TESTING THE WATERS: APPLICATION OF DIGITAL PAYMENTS IN WATER AND SANITATION

Zay Yar Lin, CGAP Photo Contest

Akanksha Sharma
& Daniel Waldron

March 21, 2019

GSMA

CGAP

20 grants awarded in water and sanitation since 2013

Our mission is to unlock **commercially sustainable** business models that leverage **mobile** to deliver affordable and improved **energy, water and sanitation** services in emerging markets.

This initiative is currently funded by the UK Department for International Development (DFID), the US government through its Scaling Off-Grid Energy Grand Challenge for Development and supported by the GSMA and its members.

UKaid from the British people

SCALING OFF-GRID ENERGY:

CONFIDENTIAL

Speakers

Halima Murunga
Head of Business Development, Wonderkid Ltd.

Akanksha Sharma
Sr. Insights Manager, GSMA Mobile for Development Utilities

Daniel Waldron
Financial Sector Specialist, CGAP

John Ikeda
Sr. Financial Specialist, World Bank

CGAP GSMA

© CGAP 2018

What is digital finance?

Digital financial services are **payments, credit, savings, and insurance** that are delivered using **digital channels and technologies**

© CGAP 2018

What is digital finance?

Digital financial services are **payments, credit, savings, and insurance** that are delivered using **digital channels and technologies**

Digital Channels:

- Mobile phone
- Credit/debit cards
- Internet
- Smartphone applications
- Blockchain

© CGAP 2018

What is digital finance?

Digital financial services are **payments, credit, savings, and insurance** that are delivered using **digital channels and technologies**

Digital Channels:

- Mobile phone
- Credit/debit cards
- Internet
- Smartphone applications
- Blockchain

Financial

Digital Technologies:

- **Mobile money**
- Mobile banking
- Internet banking
- Electronic money
- Cryptocurrencies

CGAP GSMA

© CGAP 2018

What is digital finance?

Digital financial services are **payments, credit, savings, and insurance** that are delivered using **digital channels and technologies**

Digital Channels:

- Mobile phone
- Credit/debit cards
- Internet
- Smartphone applications
- Blockchain

Financial

Digital Technologies:

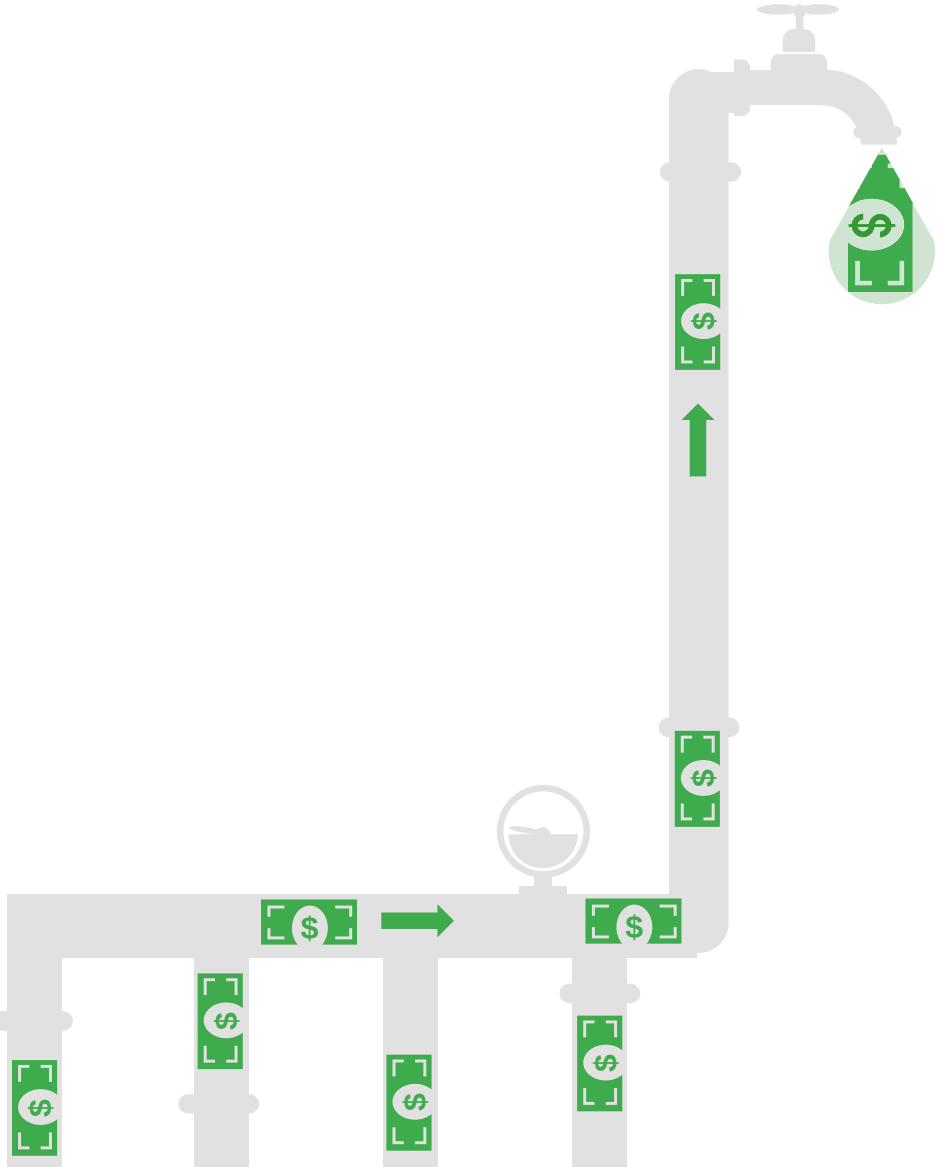
- **Mobile money**
- Mobile banking
- Internet banking
- Electronic money
- Cryptocurrencies

299 million active mobile money accounts in December 2018 (GSMA)

CGAP GSMA

© CGAP 2018

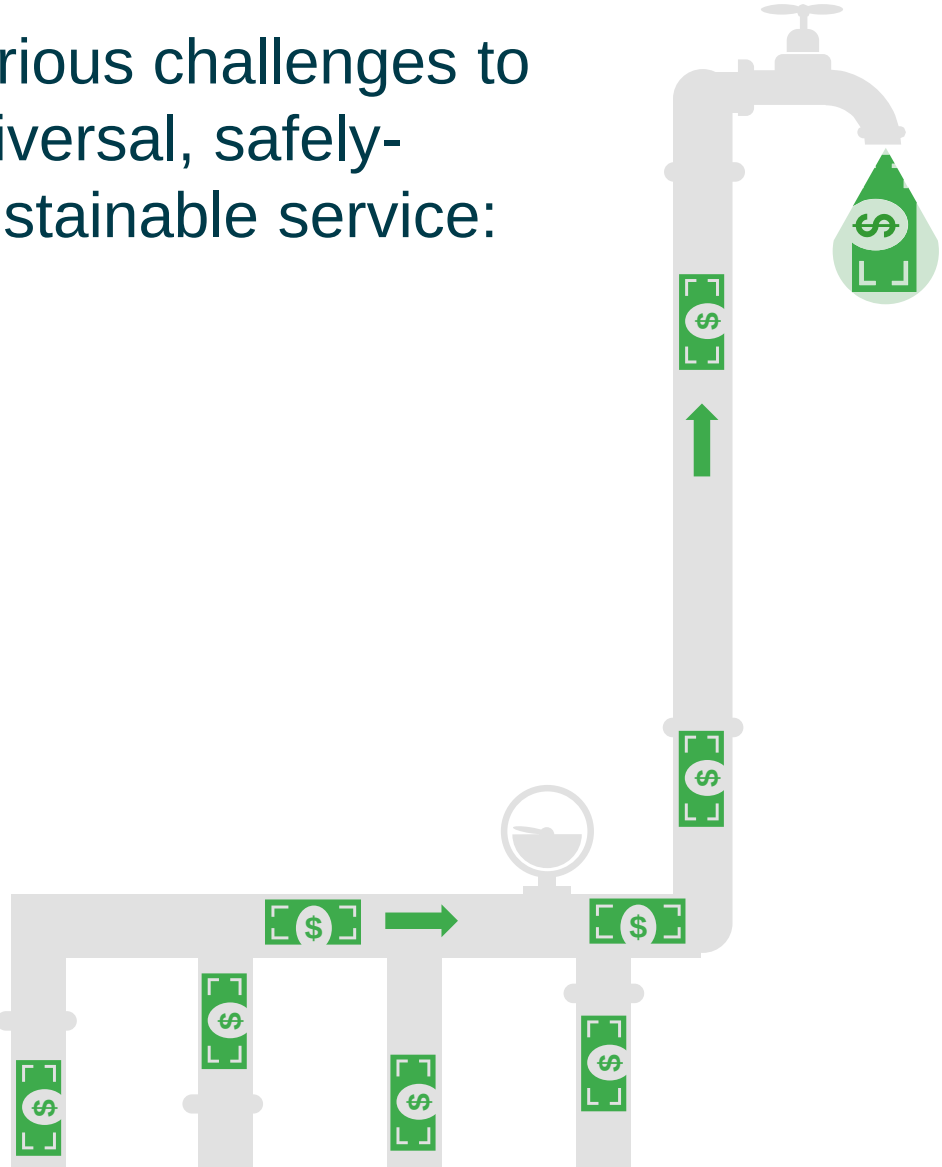
2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation



© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

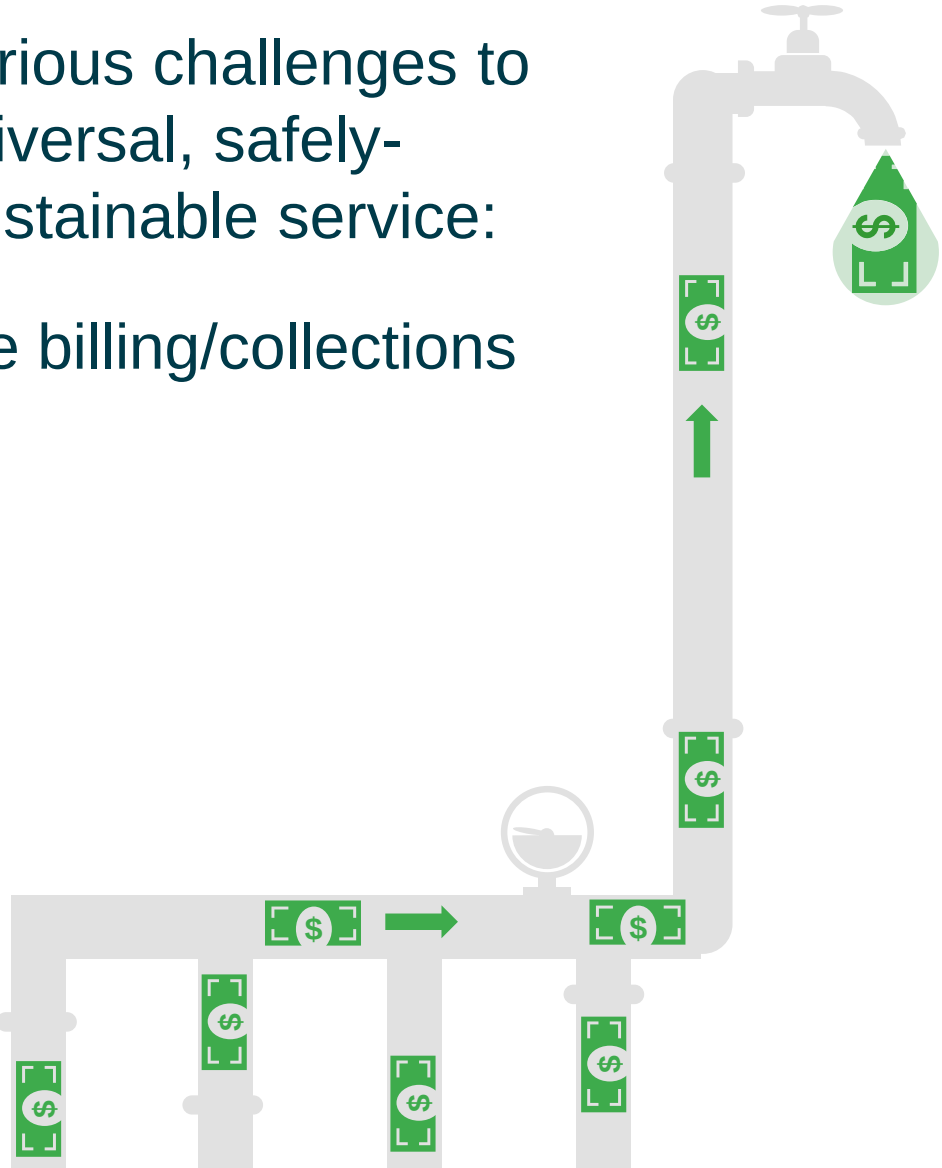


© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections

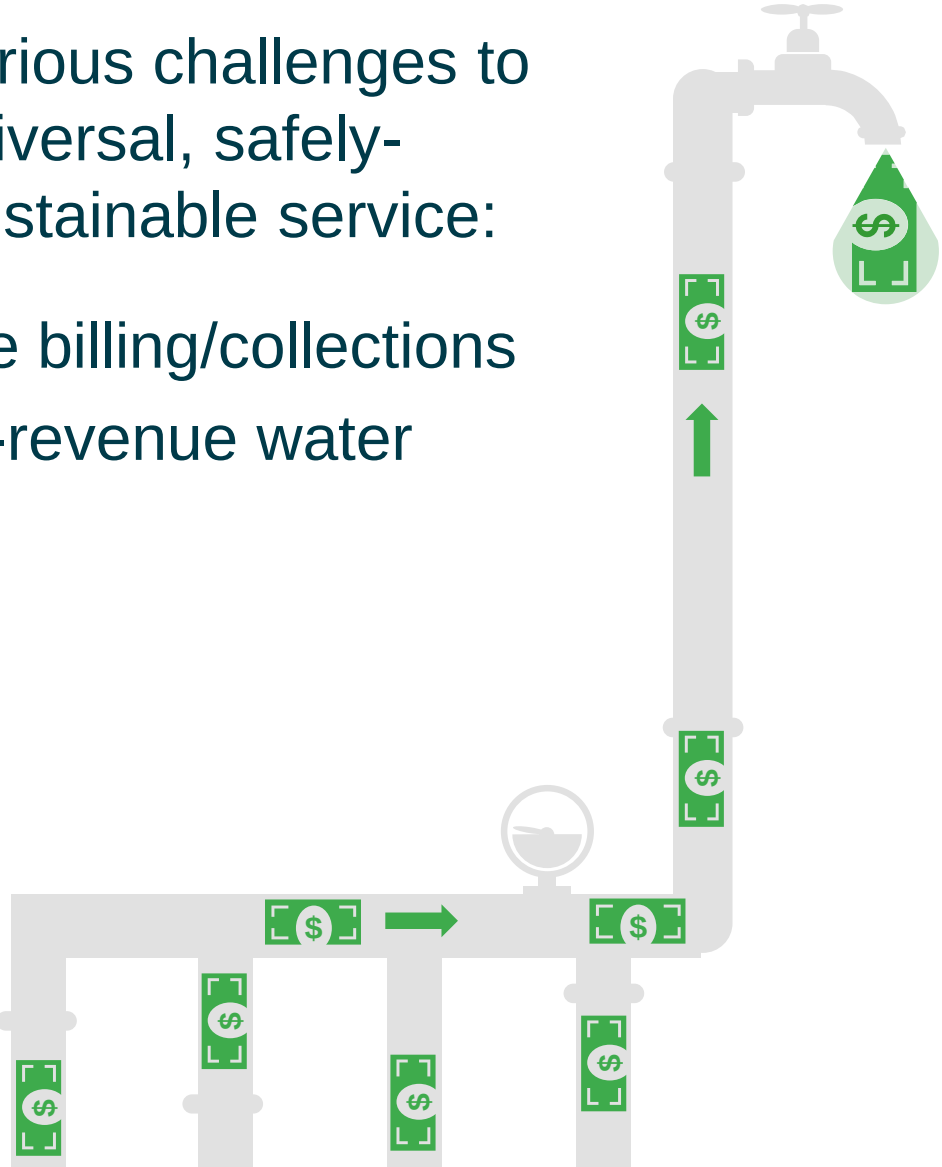


© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections
2. High non-revenue water

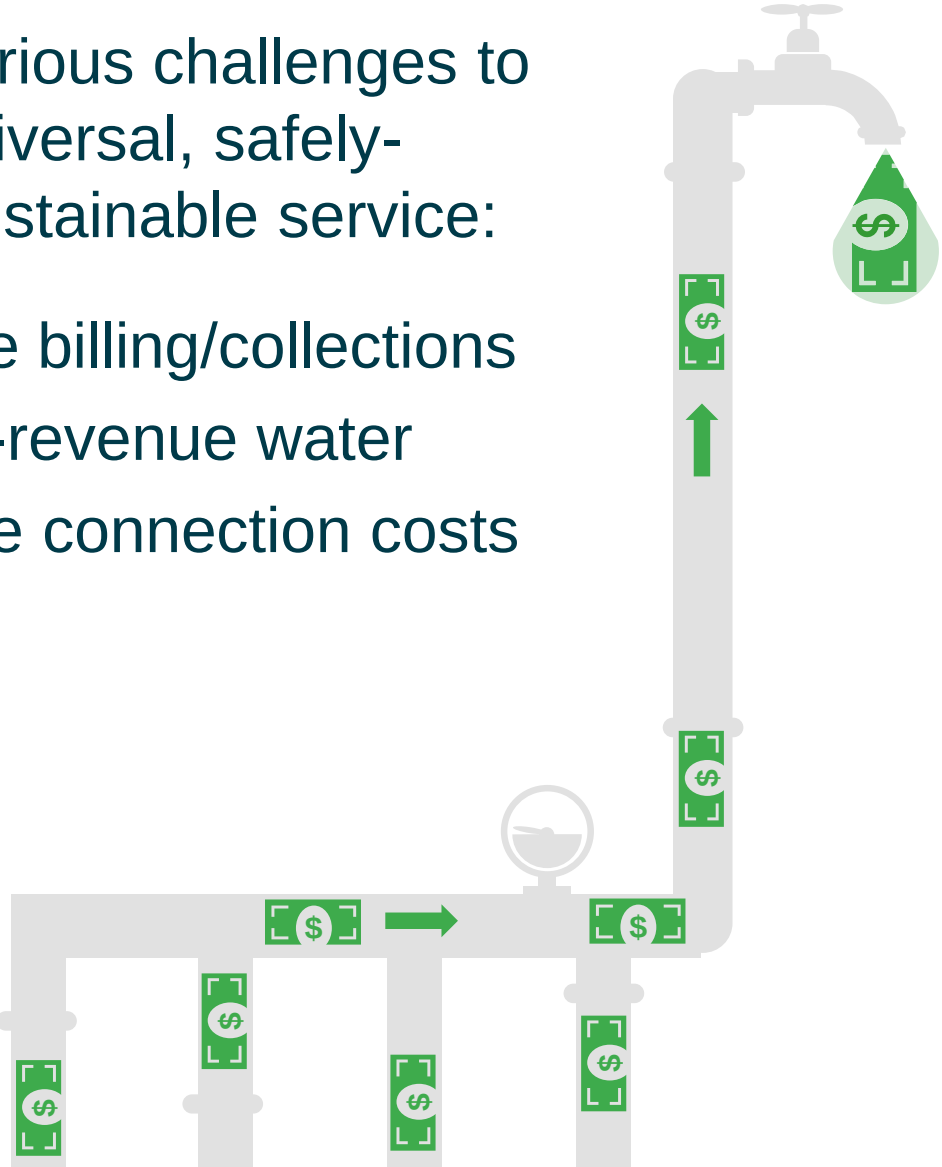


© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections
2. High non-revenue water
3. Expensive connection costs



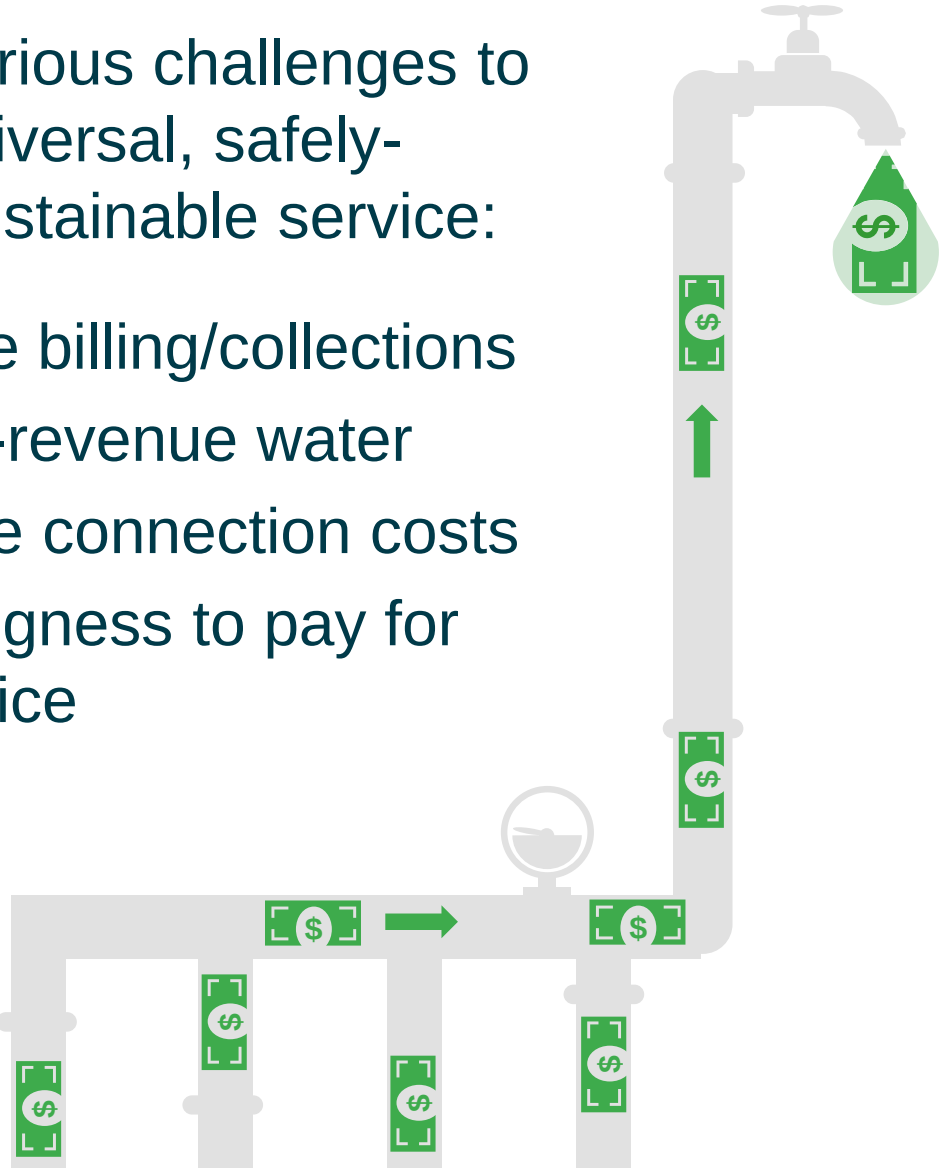
CGAP GSMA

© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections
2. High non-revenue water
3. Expensive connection costs
4. Low willingness to pay for poor service



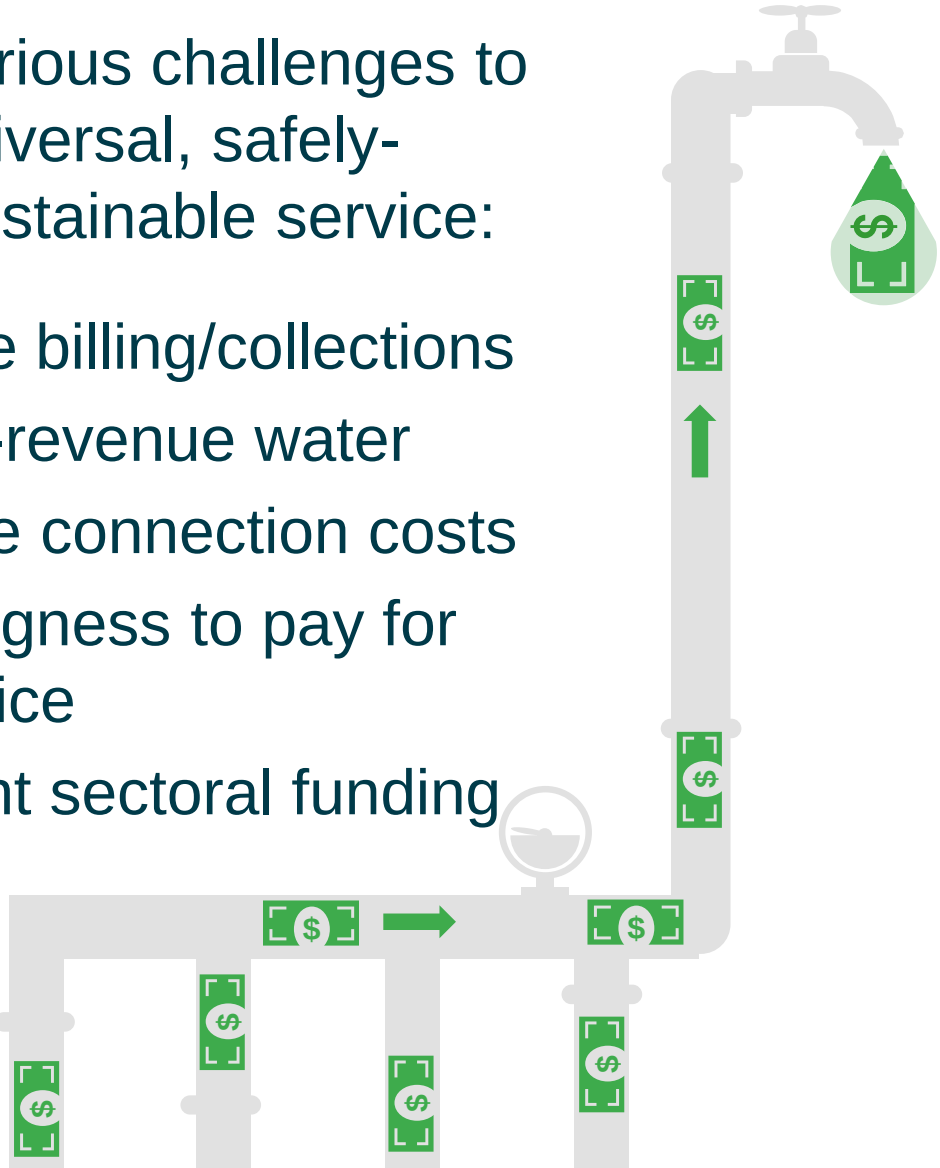
CGAP GSMA

© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections
2. High non-revenue water
3. Expensive connection costs
4. Low willingness to pay for poor service
5. Insufficient sectoral funding



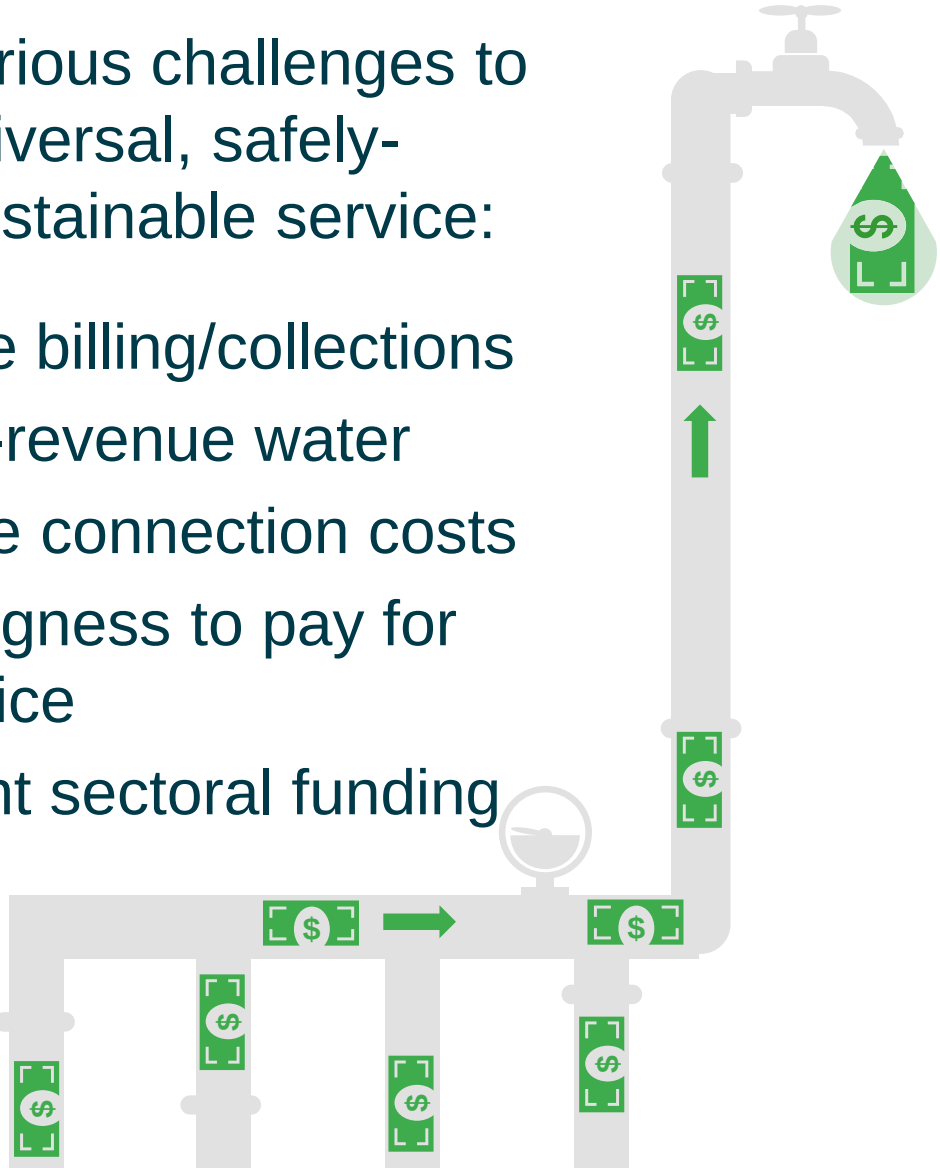
CGAP GSMA

© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections
2. High non-revenue water
3. Expensive connection costs
4. Low willingness to pay for poor service
5. Insufficient sectoral funding



What can digital finance do to reduce these challenges?

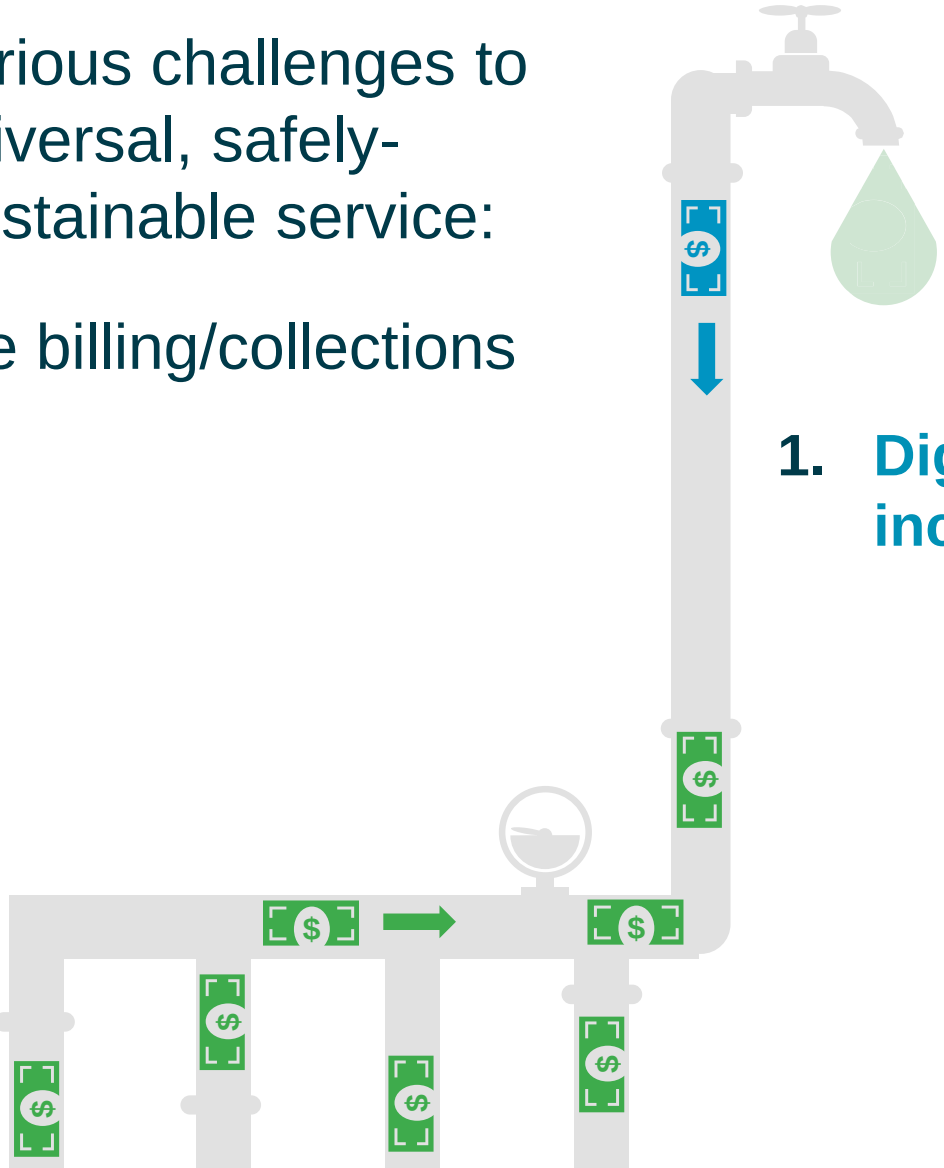
CGAP GSMA

© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections



What can digital finance do to reduce these challenges?

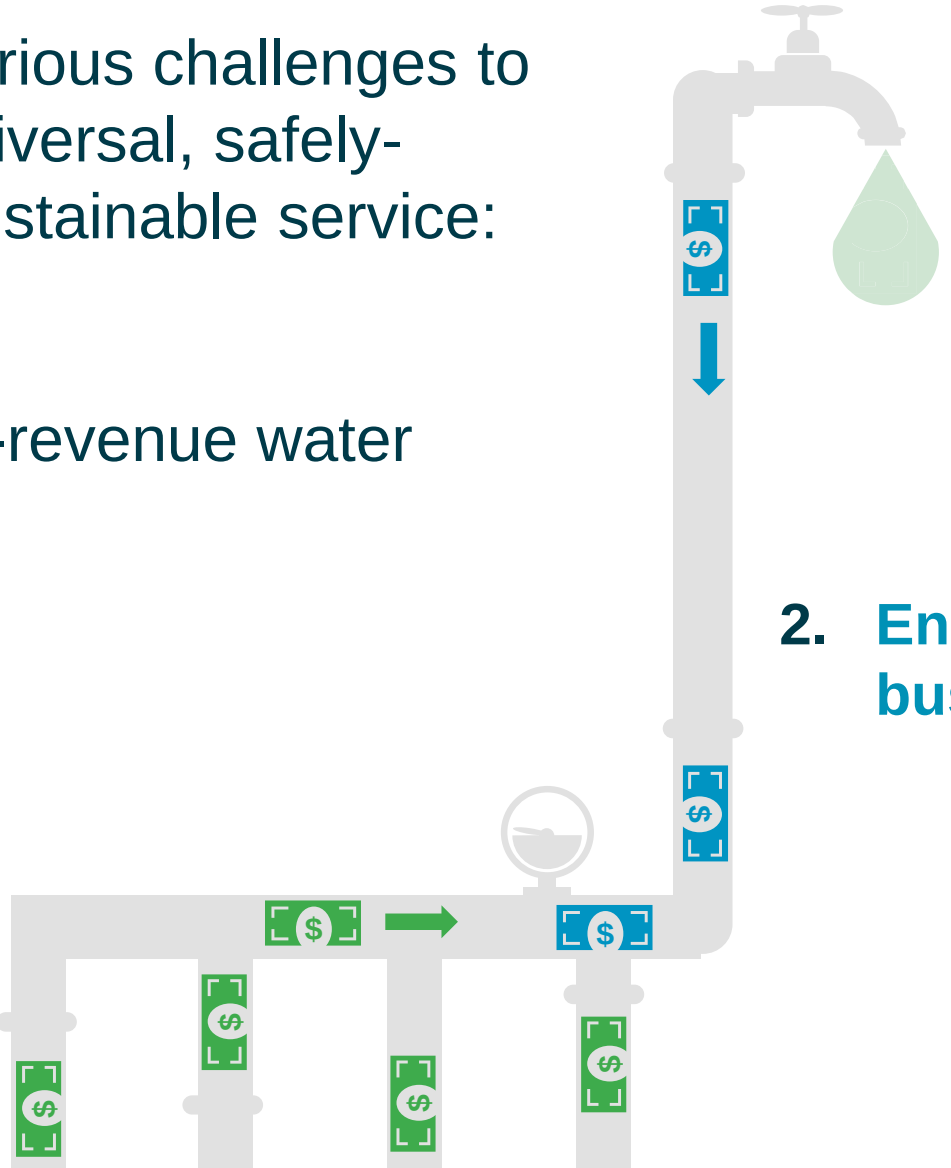
1. **Digitize collections to increase efficiency**

© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

2. High non-revenue water



What can digital finance do to reduce these challenges?

2. Enable PAYGo business models

© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

3. Expensive connection costs

What can digital finance do to reduce these challenges?

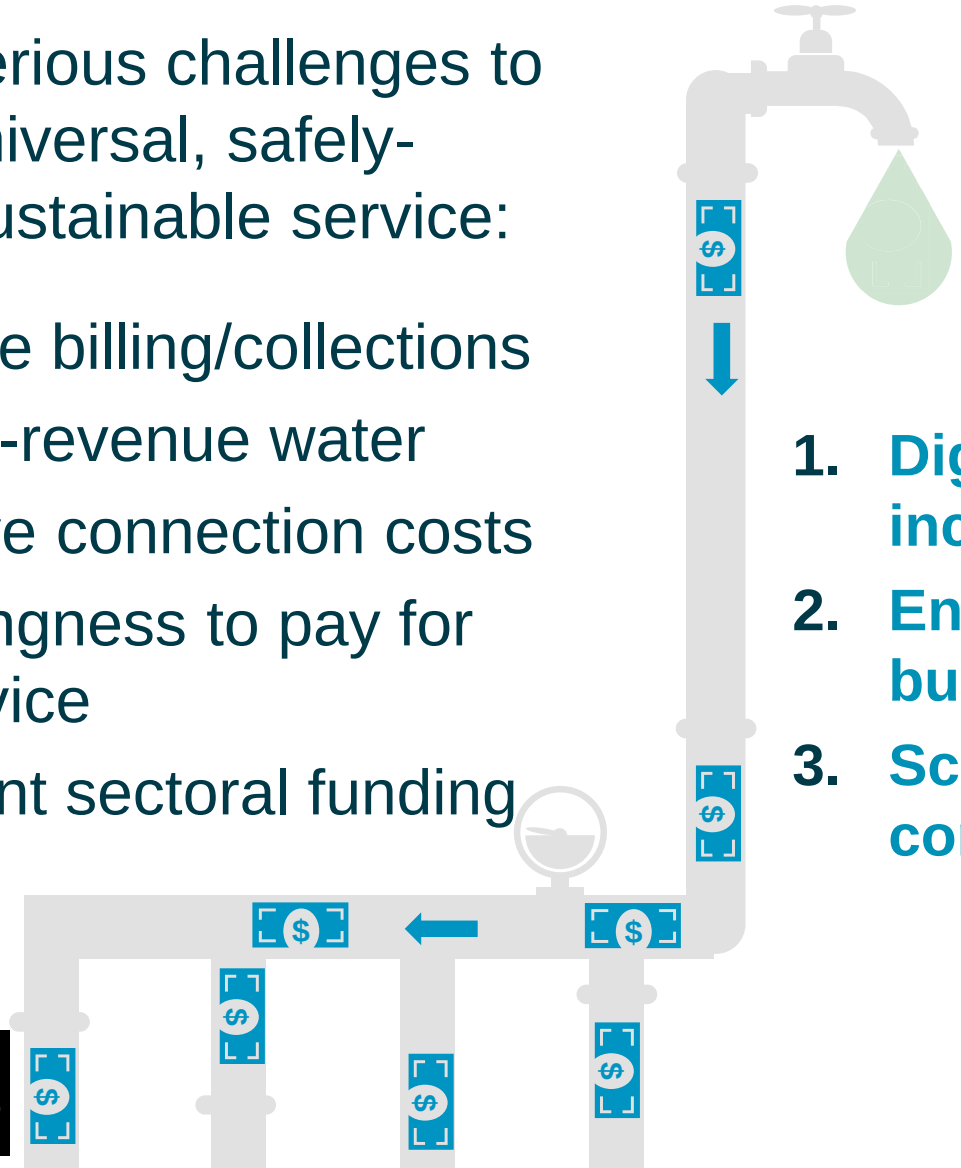
3. Scale financing for connections

© CGAP 2018

2.1 billion people lack safely managed water, 4.5 billion lack safe sanitation

There are serious challenges to achieving universal, safely-managed, sustainable service:

1. Ineffective billing/collections
2. High non-revenue water
3. Expensive connection costs
4. Low willingness to pay for poor service
5. Insufficient sectoral funding



What can digital finance do to reduce these challenges?

1. **Digitize collections to increase efficiency**
2. **Enable PAYGo business models**
3. **Scale financing for connections**

CGAP GSMA

© CGAP 2018

2018 Evaluation of Digital Finance in Water

CGAP & GSMA

Partnered to explore the current state of digital payments in WASH

Photo: © Jonathan Ernst/World Bank

CGAP GSMA

We spoke with 25 organizations who are providing water and sanitation service, hardware, software, or grant funding

CGAP GSMA

© CGAP 2018

We spoke with 25 organizations who are providing water and sanitation service, hardware, software, or grant funding

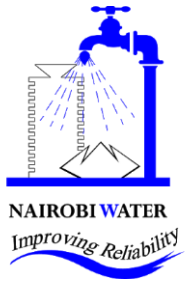
CGAP GSMA

© CGAP 2018

We spoke with 25 organizations who are providing water and sanitation service, hardware, software, or grant funding

© CGAP 2018

We spoke with 25 organizations who are providing water and sanitation service, hardware, software, or grant funding



© CGAP 2018

Who we spoke to: Types* and Geographies

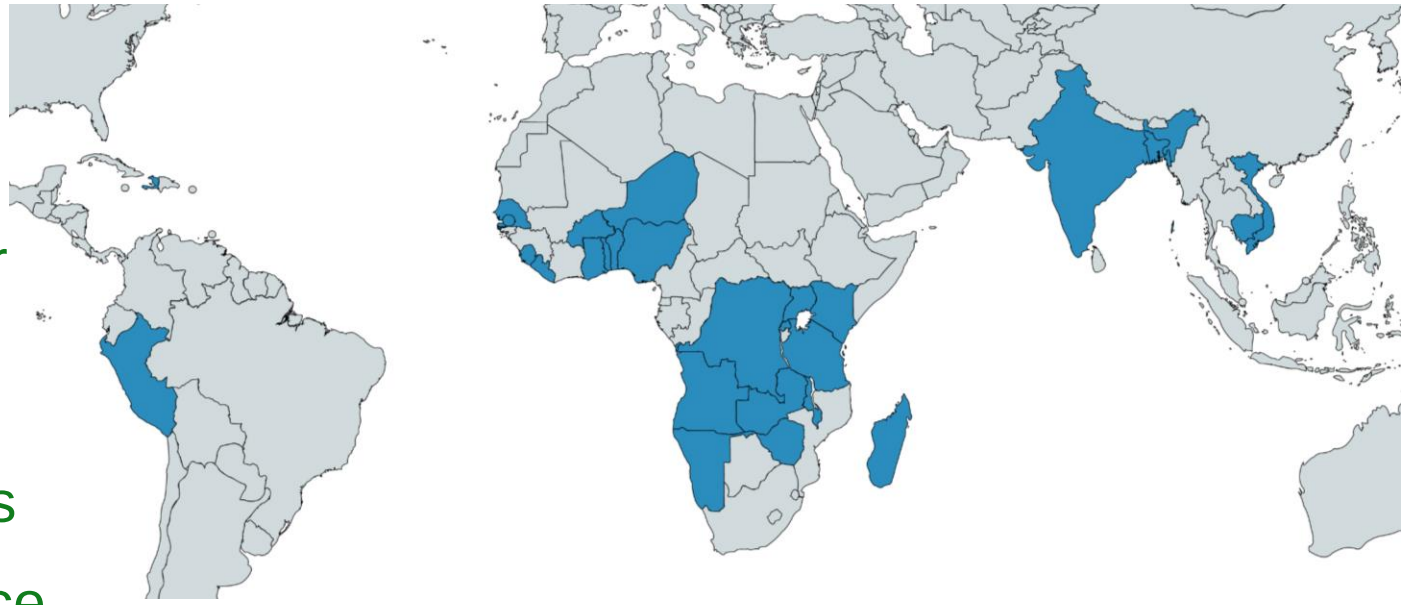
- 4 Urban Utilities
- 7 Small Water Enterprises
- 6 Hardware Manufacturers
- 10 B2B Service Companies
- 3 Sanitation Providers
- 1 WSS Donor

*Some overlap may occur between types

© CGAP 2018

Who we spoke to: Types* and Geographies

- 4 Urban Utilities
- 7 Small Water Enterprises
- 6 Hardware Manufacturers
- 10 B2B Service Companies
- 3 Sanitation Providers
- 1 WSS Donor



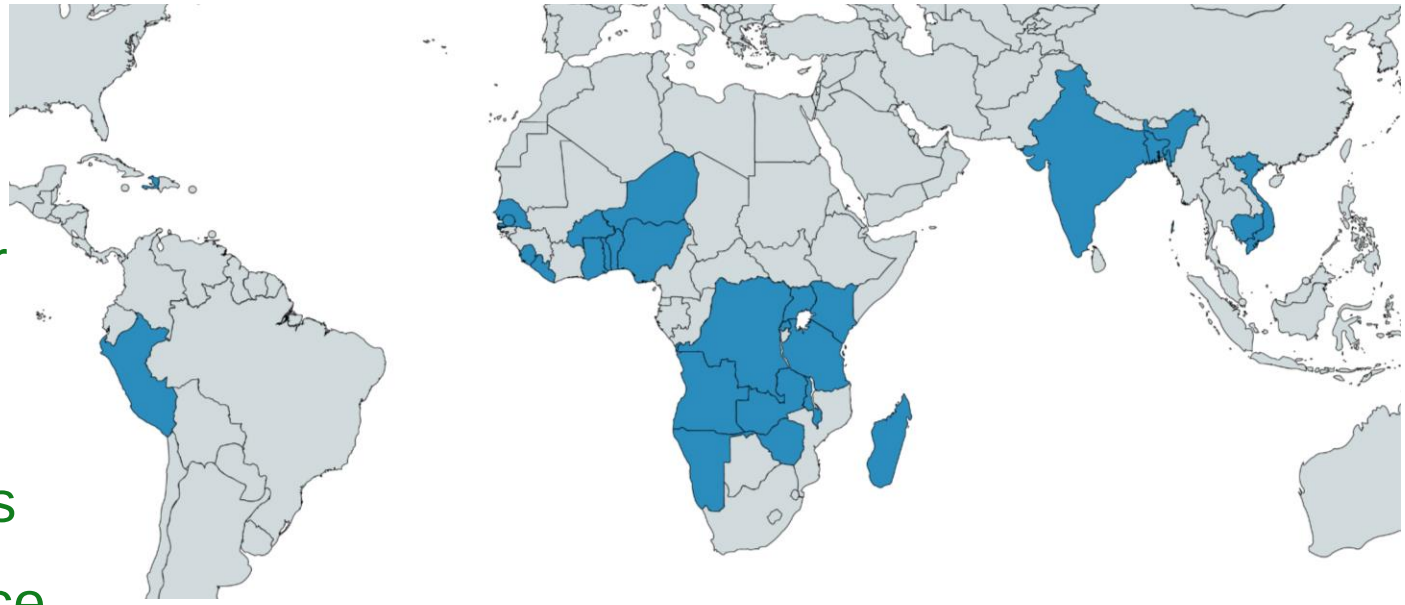
*Some overlap may occur between types

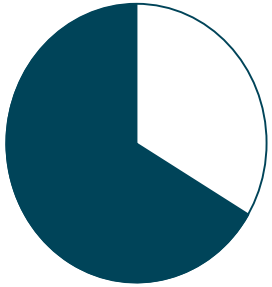
CGAP GSMA

© CGAP 2018

Who we spoke to: Types* and Geographies

- 4 Urban Utilities
- 7 Small Water Enterprises
- 6 Hardware Manufacturers
- 10 B2B Service Companies
- 3 Sanitation Providers
- 1 WSS Donor





10 out of 15 providers that collect customer payments were using digital channels

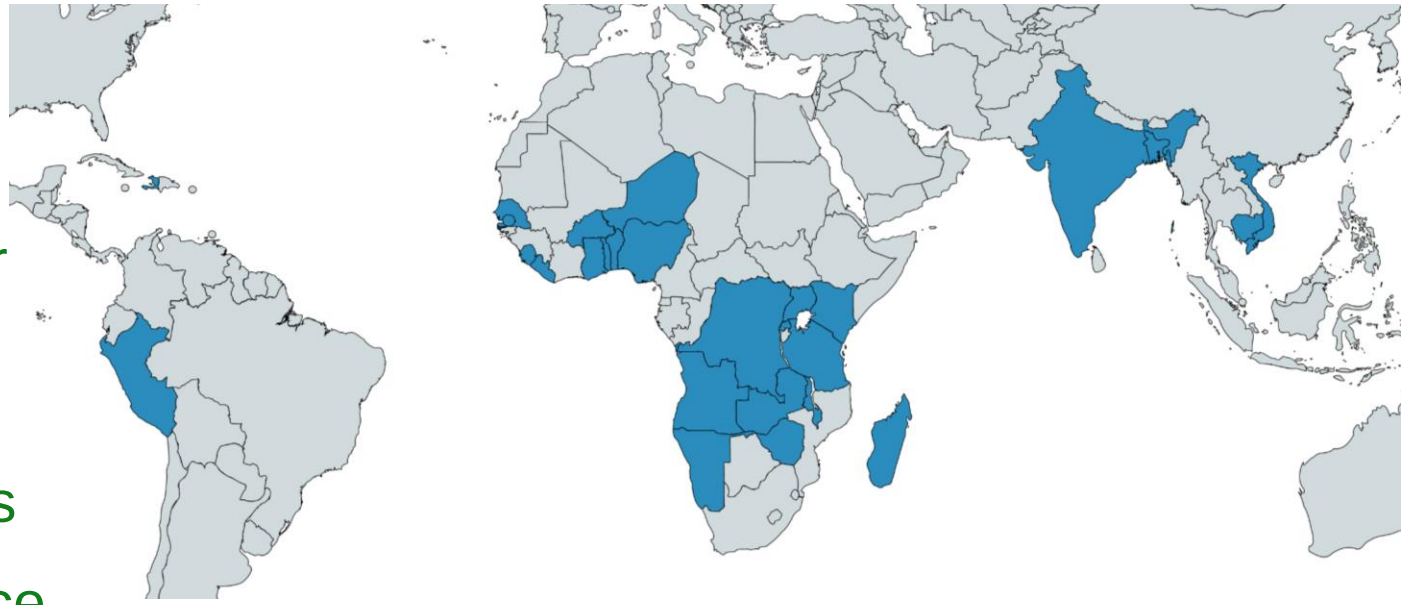
*Some overlap may occur between types

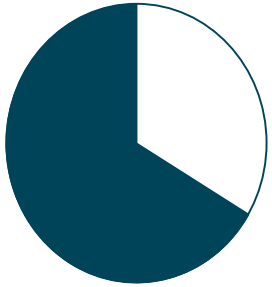
CGAP GSMA

© CGAP 2018

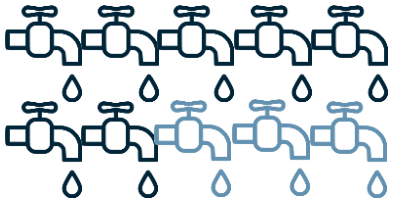
Who we spoke to: Types* and Geographies

- 4 Urban Utilities
- 7 Small Water Enterprises
- 6 Hardware Manufacturers
- 10 B2B Service Companies
- 3 Sanitation Providers
- 1 WSS Donor





10 out of 15 providers that collect customer payments were using digital channels



7 of 10 firms offering hardware or B2B services were facilitating digital payments

CGAP GSMA

© CGAP 2018

Finding: Collections cost providers between 3% and 20% of revenue

© CGAP 2018

Finding: Collections cost providers between 3% and 20% of revenue

- Water4: **20%** of revenue paid to vendors

© CGAP 2018

Finding: Collections cost providers between 3% and 20% of revenue

- Water4: **20%** of revenue paid to vendors
- GWCL: collections cost **3.3%** of monthly revenue

CGAP GSMA

© CGAP 2018

Finding: Collections cost providers between 3% and 20% of revenue

- Water4: **20%** of revenue paid to vendors
- GWCL: collections cost **3.3%** of monthly revenue
- Loowatt: cash made up **15%** of pricing model

CGAP GSMA

© CGAP 2018

Finding: Collections cost providers between 3% and 20% of revenue

- Water4: **20%** of revenue paid to vendors
- GWCL: collections cost **3.3%** of monthly revenue
- Loowatt: cash made up **15%** of pricing model
- Nairobi City: were spending **$600,000** annually on *postage*

CGAP GSMA

© CGAP 2018

Finding: Collections cost providers between 3% and 20% of revenue

- Water4: **20%** of revenue paid to vendors
- GWCL: collections cost **3.3%** of monthly revenue
- Loowatt: cash made up **15%** of pricing model
- Nairobi City: were spending **$600,000** annually on *postage*

"[providers] are not going to increase the prices, so only way to become sustainable is to sell more or reduce costs" – Lori Gonnu, 1001 fontaines

CGAP GSMA

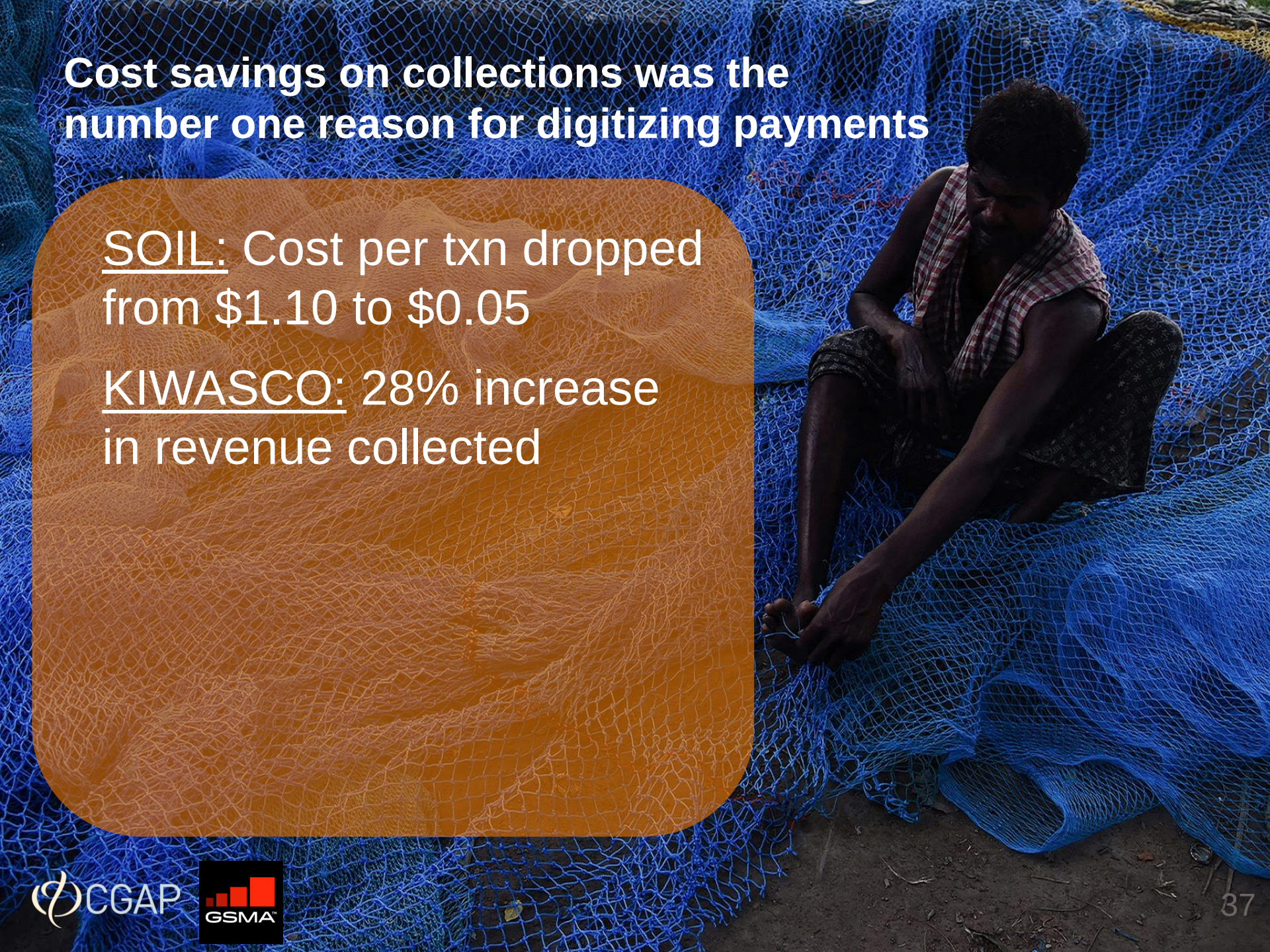
© CGAP 2018

Cost savings on collections was the number one reason for digitizing payments

Cost savings on collections was the number one reason for digitizing payments

SOIL: Cost per txn dropped from $1.10 to $0.05

Cost savings on collections was the number one reason for digitizing payments

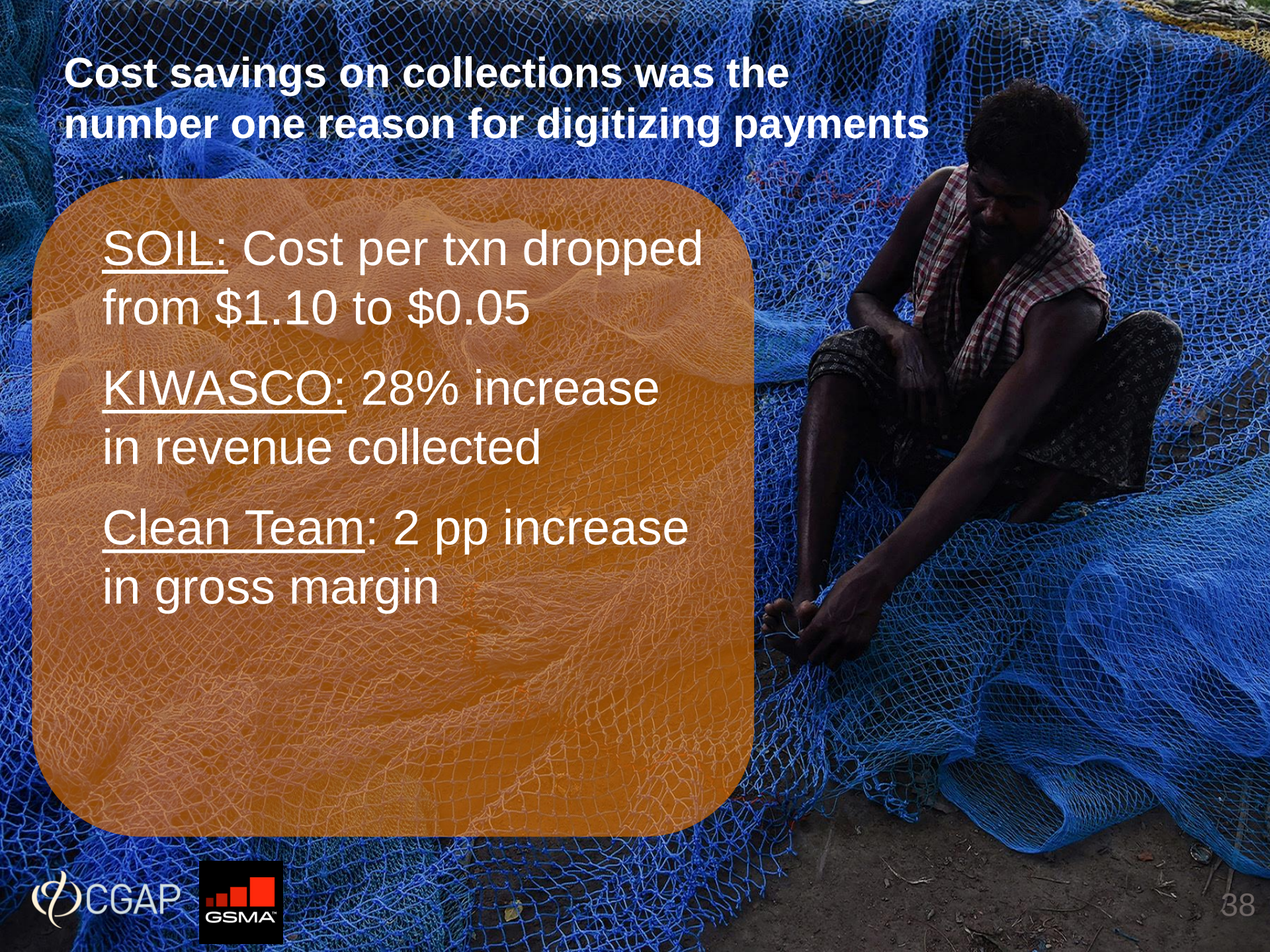


SOIL: Cost per txn dropped from $1.10 to $0.05

KIWASCO: 28% increase in revenue collected

CGAP GSMA

Cost savings on collections was the number one reason for digitizing payments



SOIL: Cost per txn dropped from $1.10 to $0.05

KIWASCO: 28% increase in revenue collected

Clean Team: 2 pp increase in gross margin

Cost savings on collections was the number one reason for digitizing payments

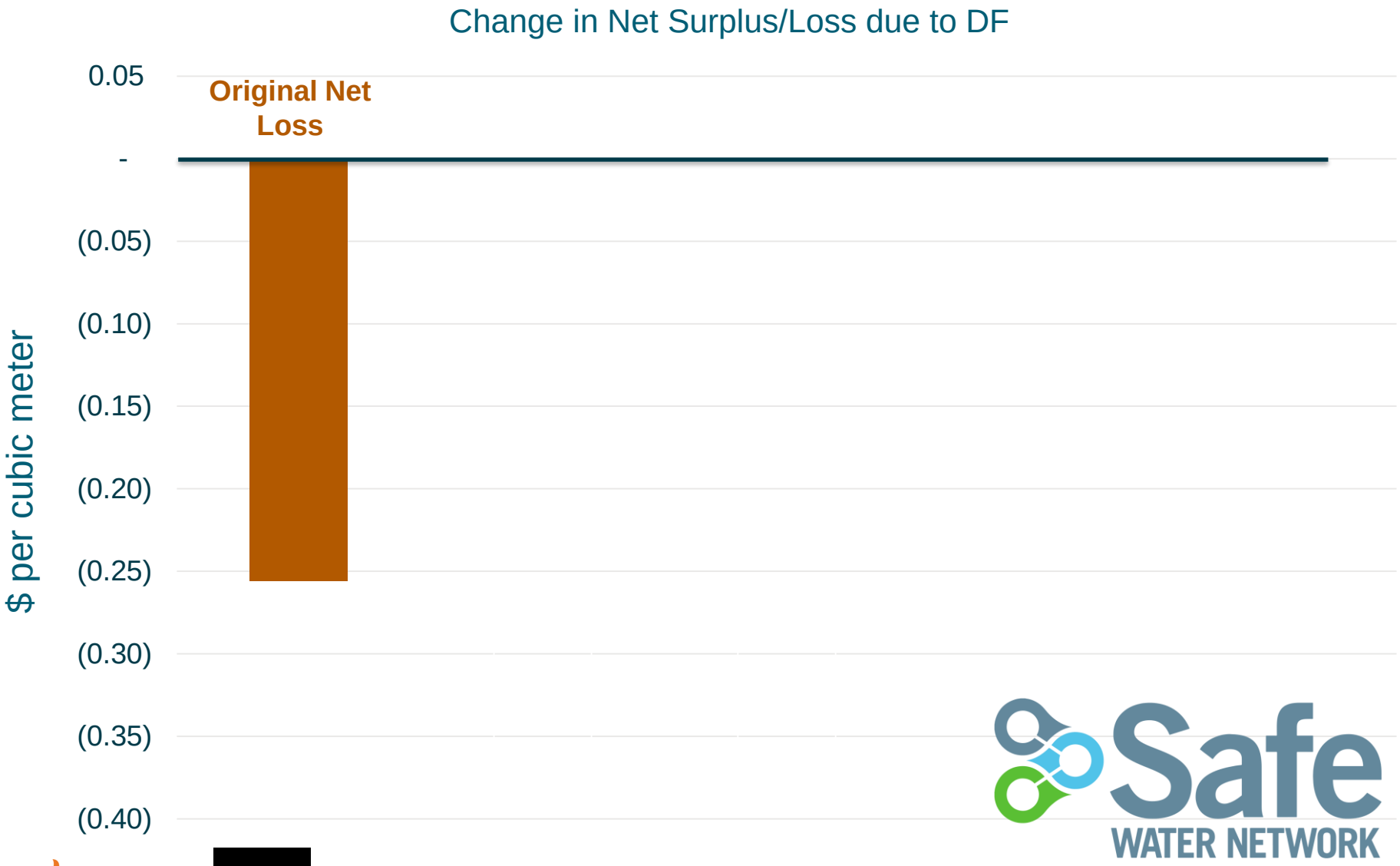
SOIL: Cost per txn dropped from $1.10 to $0.05

KIWASCO: 28% increase in revenue collected

Clean Team: 2 pp increase in gross margin

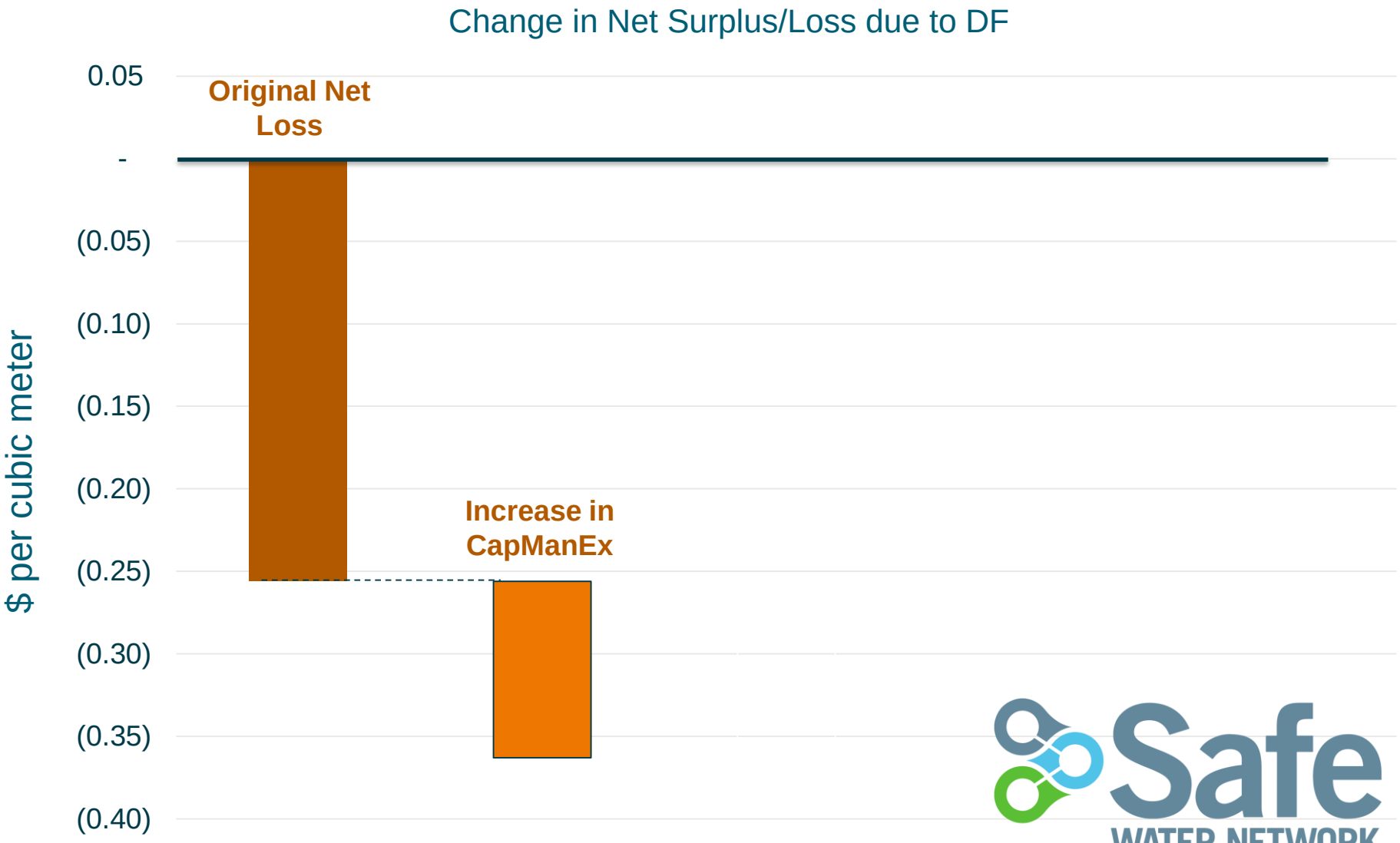
Safe Water Network: Went from 30% net loss → 1% net surplus

Case Study: Safe Water Network



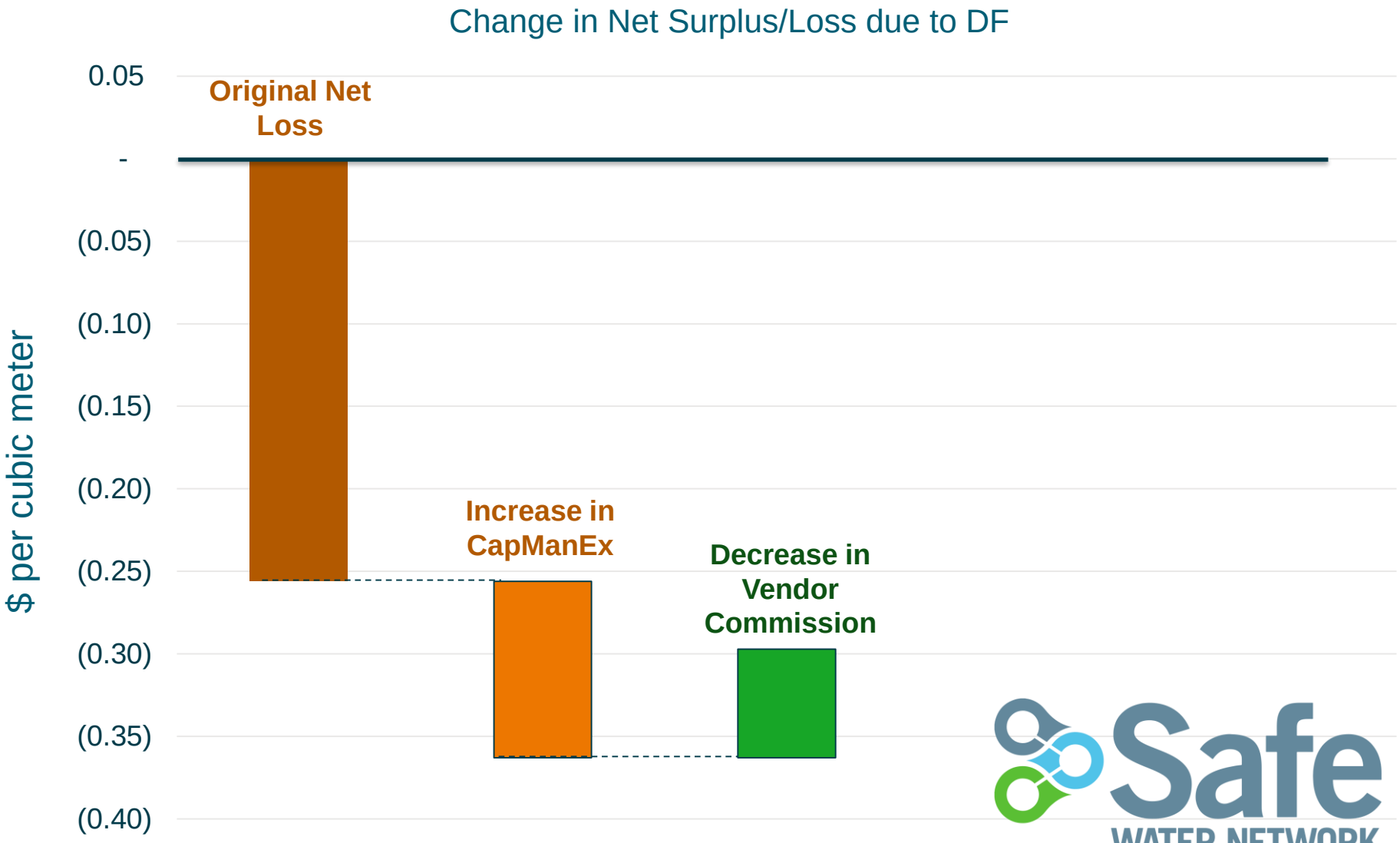
© CGAP 2018

Case Study: Safe Water Network



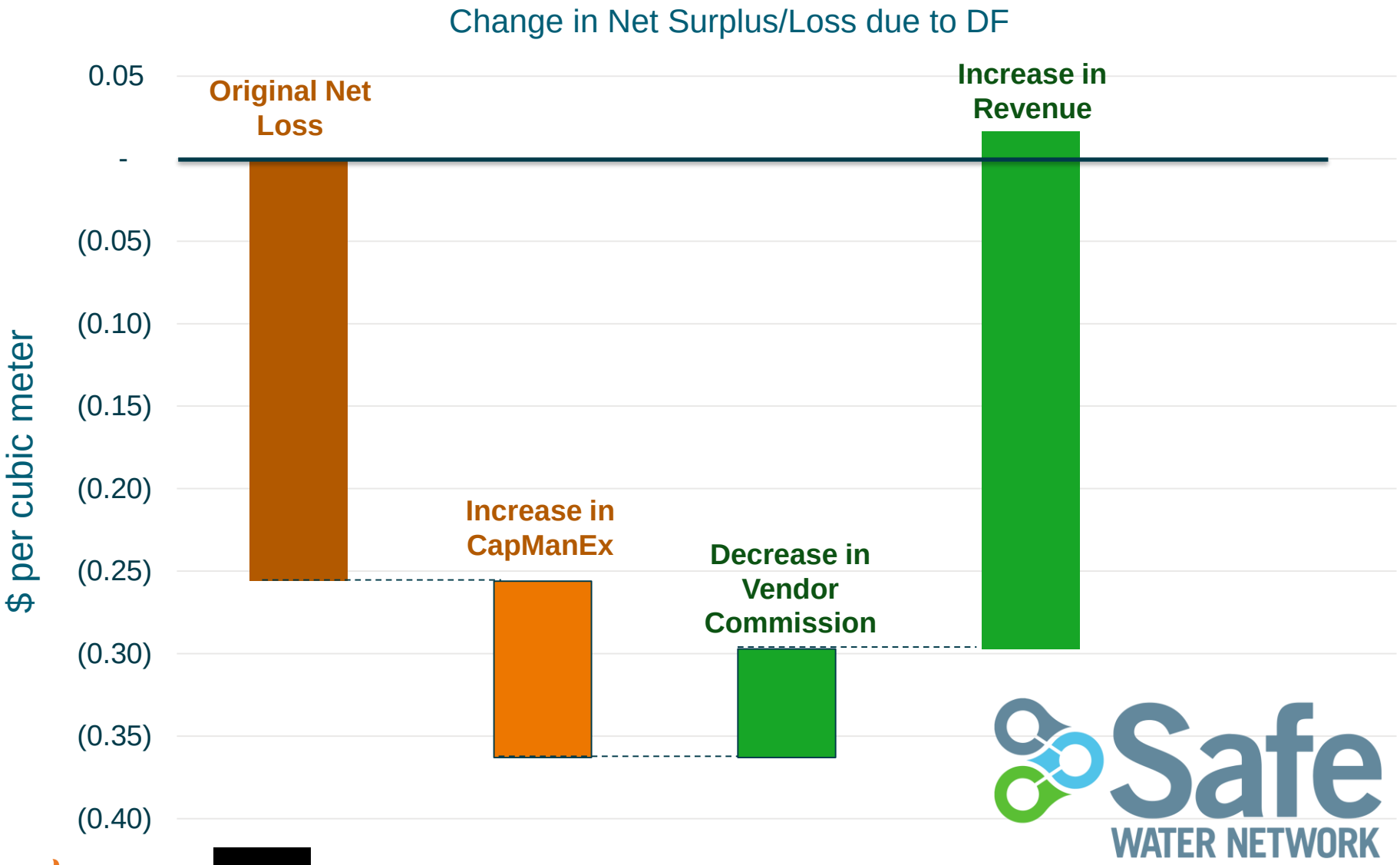
© CGAP 2018

Case Study: Safe Water Network



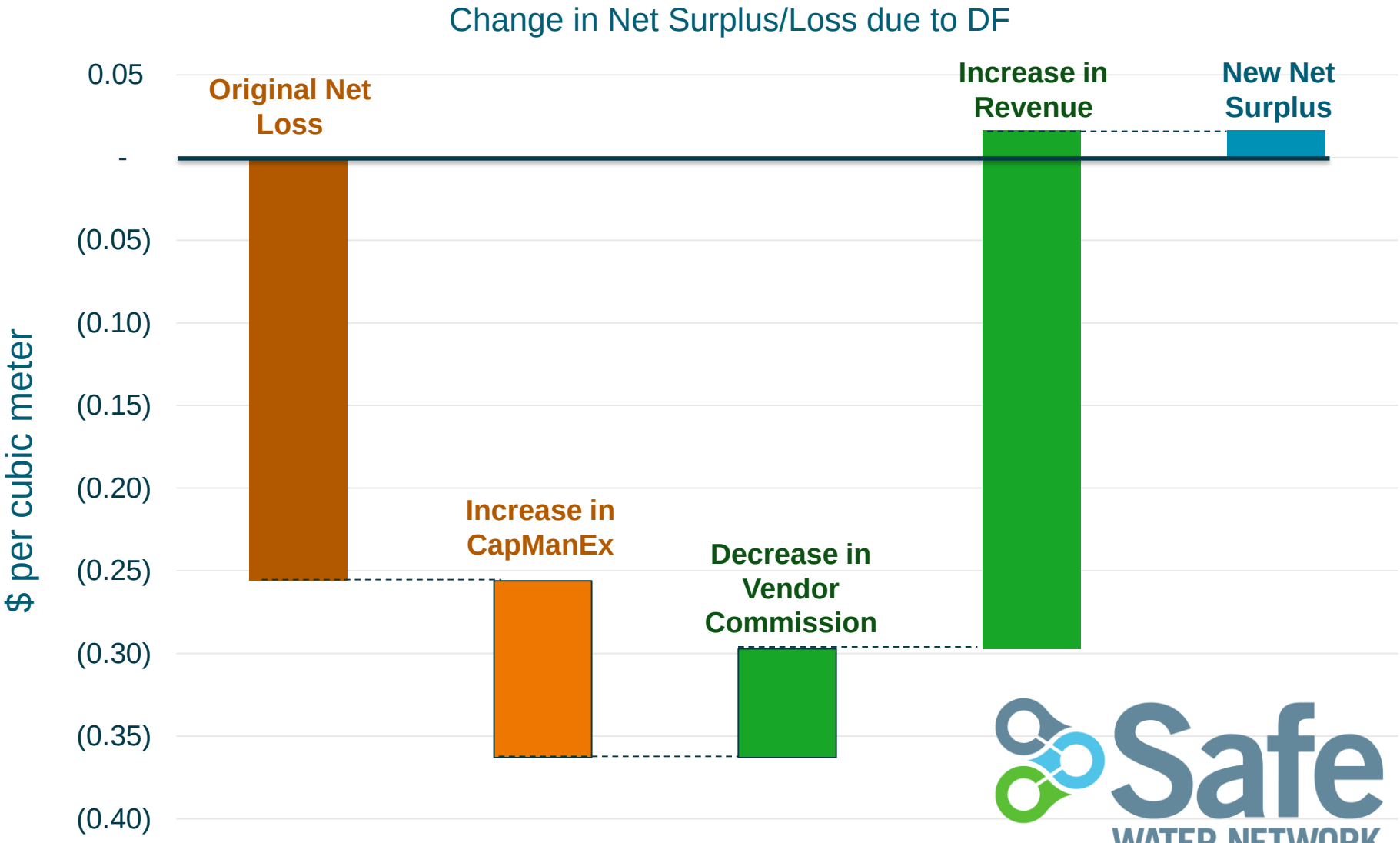
© CGAP 2018

Case Study: Safe Water Network



© CGAP 2018

Case Study: Safe Water Network



Safe WATER NETWORK

CGAP GSMA

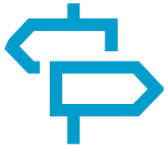
© CGAP 2018

Other advantages of digital payments

For water and sanitation service providers

PAYG is better with digital payments

Transaction records create transparency



Automatic payment reconciliation – IPN HUB

For mobile operators

Increase in mobile money usage

Expanding mobile money use cases

Digital literate and financially conscious customers

CONFIDENTIAL

Use-cases for digitisation beyond payments

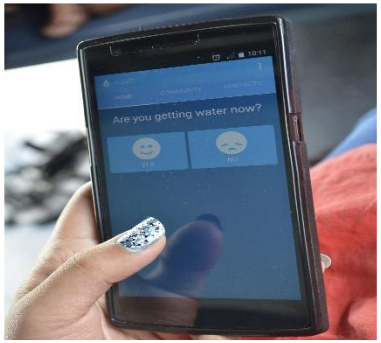
Meter Reading

Safe Water Networks, SweetSense, Drinkwell, NextDrop

Billing

Eg. Wonderkid

Customer feedback and inquiries



Wonderkid, Practical Action/Robi Axiata, NextDrop

CONFIDENTIAL

But digitization still faces numerous challenges

Lack of Data

"No one was sure what the revenue status was—how much revenue had been billed and how much had been collected…the water was there, but people didn't know how to pay."
Halima Murunga, Wonderkid

But digitization still faces numerous challenges

Lack of Data

"No one was sure what the revenue status was—how much revenue had been billed and how much had been collected…the water was there, but people didn't know how to pay."
Halima Murunga, Wonderkid

Integration

"Some of the challenges [are]…the integration and local nuances with each local payment provider. Each country has a bit of their own standards and APIs. For a company that works in multiple countries…it's a barrier."
Marten Susebeek, Susteq

CGAP GSMA

But digitization still faces numerous challenges

Lack of Data

"No one was sure what the revenue status was—how much revenue had been billed and how much had been collected…the water was there, but people didn't know how to pay."
Halima Murunga, Wonderkid

Integration

"Some of the challenges [are]…the integration and local nuances with each local payment provider. Each country has a bit of their own standards and APIs. For a company that works in multiple countries…it's a barrier."
Marten Susebeek, Susteq

Transaction Fees

"When there is coverage, the payment for water is very small, a micro-payment even, and the transaction fee makes it prohibitive."
Jesper Lorenzen, Grundfos

CGAP GSMA

But digitization still faces numerous challenges

Lack of Data

"No one was sure what the revenue status was—how much revenue had been billed and how much had been collected…the water was there, but people didn't know how to pay."
Halima Murunga, Wonderkid

Integration

"Some of the challenges [are]…the integration and local nuances with each local payment provider. Each country has a bit of their own standards and APIs. For a company that works in multiple countries…it's a barrier."
Marten Susebeek, Susteq

Transaction Fees

"When there is coverage, the payment for water is very small, a micro-payment even, and the transaction fee makes it prohibitive."
Jesper Lorenzen, Grundfos

Staff Cuts

"If we could move all payments to digital, we would be happy. Staff could work on other tasks, it would reduce transport and security costs, and customers would have added convenience"
Eldah Odhiambo, KIWASCO

CGAP GSMA

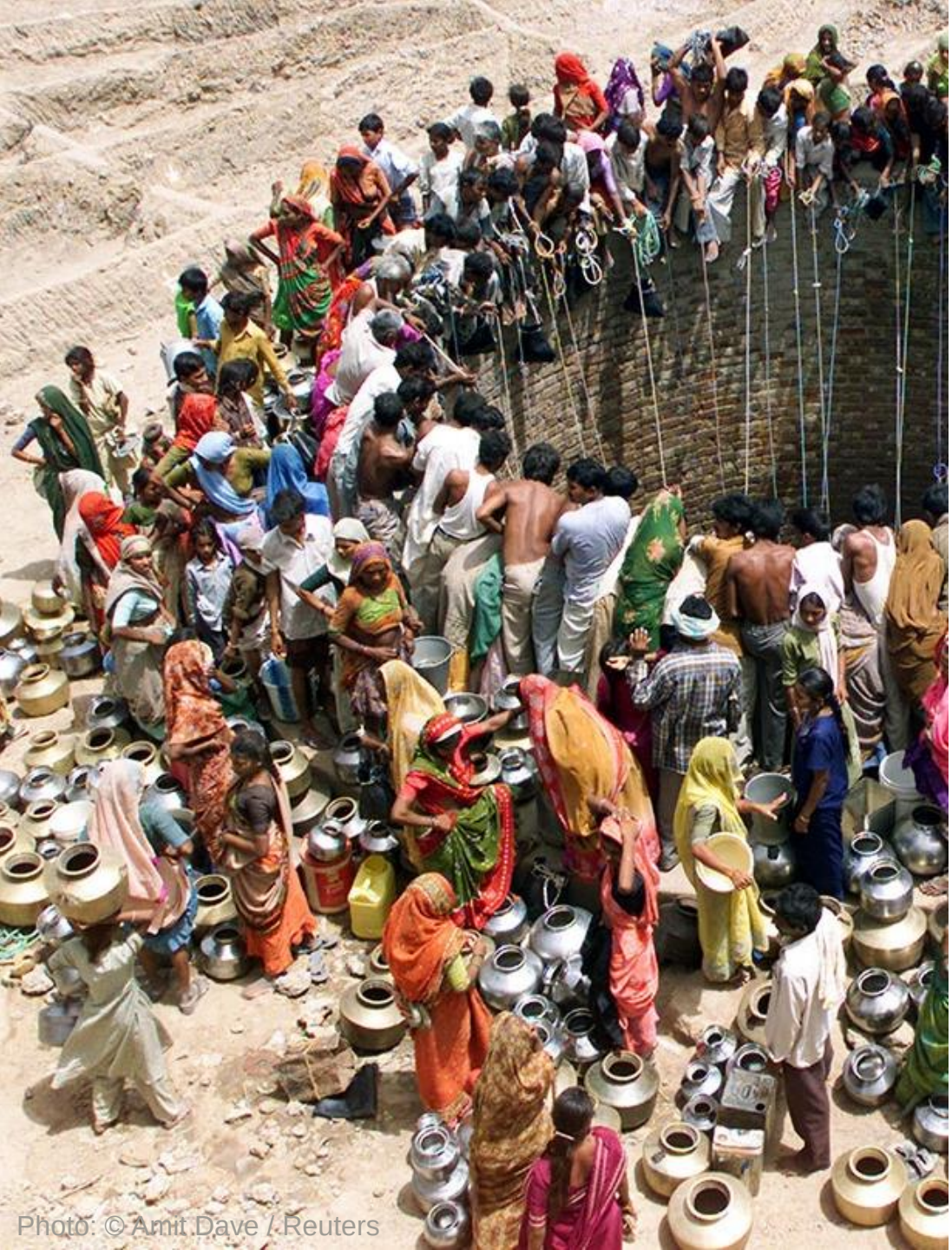


Photo: © Amit Dave / Reuters

Great expectations, tempered by reality

Digital payments can help:

© CGAP 2018

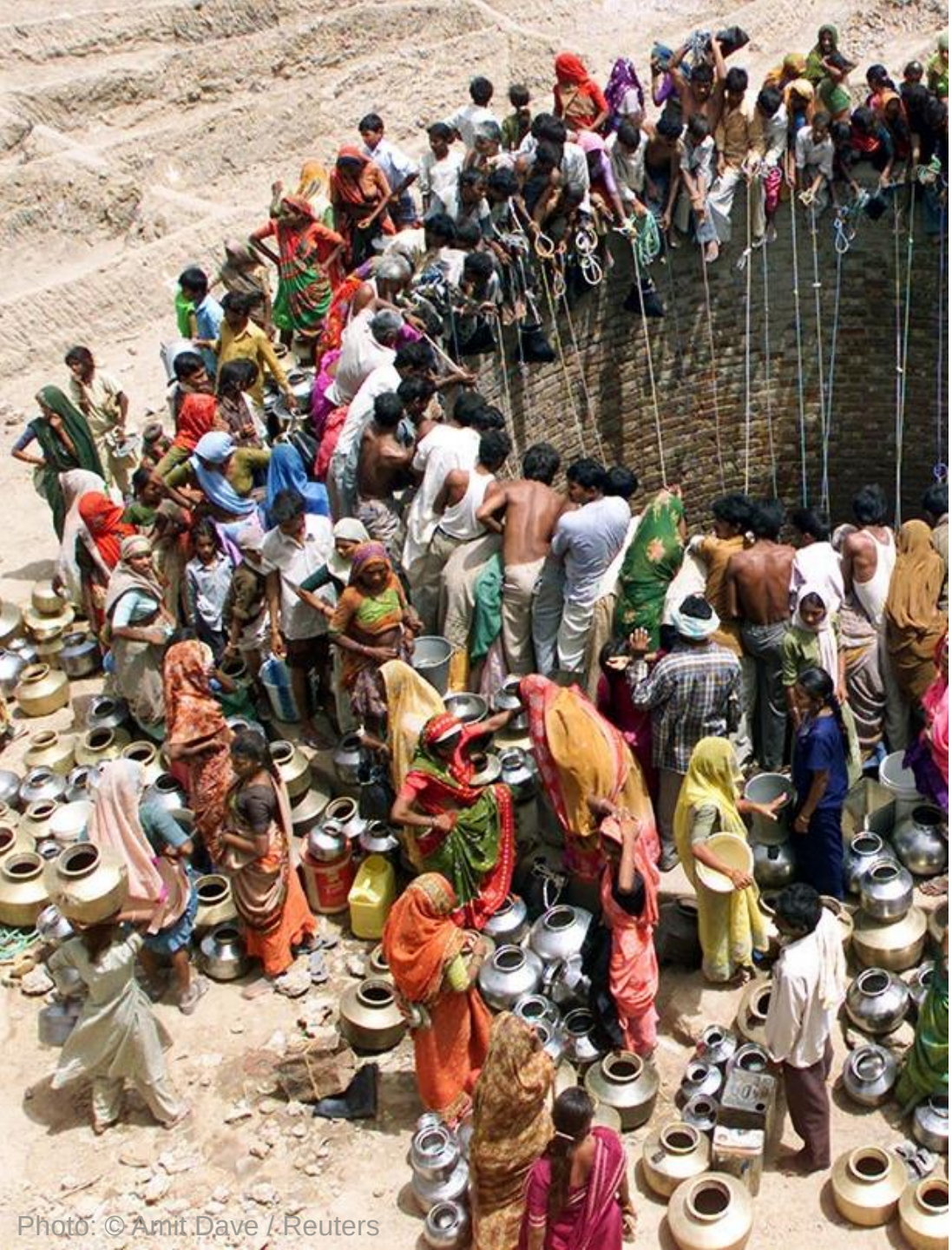


Photo: © Amit Dave / Reuters

Great expectations, tempered by reality

Digital payments can help:

- **Reduce the cost of collections**

© CGAP 2018

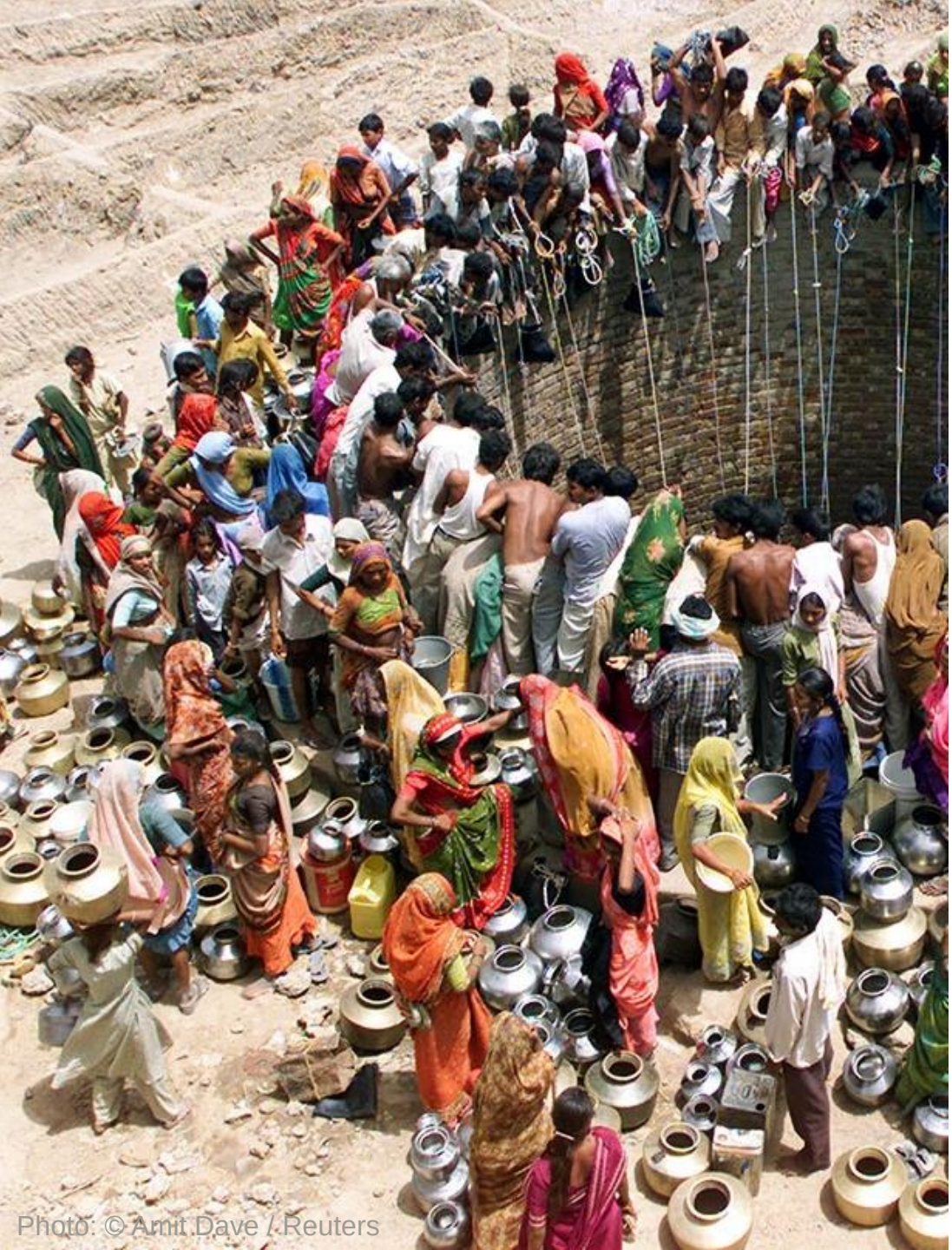


Photo: © Amit Dave / Reuters

Great expectations, tempered by reality

Digital payments can help:

- **Reduce the cost of collections**
- **Scale PAYGo water**

© CGAP 2018

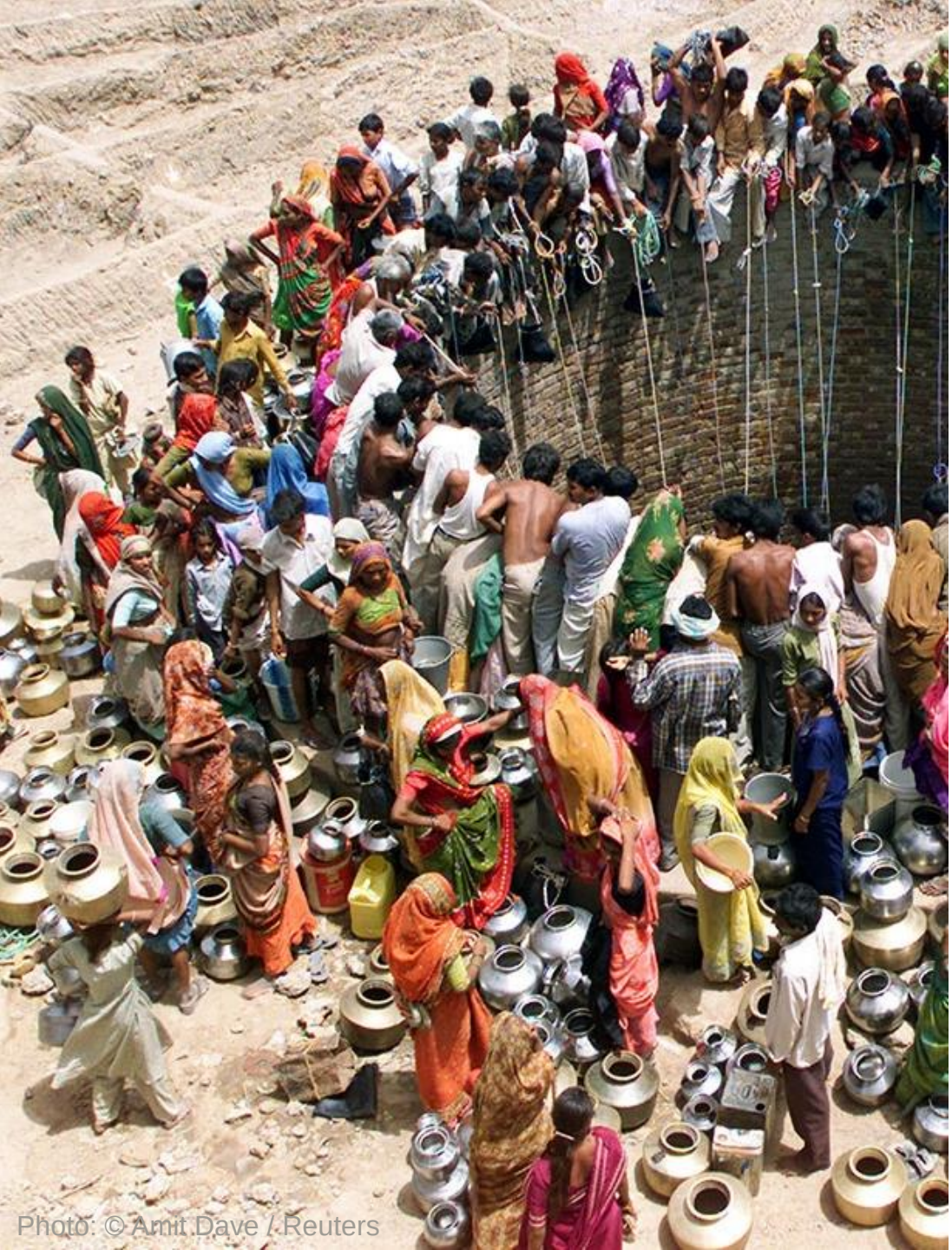


Photo: © Amit Dave / Reuters

Great expectations, tempered by reality

Digital payments can help:

- **Reduce the cost of collections**
- **Scale PAYGo water**
- **Create much-needed transparency**

CGAP

GSMA

© CGAP 2018

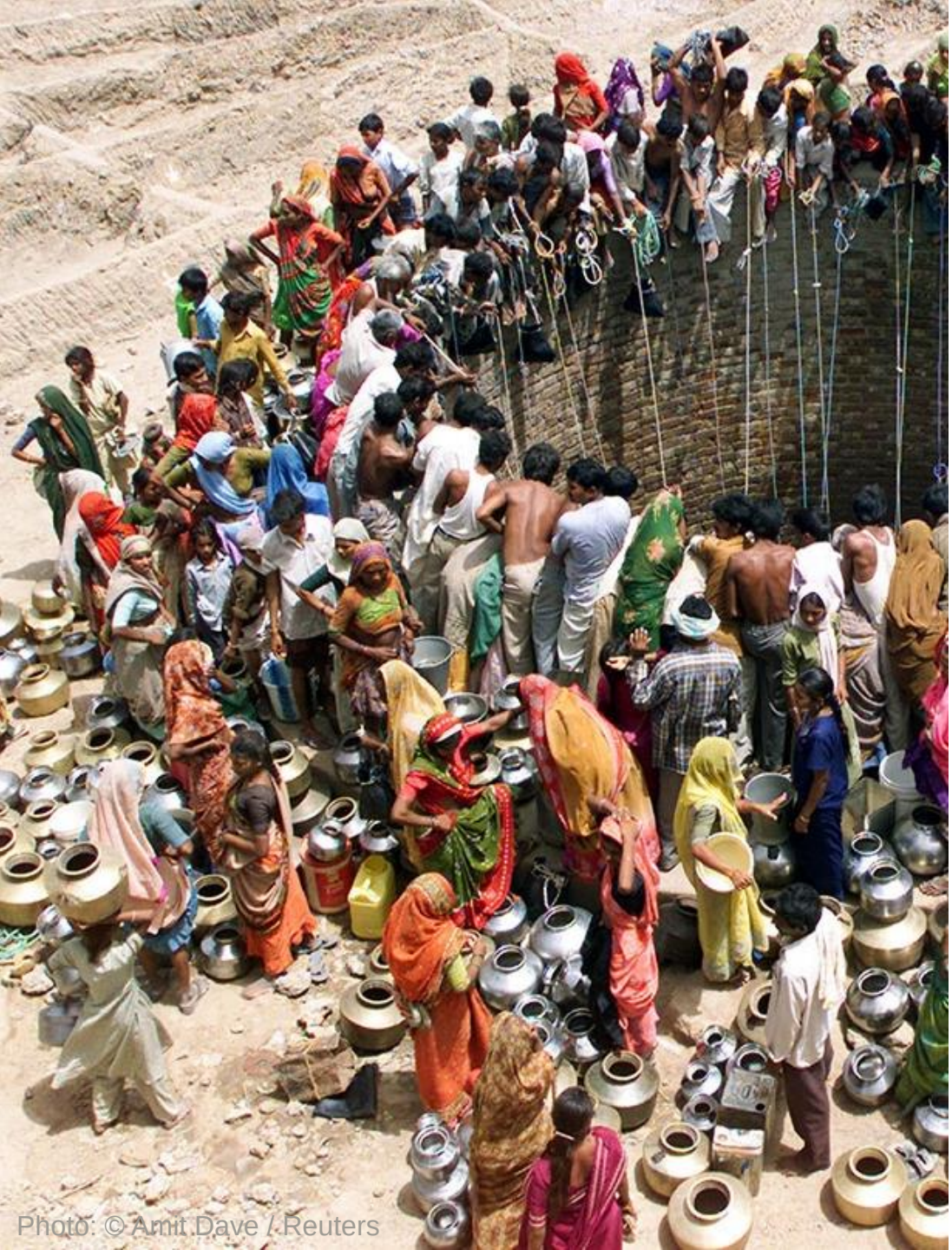


Photo: © Amit Dave / Reuters

Great expectations, tempered by reality

Digital payments can help:

- **Reduce the cost of collections**
- **Scale PAYGo water**
- **Create much-needed transparency**

But no technology can solve for a lack of management, robust processes, or customer centricity

CGAP

GSMA

© CGAP 2018

Discussion

Halima Murunga

Head of Business Development, Wonderkid Ltd

John Ikeda

Senior Financial Specialist, World Bank

Akanksha Sharma

Sr. Insights Manager, GSMA Mobile for Development Utilities

© CGAP 2018

Q&A

Please submit your comments and questions using the chat box. Be sure to send them to "All Participants." Thank you!

Halima Murunga
Head of Business Development, Wonderkid Ltd.

Akanksha Sharma
Sr. Insights Manager, GSMA Mobile for Development Utilities

Daniel Waldron
Financial Sector Specialist, CGAP

John Ikeda
Sr. Financial Specialist, World Bank

CGAP GSMA

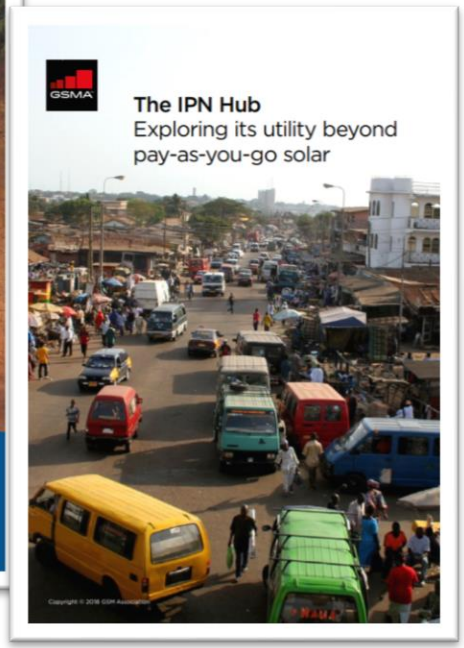
© CGAP 2018

You can write to us @ m4dutilities@gsma.com

Our latest Annual Report

Trends in mobile-enabled water

Learn about the IPN Hub



Toolkit for utility service providers to integrate with mobile money providers

CONFIDENTIAL

Thank you

To learn more, please visit
www.cgap.org

CGAP

CGAP

www.cgap.org

Global Affairs
Canada

Australian Government
Department of Foreign Affairs and Trade