #	Resultados
Potencial de Hidrógeno (pH)	-	6.5 - 8.5	-	Hach 10076	6.3
Cloro Libre	mg/l	0.5 - 1.0	5	Hach 8021	1
Cloro Total	mg/l	-	-	Hach 8167	---
Nitratos	mg/l	25	50	Hach 8039	---
Nitritos	mg/l	0.1	3.0	Hach 8507	---
Fósforo Total	mg/l	0.1	-	Hach 8048	---
Sulfatos	mg/l	25	250	Hach 8051	---
Hierro Total	mg/l	-	0.30	Hach 8008	---
Sulfuros	mg/l	-	-	Hanna HI 3822	---
Cloruros	mg/l	25	250	Hanna HI 3815	---
Alcalinidad	mg/l	-	-	Hanna HI 3811	---
Dureza	mg/l	400	-	Hanna HI 3812	---
Salinidad	mg/l	0 - 5	30	Potenciométrico	---
Arsénico	mg/l	-	0.5	Lovibond 400700	---
Fluor	mg/l	-	1.5	Lovibond 467481	---

*Norma Técnica Nacional Para la Calidad de Agua Potable, Decreto No. 084 del 31/07/1995, Vigencia 02/10/1995.

OBSERVACIONES: Para los parámetros de Coliformes Totales, Coliformes Termotolerantes y E. coli, el agua SI es apta para el consumo humano. En lo referente al análisis Físico-Químico, el pH es menor al Valor Máximo Admisible.

Ornela Lora
Química en Microbiología Industrial

Yessica Moya
Química en Microbiología Industrial

Water quality report (courtesy of Cova)

Service providers are able to use any data collection and management method, provided it meets data integrity requirements as outlined in Box 1 and produces traceable records. Digital tools including mobile applications, prepayment platforms, *in situ* sensors, and automated water meter readers can streamline recurring data management and verification costs. However, the high upfront costs of these technologies can be a barrier, and manual or analogue monitoring remains a viable and cost-effective alternative. To ensure the sustainability and efficiency of monitoring systems, decision-makers must assess the trade-offs between initial hardware investments and recurring labour costs. The choice of approach should reflect local financial and technical capacities. Verification processes can also be tailored to the specific data environment, depending on the level of precision and redundancy built into the system. This flexibility allows for adaptation to varying operational contexts while maintaining the overall integrity of the results-based framework.

Validation and verification

In Uptime's data integrity methodology, validation and verification are complementary processes conducted on quarterly and annual cycles, respectively (see Box 2). Robust validation, which compares new data against historical records to identify and address anomalies, reduces the cost and complexity of verification. This helps to identify and mitigate systemic issues, decrease the number of discrepancies requiring investigation, and enable verification visits to focus on a statistically representative sample, rather than auditing all waterpoints. This approach enhances efficiency while maintaining accountability.

Box 2: Summary of Uptime's validation and verification processes

Validation

- Quarterly process applied to all reported data
- Detects and corrects discrepancies before results-based payments are issued
- Standardised data template and statistical comparison to historical trends

Verification

- Annual process applied to a sample of data
- Corroborates reported and observed performance
- Virtual audit of supporting documentation and in-person site visits



Every quarter, reported data are validated using a standard template and submission process that statistically examines results against two years of historical records. This process detects and corrects discrepancies before payments are issued. Self-reported performance data, especially when manually collected or managed, is prone to error or manipulation. Discrepancies such as unreported breakdowns or misclassified water points, whether intentional or accidental, can lead to unmerited results-based payments. To mitigate this risk, Uptime uses digital data templates and online submission portals that automatically screen for common errors, including data outliers, duplicate records, and missing data. Any significant deviations outside acceptable thresholds are automatically detected, and service providers must clarify and justify anomalies before payments are approved. For example, if the volume of water or local revenue is significantly lower or higher than average, the service provider will be required to provide an explanation for the anomaly.



Every year, Uptime's verification activities include a data audit and site visits. Data audits require service providers to submit supporting documentation such as photographic evidence, repair logs, digital records, and transaction summaries for a statistically representative sample of waterpoints (Figure 3). This process identifies discrepancies between reported and documented performance, providing an objective, quantitative assessment of accuracy. In addition to validating performance claims, audits provide valuable insights into areas where data systems can be strengthened or streamlined.⁵

⁵ Armstrong et al. 2024. [Data Audit | 2022-2023](#).

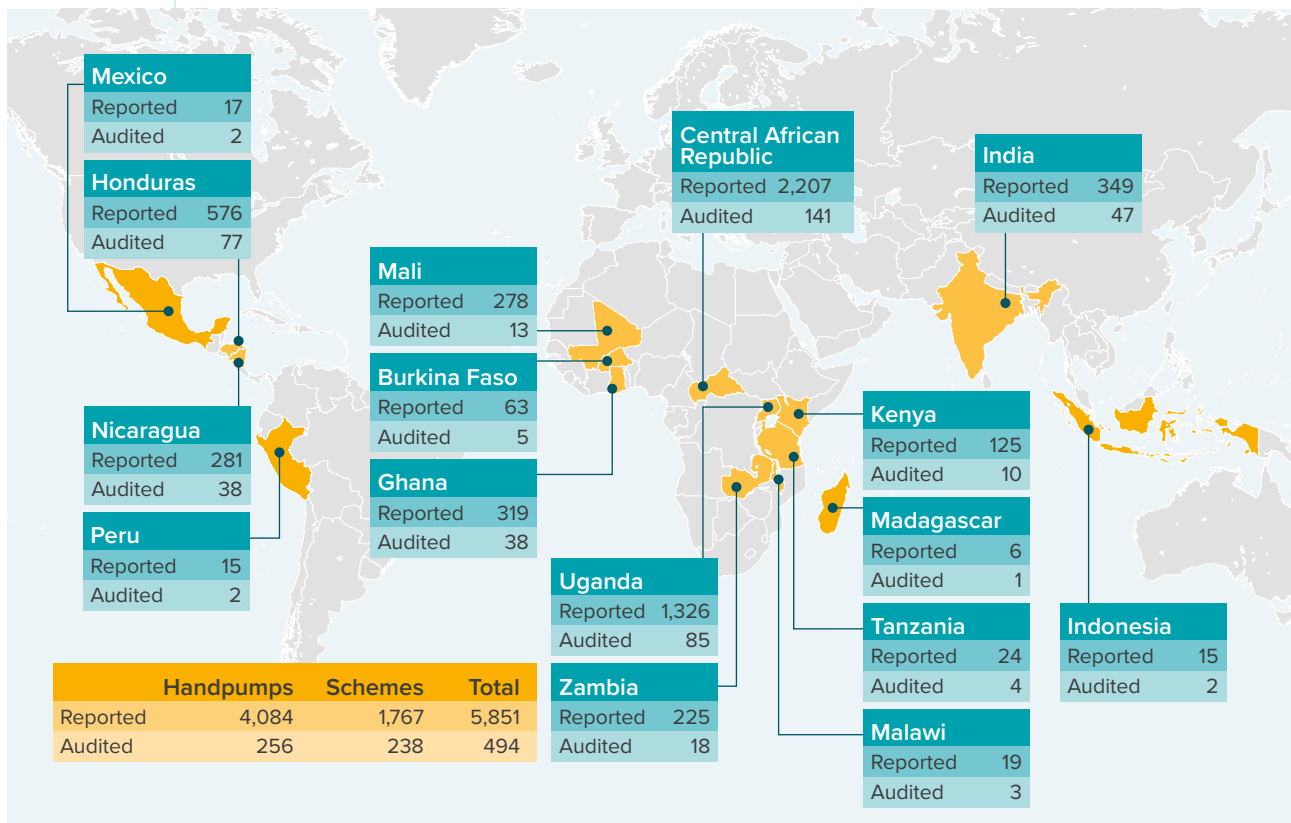


Figure 3: Global number of reported and audited handpumps and schemes, 2023–2024

Box 3: Enhancing data audits with artificial intelligence

Processing large volumes of primary documentation, especially those referencing multiple languages and currencies, is virtually impossible without introducing human error. Advancements in artificial intelligence (AI) offer promising opportunities to improve both the effectiveness and efficiency of data audits. Traditional audits require expert reviewers to manually examine supporting documentation and cross-check it against reported data. AI-powered tools such as large language, multi-modal, and computer vision models can automate the extraction of data from PDFs, spreadsheets, and images. These tools can also classify discrepancies and objectively grading data systems to highlight areas for improvement. By combining automation with traceable decision-making, AI enables human reviewers to concentrate on the most critical gaps while maintaining a clear audit trail.

Uptime is deploying AI tools to extract unstructured breakdowns, revenue figures, and volume data from a range of image and spreadsheet formats.

Breakdown records

Date: 22/09/2023 Community: Sub-Country: Sangar Whave ID: Source Type: U12

Activity carried out: PM1 ☒ PM3 ☒ PM12 ☒ Breakdown ☐

PM1 Who did you speak with? *Whave team*

Any problems reported? *yes* *Chain + chain bolts and nuts replaced, 1 2nd pump bucket + 2 Sealing rings replaced*

1. Chain greased? *yes* 2. Nuts and bolts tightened? *yes* 3. Hands nuts tightened? *yes* 4. Bearings checked? *yes*

5. Leakage and discharge test? *Full yes* 6. Cracks repaired? ☐ 7. WSC Fencing found in good condition? *No* 8. Diversion channels found in good condition? *yes* 9. Drainage and troughs cleared? *yes*

PM3 1. All components checked above and below ground? *yes* 2. How many pipes were found downhole? *13* 3. Did you replace the pipes in the same order you found them? *yes*

PM12 4. Bearings checked? *yes* 5. All cylinder rubber sealings checked? *yes* 6. All Pump Buckets checked? *yes* 7. All cylinder sealing rings checked? *yes*

8. Were any problems with water quality observed? *No* 9. Meeting held with community members? *yes*

What date did the breakdown occur? *20/09/2023*

What date were you informed & by whom? *21/09/2023*

What date did you repair the source? *22/09/2023*

What caused the breakdown? *Worn out of Pump buckets and Sealing rings and first top rod*

Parts Replaced During Visit

☐ Top Bolt	☐ Top Bolt Washer	☐ Top Bolt Nut	☐ Water Tank Bolt	☐ Water Tank Nut	☐ Chain Bolt
☐ Chain Nut	☐ Axle Bolt	☐ Axle Washer	☐ Axle Bolt Nut	☐ Axle Spacer	☐ Chain with coupling
☐ Axle Bush right	☐ Axle Bush left	☐ Shallow Well Handle	☐ Deep Well Handle	☐ Extra Deep Well Handle	☐ Ball bearing
☐ Pipe Centraliser (White PVC)	☐ Pipe Centraliser (Blue uPVC)	☐ SS Rod Coupling Nut	☐ SS Rod centraliser	☐ SS Rod Lock Nut	☐ SS Nipple
☐ Cylinder Cup	☐ Cylinder Casing	☐ Cylinder Cup Sealing Ring	☐ Upper Valve Cage	☐ Upper Valve (UV)	☐ UV Follower
☐ Upper Valve Spacer	☐ Pump Bucket	☐ Lower Valve Sealing Ring	☐ Lower Valve Rubber Sealing	☐ LV Seat Retainer	☐ Lower Valve
☐ Lower Valve Seat	☐ Upper Valve Rubber Sealing	☐ CI Top Adaptor (PVC White)	☐ SS Bottom Adaptor (PVC White)		

Other parts not listed: ☐

Was a component(s) replaced in the Rising Main? (Y/N)? ☐ Position of Component(s) in Rising Main? (e.g. Top Rod/Pipe = 1)

Name of WSC member: *Whave team* Signature: *Whave* Name of WST: *Whave team* Signature: *Whave*

(courtesy of Whave)

Receipts and bank statements

Whave Reliability Assurance

Receipt

Date: *9/8/2023* NO: *10440*

Received with thanks from: *Whave*

The sum of shillings: *forty two thousand shillings*

Being payment for: *Preventive maintenance on borehole*

CHEQUE NO. *52,0006* Paid by: *Whave* Balance: *52,000*

Received by: *Whave* Signed: *Whave*

(courtesy of Whave)

STANBIC BANK

Agent-ID: *10000000000000000000*

Agent: *STANBIC BANK*

Location: *Northern*

Item: *CASH DEPOSIT*

Customer: *INTERNATIONAL LIFELINE FUND*

STER ACCOUNT

Cust No: ******33613*

Phone: *011 234 5678*

Date: *11 April 2024*

Time: *16:18:56*

Ref: *10000000000000000000*

Receipt: *10000000000000000000*

Token: *Payment Successful*

Narration: *Payment Successful*

Status: *TRANSACTION SUCCESSFUL*

Amount Ugx: *180,000*

Fee Ugx: *0*

Excise duty: *0*

Amount Ugx: *180,000*

(courtesy of International Lifeline Fund)

BUKANGA AGALI AWAMU CO-OPERATIVE SAVING & CREDIT SOCIETY LTD
Head office, Busaalamu Town Council Luuka District. Printed On 28-Oct-24
Account Statement

STATEMENT FROM 27-Oct-22 TO 28-Oct-24

Date	Details	Debits	Credits	Balance
26-Oct-22	BF			0
27-Oct-22	P 172885 Savings 590/3765 SAFE WATER POWERED PROJE	0	55,200	55,200
22-Nov-22	P 177953 Savings 590/3765 SAFE WATER POWERED PROJE	0	186,200	241,400
03-Feb-23	P 198232 Savings 590/3765 SAFE WATER POWERED PROJE	0	577,000	818,400
11-May-23	P 211963 Savings 590/3765 SAFE WATER POWERED PROJE	0	338,400	1,156,800
01-Jun-23	P 205328 Savings 590/3765 SAFE WATER POWERED PROJE	0	222,800	1,379,600
26-Sep-23	P 204637 Savings 590/3765 SAFE WATER POWERED PROJE	0	780,000	2,159,600
10-Oct-23	P 211406 Savings 590/3765 SAFE WATER POWERED PROJE	0	280,000	2,439,600
20-Nov-23	P 210475 Savings 590/3765 SAFE WATER POWERED PROJE	0	30,000	2,469,600
23-Nov-23	I 23112303 SAFE WATER POWERED PROJECT	20,000	0	2,429,600
04-Dec-23	P 227328 Savings 590/3765 SAFE WATER POWERED PROJE	0	100,000	2,529,600
30-Dec-23	P 227758 Savings 590/3765 SAFE WATER POWERED PROJE	0	140,000	2,669,600
30-Dec-23	W 196501 Savings 590/3765 SAFE WATER POWERED PROJE	610,000	0	2,059,600
08-Apr-24	P 251924 Savings 590/3765 SAFE WATER POWERED PROJE	0	660,000	2,719,600
29-Aug-24	P 246681 Savings 590/3765 SAFE WATER POWERED PROJE	0	170,000	2,889,600
Totals in Period		630,000	3,519,600	2,889,600
Net Balance SHS				2,889,600

BUKANGA AGALI AWAMU CO-OPERATIVE SAVING & CREDIT SOCIETY LTD
28 OCT 2024
P.O. BOX 4, IGANGA

(courtesy of Water Mission)

Water meter readings

Monthly Meter Readings

Date of meter reading	February 27, 2024
Month of meter reading	2024-02
Production/Volume for Handpump or Piped Scheme (Sensor, bulk meter, estimate for handpumps**)	164 m3
Photos of the Production/Bulk Meter Reading	

(courtesy of FundiFix)

Although many records still require manual review and are often discarded due to errors or missing information extracted by AI, there is clear potential to enhance the integrity of Uptime's results-based contracts by enabling the efficient processing of large volumes of primary documentation. Realising this potential will require continued refinement of AI tools. Uptime Global is committed to advancing these capabilities to improve the accuracy, reliability, and scalability of future data audits.



Site visits involve physical inspections of a geographically representative sample of waterpoints (see Figure 4) and include interviews with operators and users. These visits offer ground-level insights into service functionality, water safety, and user satisfaction, while also assessing the service provider's data systems, quality assurance and quality control (QA/QC) procedures. They help triangulate reported performance with local perceptions, which is especially critical for verifying water safety outcomes, since water quality at a specific point in time cannot be retrospectively tested. Quality assurance measures, such as standardised procedures, staff training, and equipment calibration, help limit data errors. For example, service providers following WHO-approved sanitary inspection and water testing protocols generate more reliable results than those relying solely on verbal training. Quality control processes, such as confirming a positive *E. coli* test with a replicate sample, help identify and correct false results.

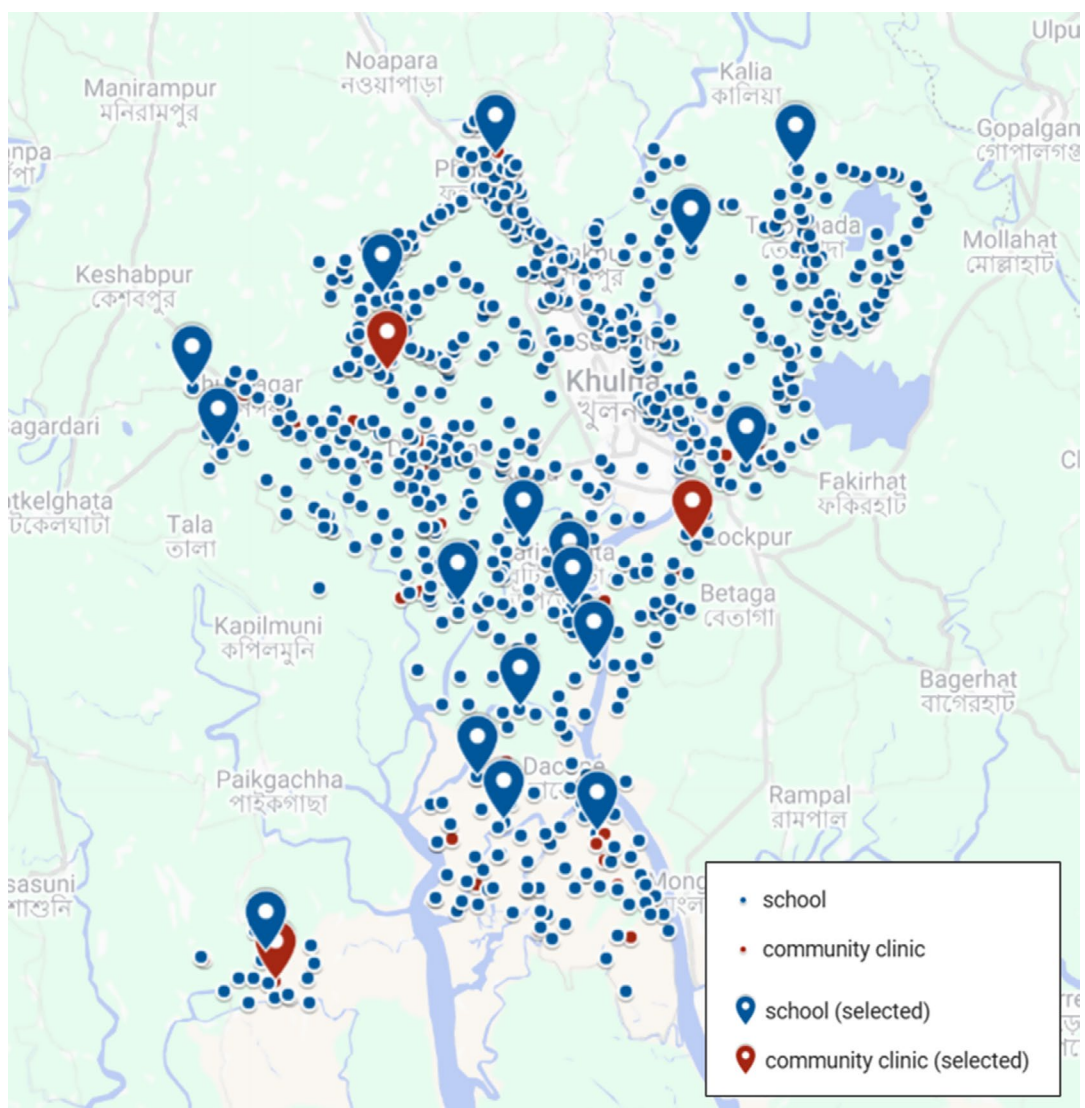


Figure 4: Example geographic sampling strategy for site visits in Bangladesh

In addition, site visits play an important role in uncovering realities that may be hidden by the way performance is reported. In one example, a service provider correctly reported unplanned scheme breakdowns according to their results-based contract and was credited with delivering continuous service. However, they did not report periods of planned water rationing during dry seasons. As a result, although site visits identified that some users went several days without receiving water, the provider remained eligible for results-based payments under the original performance criteria. This revealed a gap in the metric design, where planned service interruptions were not being captured despite significantly impacting users. In response, Uptime revised data reporting requirements to account for both planned and unplanned interruptions. This change ensures that service continuity is assessed more holistically, aligning performance incentives with the actual quality and reliability of service experienced by users.

Finally, user surveys provide qualitative information about aspects such as service provider behaviour on a granular level. Uptime's results-based contracts require a safeguarding policy to be followed by all service providers. User surveys provide a useful mechanism to identify safeguarding concerns. While no major violations have been reported to date, several cases of customer dissatisfaction have been flagged and promptly addressed by the service providers.

Results-based payments and sanctions

Once performance data have been validated and the corresponding payment amount calculated, Uptime Global issues a formal report to the service provider. The provider then submits an invoice to the results-based fund manager to initiate payment. Results are published on the [Uptime Global dashboard](#).

When verification results identify discrepancies between reported and actual performance, the results-based funder determines action based on the level of contractual non-compliance. The Uptime Catalyst Facility has a legal responsibility to ensure funding is appropriately allocated with their financial decisions independently audited and submitted to the UK Charity Commission each year. When minor discrepancies are identified, they can generally be resolved through improvements in data quality processes. Service providers are required to report on these corrective steps which are carefully monitored in future validation and verification analysis. Major discrepancies from systemic inaccuracies or deliberate misreporting result in financial penalties, suspension of payments or contract termination. Although no deliberate falsification has been identified, Uptime's verification processes have identified cases of inadvertent and systemic misreporting. Appropriate action has been taken promptly by the Uptime Catalyst Facility in all cases.

Service providers have welcomed the structured approach which has strengthened their existing data systems and provided a clear incentive to maintain consistent and credible reporting practices. In addition, complying with Uptime's data integrity methodology has helped several providers make a more effective funding case to donors to expand their operations.

Cost trade-offs

Uptime's experience shows that the combined costs of validating, verifying, and issuing payments is less than 9% of the global average of the total results-based contract value. However, achieving this level of cost-efficiency requires careful calibration and continuous assessment of the trade-offs between cost and value. A central challenge lies in striking a balance between reducing uncertainty in measured outcomes through more sophisticated and higher-resolution data systems while maintaining the practicality of widespread implementation, which is often constrained by financial and operational limitations.

This tension is apparent when considering the extent to which data integrity should depend on digital or automated systems compared to manual, paper-based monitoring. While digital tools and *in situ* sensors offer improvements in data quality, their deployment often requires substantial upfront investment in hardware, infrastructure, and training. These initial costs must be weighed against long-term labour savings and improvements in auditability. Some of Uptime's contracted service providers are beginning to recognise the benefits of automating performance reporting by integrating digital data platforms like mWater and Sureflow Analytics. Uptime's data integrity methodology is therefore based on identifying a balance of cost-effectiveness, efficiency and efficacy.

Key considerations in defining this balance include:

- **Cost-effectiveness:** What is the simplest and most cost-effective set of metrics and data management systems required to reliably measure service outcomes? Some outcomes, such as water quality, require high technical capacity and expensive consumables to monitor. Proxies, such as usage patterns, may be effective for others, such as water resource sustainability.
- **Efficiency:** How frequently and at what scale should data be monitored to generate meaningful insights without overwhelming system capacity? This depends on factors such as the length of the reporting and payment cycles and the level of digitisation. Efficiency can be enhanced through effective service provider screening and validation.
- **Efficacy:** Service providers may adopt different approaches to meet results-based contract requirements. To what extent should traditional paper-based methods be replaced with mobile or computer-based technologies? At what scale can manual monitoring be augmented or replaced with automated tools, such as *in situ* sensors, to improve data accuracy and reduce human error?

Uptime does not advocate for complex or costly real-time systems. Instead, we promote a pragmatic and scalable approach to data integrity that aligns with the capacities of rural service providers and the realities of low-resource settings.

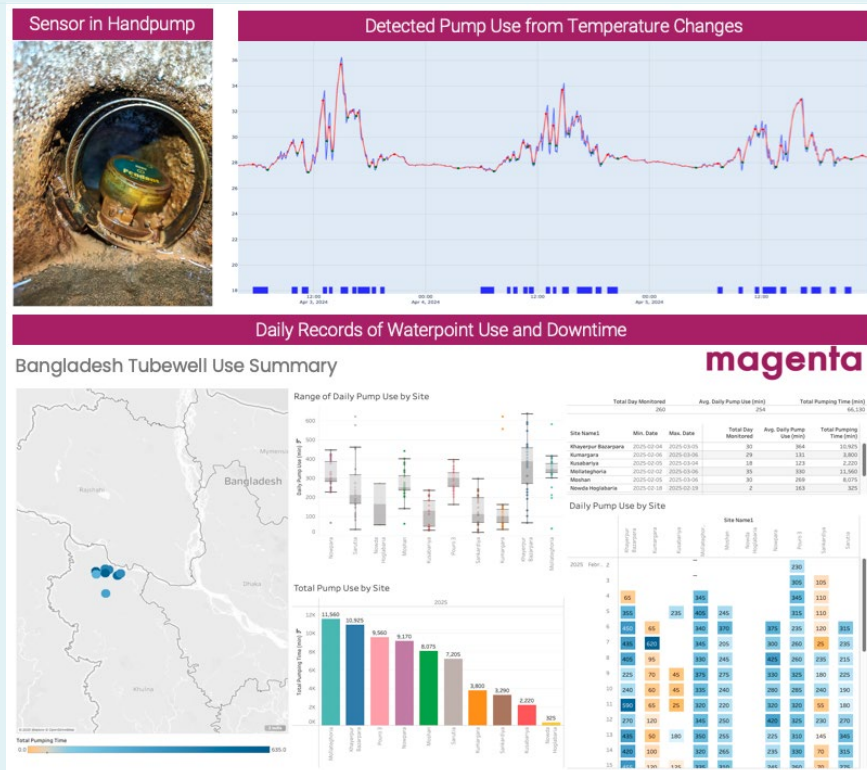
Even with well-defined performance metrics, verifying reported data against actual outcomes remains challenging. For example, handpump services often have daily reliability targets, yet maintenance records may only be updated weekly or monthly. Without *in situ* data loggers (see Box 4), it is difficult to confirm whether a handpump was functioning between recorded maintenance events. Piped water services face similar issues: while intermittent and partial supply can be monitored at the scheme level, scaling this across many schemes is often technically and economically unfeasible.

Microbiological water quality presents another layer of complexity. Natural variations over time and the scarcity of reliable laboratory facilities in low-resource areas make consistent verification difficult. Likewise, verifying user payments remains problematic, even with the aid of AI. Manually logged cash transactions, for example, are difficult to audit comprehensively at scale due to inconsistencies and gaps in recordkeeping.

Given these inherent limitations of working in remote and challenging rural areas, no single approach, whether screening, validation, or verification, can independently ensure perfect data accuracy. However, Uptime has demonstrated that when these processes are coordinated and triangulated at scale across multiple geographies and service providers, errors are greatly reduced, and false performance data can be detected.

Box 4: Verifying RBCs with handpump sensors

Handpump verification data can be estimated using temperature sensors installed inside the pump. The temperature level falls as cooler groundwater is pumped and splashes the device; the temperature returns to ambient after pumping finishes and the sensor dries. The sensors record data every five minutes with data collected by local mechanics using Bluetooth. The data are uploaded to a cloud system which processes the data automatically. The analysis provides verification data of functionality and hours of daily usage. A water quality protocol monitors water quality with results showing that the sensors pose little to no risk to human health.



Applying the methodology in practice

Government contracts for rural schools and clinics

Public facilities offer an exciting opportunity for results-based contracts for five reasons. First, the government has a clear mandate for service delivery which avoids the politics and transaction costs of negotiating with community-managed water schemes. Second, the users are recognised by all stakeholders as vulnerable groups, including children, pregnant women, the sick and the old. Third, public facilities offer a national architecture to scale up contracts from district to division to national scales. Fourth, the financial model depends on public finance as children and the sick are generally not expected to pay, avoiding the uncertainty and inequalities of raising local revenue from communities. While no government enjoys unrestricted funds, the operating cost of professional service delivery is typically less than USD 1 per person per year. This allows reallocation of existing budgets or modest sums to be sourced to deliver multiple social impacts for education, health, development and gender goals. Fifth, contracts can be designed and delivered rapidly to align with electoral cycles and political legacy to provide results at scale quickly. In sum, these reasons help to convene a constituency of governments, donors and local communities to support improved service delivery.

In Bangladesh, the SafePani model has secured government co-funding for the operational and maintenance costs in schools and clinics in a coastal district from 2025 to 2030.⁶ To our knowledge, this is the first example of a government allocating core budget to a results-based outcome for safe drinking water in public facilities. Coastal Bangladesh is a good working definition of living in water insecurity with monsoon flooding, cyclonic storms, heatwaves, and wide-ranging water quality threats creating significant challenges for schools and clinics to maintain safe drinking water services. The government recognises these challenges and partnered in a pilot with the University of Oxford and UNICEF from 2021-2023 to demonstrate the value of a results-based contract. This required a major policy shift from building waterpoints and transferring responsibilities to head teachers or clinic managers, to allocating responsibility for performance outcomes through a contract with a professional service provider working in an exclusive service area for all public facilities.

Uptime has supported the SafePani contractual design and funding model. The standard contract required major changes to incorporate water safety metrics which were designed by the University of Oxford. These include a) sanitary inspections, b) bacteriological testing for *E. coli*, c) selected chemical analysis every few years, and d) managed actions to address any threats promptly.

⁶ REACH, 2025. REACH Story of Change: SafePani - Public finance to support safe drinking water in Bangladesh.

Pilot results revealed widespread threats to water quality and reliability, which were addressed through the contract design. The water quality reporting and assessment work is now informing revisions to all global contracts executed by Uptime in 2025.

Problem Details
Resolved
Dashboard > App Reports > Problem Details

Problem ID	841
Waterpoint ID	BT_BK_PS_01_DTW_02
Institution Name	Uptake Bangladesh Waterpoint Project - 1000 Waterpoints, 1000 People
Problem Type	No water flow; Others;
Problem Description	বেজলগেটের পেন্স কেটে গেছে। ঢেঁক বাধ ও থাকেট নষ্ট।
Report Date	2024-10-02
Problem Date	2024-10-02
Voice Recording	0:00 / 0:00
Images	

Repair & Maintenance Data:
Edit Date

Repair/Maintenance Status	Resolved within 24 hours
Repair/Maintenance Activity	Others
Description	বেজলগেট পরিবর্তন, নাট পরিবর্তন, জি আই পাইপের পেন্স কাটা, ঢেঁকভাঙা ও থাকেট পরিবর্তন।
Problem Identification	Reported by Waterpoint manager/user
Identification Date	2024-10-03
Repair/Maintenance Cost	Total Cost: 1438 BDT (Materials: 540, Stock: 230, Labor: 600, Transport: 0, Tank Cleaning: 0, Electricity: 0, VAT: 41, TAX: 27)
Work Completion Date	2024-10-03

Maintenance Work Verification:

Repair/Maintenance Status	Resolved within 24 hours
Is Resolved?	Completely Resolved
Maintenance Completion Date	2024-10-03
Comments	completely done.
Verified By	
Submission Time	2024-10-03 09:30:40

SafePani Bangladesh
SI QUESTIONNAIRE
DM_DS_PS_03_DTW_01

1. Is the pump in poor condition or loose at the point of attachment to the mounting block?
☐ Yes
☐ No
☐ NA

2. Is the area directly around the tubewell seal dirty?
☐ Yes
☐ No
☐ NA

3. Is the apron around the tubewell absent or in poor condition?
☐ Yes

4. Is drainage inadequate, which could allow water to accumulate in the tubewell area?
☐ Yes
☐ No
☐ NA

5. Is the fence or barrier around the tubewell missing or inadequate so that animals could enter the tubewell area?
☐ Yes
☐ No
☐ NA

6. Is there sanitation infrastructure within 15 metres of the tubewell?
☐ Yes

8. Can other sources of pollution be seen within 15 metres of the tubewell (e.g. open defecation, animals, drinking troughs for livestock, rubbish, commercial activity, fuel storage)?
☐ Yes
☐ No
☐ NA

9. Is there any unprotected entry point to the aquifer within 100 metres of the tubewell?
☐ Yes
☐ No
☐ NA

PREVIEW

Figure 5: Mobile-based maintenance and sanitary inspection forms for tubewells with handpumps in Bangladesh (courtesy of HYSAWA)

In Bangladesh, as in most of rural Africa, tubewells (handpumps) are the dominant water supply infrastructure in rural schools and clinics. With no credible way to confirm functionality and contract compliance, sensors were piloted in 145 public facilities with the agreement of government partners. Uptime partnered with Magenta Insight, which has successfully piloted sensors in eight countries in Africa and Asia (see Box 4). The granularity of recording data every 5 minutes allows noise in pumping activities to be identified and isolated. For example, local communities may use tubewells outside school hours, which is simple to filter by school hours and exclude early mornings, late afternoons, public holidays, or weekends. Further, the temperature data provide useful insights into the impacts of a changing climate. During April 2024, Bangladesh suffered an extreme heatwave followed by a cyclone in May 2024. Both events were captured by the sensor data with evidence that the tubewells remained operational for water users.

The funding model is supported by the government allocating core budget to the results-based contract. Three conditions needed to be met to secure this outcome. First, SafePani created measurable improvements in drinking water services. Second, the cost of the model was affordable and supported by government stakeholders. Third, a development partner would co-fund a share of the costs. The pilot provided empirical evidence of major improvements in water safety and reliability at a cost of less than USD 1 per person per year. A national steering committee convened all national and division government partners to review, monitor and approve the pilot work and the scale up plans. The Uptime Catalyst Facility agreed to pay 55% of the annual operational costs through a results-based contract. Uptime Global will apply the data integrity methodology to validate and verify the results and calculate the results-based payment. With the district contract in force, the government has an interest in scaling up the model for government primary schools nationally, attended by 20 million children.

The SafePani model is designed to be replicable and adaptable. In 2024, Uptime Global supported by the University of Oxford signed a MOU with four Ministries in Zambia to pilot the model in one district. With the knowledge and evidence gained from the work in Bangladesh, Uptime has been able to accelerate the steps in the design and delivery of a results-based contract. However, a critical foundation of political support in Zambia has been the President's mandate to provide safe drinking water in all public facilities. The mandate has provided direction to government and development (cooperating) partners in Zambia to set out an ambitious goal to provide safe drinking water to all government primary schools by 2030.⁷ The national model, known as "SafeManzi", will be informed by Uptime's data integrity methodology to provide the empirical basis to secure government co-funding for the scale-up activities.

7 Hoque et al., 2025. [Results-based funding to provide safe drinking water services for public schools and healthcare facilities in Zambia.](#)

Development banks and payment for results

The World Bank (WB), Asian Development Bank (ADB), InterAmerican Development Bank (IDB) and Islamic Development Bank (IsDB) have existing or planned programmes for results-based funding models. This reflects a series of independent evaluations which have documented unsatisfactory and unsustainable outcomes from billions of US dollars of government loans or grants for rural drinking water investments over the last few decades.⁸ Many of the new cohort of programmes are framed as Program-for-Results (PforR) which correspond closely in design and delivery with Uptime's results-based contracts.

Uptime's data integrity methodology offers a coherent approach to standardise programme reporting to improve sector transparency and performance. In addition to validating and verifying contract payments, the data Uptime has been collecting since 2020 are being used in a Revenue Prediction Model⁹ to estimate financial sustainability of planned investment programmes and evaluate strategies to upgrade or expand current infrastructure portfolios. Discussions with a number of WB country programmes in Africa are exploring how the Revenue Prediction Model can inform decisions on over one USD billion of investments. With WB support to capture the same data across their programmes, the power and applicability of the model can be improved for greater impacts.

For example, several programmes are considering investment opportunities to upgrade handpumps to solar-powered schemes to improve service levels, reduce pumping costs and carbon emissions (compared to diesel pumps), and increase revenue through higher water volumes in piped systems. Uptime has collaborated closely with UDUMA in Burkina Faso to monitor a programme that upgraded handpumps to solar schemes in Sikasso Province. Analysis revealed a four-fold increase in revenue generated though no change in water consumed.¹⁰ This counter-intuitive finding is explained by low collection efficiency for handpump supplies which was increased markedly with more convenient piped systems in the solar schemes.

These findings underscore the importance of data integrity in the contract design for professional service providers. Within Uptime's results-based contract portfolio, service providers have invested in robust systems and processes to monitor the volume of water distributed by piped schemes. The high quality data generated provide the foundation to design and execute contracts in environments where conflict and climate variability pose operational risks. Moreover, such data are integral to securing private sector finance for upgrade investments, which is extremely rare in the rural water sector.

8 African Development Bank, 2020: [Evaluation of the AfDB's support to the water sector \(2005-2016\): Beyond infrastructure development: Toward service delivery and behavioral change](#); European Investment Bank, 2023: [Evaluation of EIB support for the water sector outside the European Union. From 2010 to 2021](#); World Bank, 2018: [A thirst for change: An evaluation of the World Bank Group's support for water supply and sanitation with focus on the poor](#)

9 McNicholl et al., 2025. [Predicting revenue from drinking water supply infrastructure in rural Africa](#).

10 Wagner et al., 2025a. [Can solar water kiosks generate sustainable revenue streams for rural water services?](#)

In the case of UDUMA in Mali, the financial model required adjustment due to unexpectedly low demand for water in the communities.¹¹ While such adjustments may be feasible for the cohort of professional service providers operating under Uptime's contracts, they are unlikely to be feasible more broadly across Africa. For example, Uptime has conducted a pilot with four handpump service providers in Malawi to determine the opportunity for results-based contracts.¹² Key findings indicate varied quality of existing data systems to report on results-based contracts, and a more indirect approach leading to uncertain attribution of service results. The implication for development banks is the level and cost of technical assistance that will be required to strengthen existing service providers or incubate new service providers. Given the inevitable subsidy required for safe and reliable water services at scale in rural Africa, most professional service providers are headquartered in the USA or Europe where donors can fill the funding gap. Under Uptime's government collaboration, we have worked to strengthen national service providers in Bangladesh and Zambia to gain the skills and capacity to execute results-based contracts.

In Latin America, Uptime has a results-based contract with Cova in Honduras and Nicaragua in 2025. Results-based funding is supporting the service provider to expand its water quality products and services across hundreds of community piped schemes and build closer alignment with local and national government. Uptime's data integrity methodology has been tailored to Cova's unique operating conditions and provides an alternative method for calculating a results-based payment. This contract variation reflects Uptime's willingness to adapt to partners' priorities where there is a shared goal to achieve results at scale. For example, we are exploring a country pilot to apply a results-based approach for rural water services in Latin America in partnership with IDB.

Corporate commitments and Volumetric Water Benefits

Many corporates have long-term and public commitments to water stewardship and the Sustainable Development Goal 6.1 for safe drinking water. Results-based contracting is a new instrument to support these goals. Recently, the concept of Volumetric Water Benefits has emerged as an approach to more clearly quantify and attribute a corporate's financial support to protect and conserve water resources or provide safe drinking water services. The emphasis on 'volumetric' reflects a focus on the quantity of water resources used by companies in abstraction, production or waste processes. However, Volumetric Water Benefits can align with results-based contracting outside the geographical operational unit or watershed where a corporate operates.

¹¹ Wagner et al., 2025b. [Managing contractual uncertainty for drinking water services in rural Mali](#).

¹² Trethewey, 2025. [Malawi handpump pilot: Suitability for results-based contracting and the path to scale](#).

Since 2018, share GmbH has issued results-based contracts for reliable drinking water with Uptime's partner, FundiFix, in Kenya. share pursues an equitable business model under a 1:1 matching concept where its food, hygiene or water products sold in Europe generate social impacts for the most vulnerable, mainly in Africa.¹³ The results-based contract with FundiFix matches one litre of packaged drinking water sold in Europe with 20 litres of reliable drinking water provided to rural communities in Kenya. An annual contract specifies an agreed price per 20 litres with an expected volume of sales.

Payments are transferred quarterly based on volumes of reliable water supplied. Over time, the data verification process has improved with Uptime contracted by the Kenya Water Services Maintenance Trust Fund (WSMTF) to apply its data integrity methodology to strengthen its contract reporting. share is the longest-term corporate funder to the WSMTF but not the only one. Previously, two international companies with large operations in coastal Kenya also funded results-based contracts with the WSMTF. A mining company (Base Titanium Ltd.) and an essential oils' company (doTERRA) funded contracts for community handpumps and piped schemes.

Apple has collaborated with Uptime to develop a results-based contract for its operations in India.¹⁴ Uptime has partnered with Safe Water Network, which manages over 300 kiosks providing high quality drinking water in several States in India. The kiosks provide high quality filtration and treatment systems to ensure safe drinking water quality. In addition, they offer a chilled product which is welcomed by many customers when pre-Monsoon temperatures often exceed 40 degrees celsius. Excellent data monitoring systems and reporting structures support validation and verification of results.

Siteid	Day of downtime	Start	Siteid	Salesdowntime reason	Technicaldo...	Sales_Downtime_Days	Technical_Downtime_Days
	30 July 2023			30th - Electricity problem ..	null	1.00	0.00
	30 July 2023			30th - 31st: Electricity pro...	null	2.00	0.00
	21 August 2023			21st-26th: Electricity ran...		6.00	0.00
	11 March 2024			11-15:Raw water borewel...	null	5.00	0.00
	1 November 2023			1st - 11th:Power disconn...	null	12.00	0.00
	13 November 2023			12th to 31st:Power Disco...	null	20.00	0.00
	25 November 2023			25th - 30th:Raw water mo...	null	6.00	0.00
	26 November 2023			25th - 30th:Raw water mo...	null	6.00	0.00
	4 July 2023			4th-31st: Raw water mot...	null	28.00	0.00
	17 August 2023			17th-18th:Raw water mot...		2.00	0.00
	1 September 2023			1st - 29th:Raw water mot...	null	29.00	0.00
	1 November 2023			1st - 30th:Raw water mot...	null	30.00	0.00
	2 November 2023			Raw water motor burnt	null	31.00	0.00
	2 December 2023			Raw water motor burn	null	31.00	0.00
	1 January 2024			Raw water line problem	NULL	31.00	0.00
	1 February 2024			Raw water issue	null	16.00	0.00
	1 March 2024			Power disconnected and o...		31.00	0.00

Figure 6: Uptime's data integrity methodology, applied to Safe Water Network's fully automated and digitised data systems in India, enables a Purchase Order contract with Apple (courtesy of Safe Water Network India)

13 WSMTF, 2022. [Water Services Maintenance Trust Fund – Impact summary, 2016–2021](#).

14 Apple Inc., 2025. [Environmental progress report](#).

Uptime co-designed a Purchase Order (PO) contract with Apple which provides a simple and replicable instrument to report on quarterly delivery of safe drinking water volumes to trigger a results-based payment. The PO is a familiar mechanism for any company to execute a known contract with minimal transaction costs. Its application to results-based funding for drinking water in India was novel. The contract has worked smoothly and is also flexible to annual corporate demand and variability. The data integrity methodology provides Apple with high quality assurance of service delivery and de-risks payments which are only paid after validation of results.

However, an enduring challenge for corporates to fund results-based contracts is geography. The majority of the most vulnerable people do not live in their operational geographies. We believe that there is now a stronger empirical case of how some corporates may rethink their geographies of interest and funding allocations. For example, for global technology companies who seek to benefit everyone everywhere, results-based funding may provide a low cost and high impact funding opportunity aligned with their passion for data innovation.

Conclusion

Over 4 billion people lack safely-managed drinking water services.¹⁵ The figure is an astonishing and humbling reflection on society's priorities and actions. It also exposes the unsatisfactory outcomes of past investments based on dated ideologies, weak assumptions and an information deficit. We know rural people are the most excluded yet the least likely to secure funding resources. Results-based contracts and, more broadly, Payment for Results models offer a new horizon to allocate funding resources more equitably and efficiently. The nature of capturing high quality data in a structured and standardised format will allow collective learning and iterative design to generate more transparent and effective outcomes.

Uptime's data integrity methodology is one small contribution to this shared goal. We have identified what we understand to be its strengths and limitations. Through this critical self-reflexive process, there are opportunities to learn, improve and strengthen outcomes. Governments, development banks and corporates have the opportunity and influence to make dramatic impacts at scale. We believe a few examples will serve to illustrate the potential and opportunity for all. The Governments of Bangladesh and Zambia have shown leadership in their early engagement in programmes which could rapidly scale to national models for public facilities.

Community water schemes will be a longer and harder road as the legacy of the past has created significant political hurdles to overcome vested interests at many levels. However, data systems reveal opportunities as well as limitations. Uptime's contracts with community schemes have provided an extensive data archive to support the design and delivery of contracts for governments and development banks. The data dividend holds the promise of directing funding to the most in need, attracting new funding resources, and creating a compelling empirical case to demonstrate that rural drinking water services can be affordable, reliable and safe for all.

¹⁵ Greenwood et al., 2024. [Mapping safe drinking water use in low- and middle-income countries](#); Hope, 2024. [Four billion people lack safe water: Water safety is a key challenge compounded by climate risks and data gaps.](#)

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Service providers:

