



Imagining the Future

Disruptive Innovation for the Water Sector



WORLD BANK GROUP
Water



GWSP
GLOBAL WATER
SECURITY & SANITATION
PARTNERSHIP

WORLD
ECONOMIC
FORUM



**Innovation is the process of
converting ideas into value**



**Disruptive Technologies are
radically changing the world**

Artificial Intelligence

Internet of Things

Remote Sensing

Blockchain



WBG's new **disruptive technology** strategy

Build

Boost

Broker



Fintech for Water



WORLD BANK GROUP
Water



GWSP
GLOBAL WATER
SECURITY & SANITATION
PARTNERSHIP

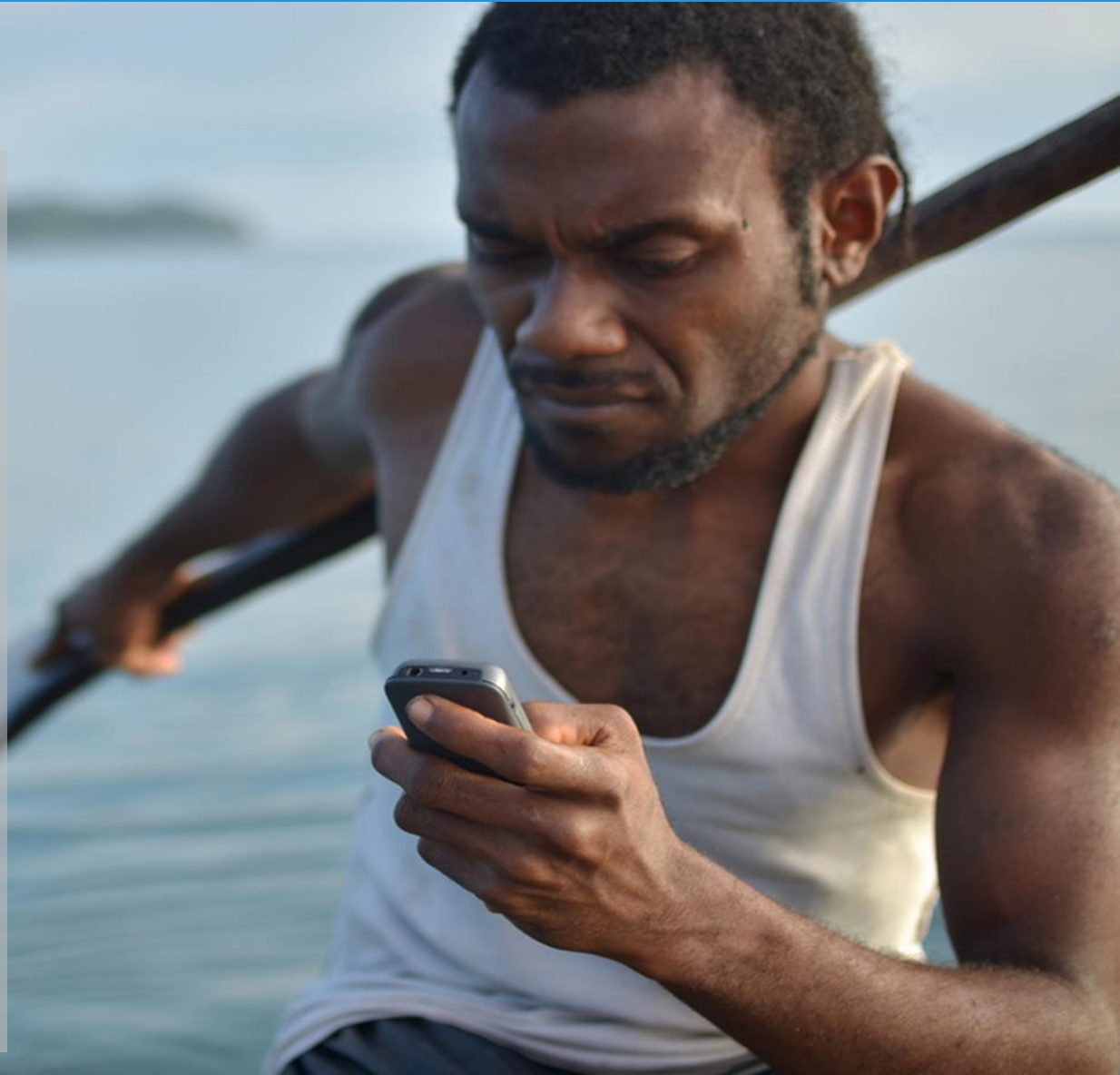
WORLD
ECONOMIC
FORUM

The emergence of fintech is underpinned by the rapid expansion of mobile internet usage

1.75 billion new subscribers by 2025

77% of mobile connections on smartphones

50% decrease in the cost of computing every three years



Fintech offers numerous benefits when compared to traditional financial services



Reduced technology costs and increased competition facilitated by lower barriers to entry make executing a transaction much cheaper using a fintech tool.

Reduced Costs



Fintech eliminates middlemen and geographic challenges from financial transactions allowing individuals to make transfers instantly via mobile money.

Reduced Friction



Fintech solutions are accessible in anywhere a mobile network is present (>80% of the world). Low costs and ease-of-use empower customers who lack technological savvy.

Increased Access



By removing overhead and facilitating small transactions, fintech opens the possibility of offering services only practical where costs are low.

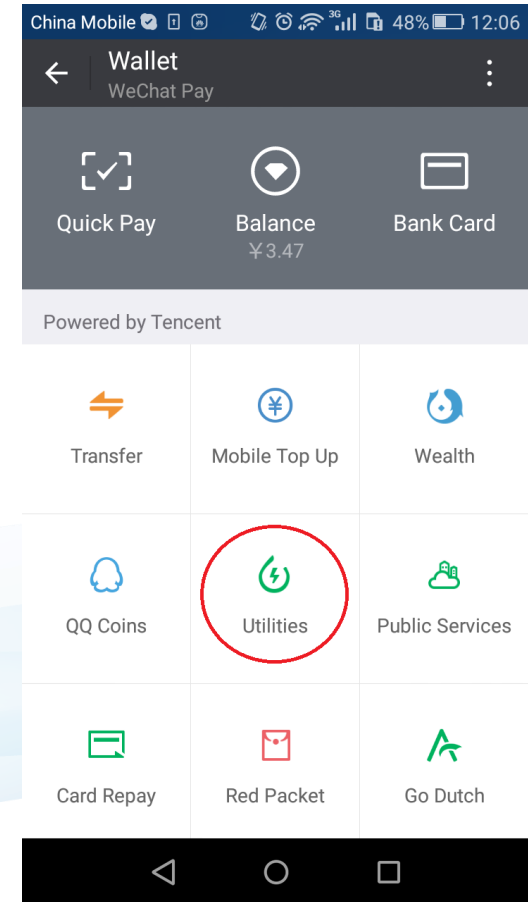
Added Value

Non-revenue water and low collection rates prevent large utilities from expanding access.

Case Study: WeChat – Utility Payments via *mobile money*

Problem: Paper-based billings are inefficient and prone to fraud

Solution: Customers pay their water bill using an e-wallet, allowing utilities to collect quickly and monitor accurate payment and reporting

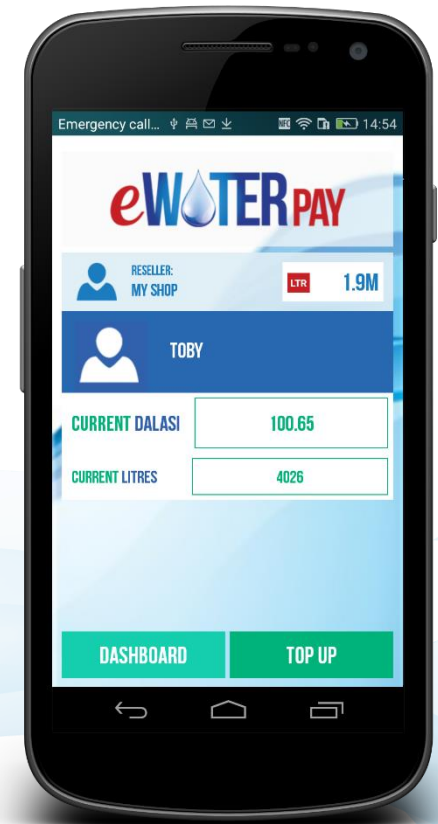


Fintech helps urban households manage the upfront cost of water and sanitation

Case Study: E Water Pay – *blockchain* subsidies for urban water and sanitation services

Problem: Targeted subsidies require excessive overhead, lack transparency, and don't always reach the intended recipients

Solution: Blockchain tokens could be used to subsidize service providers directly to reach underserved urban households



Small-scale service providers lack access to financing and proper accounting.

Case Study: E-Power Cambodia –
Simplified accounting and billing through
cloud-based software

Problem: Small water and sanitation enterprises lack enough managerial sophistication to serve efficiently

Solution: Created a “utility in a box” software for small-scale providers that offers accounting, production management, and a billing system



Fintech provides alternative payment solutions for smallholder farmers

Case Study: Sun Culture – *Pay-as-you-go* to reduce upfront equipment costs

Problem: The initial cost of irrigation systems are too high for most smallholder farmers.

Solution: PAYG shut-off technology covers the price of the equipment so farmers only have to front the installment.





Envisioning the Smart Water Utility





SMART UTILITIES

World Bank



WHY? - COMPLEX CHALLENGES



CREATING A SMART UTILITY



SMART SOURCE WATER MANAGEMENT

Information and management systems for greater control over quantity and quality of raw water sources



SMART WATER TREATMENT

Producing high quality water with lower energy and chemical use



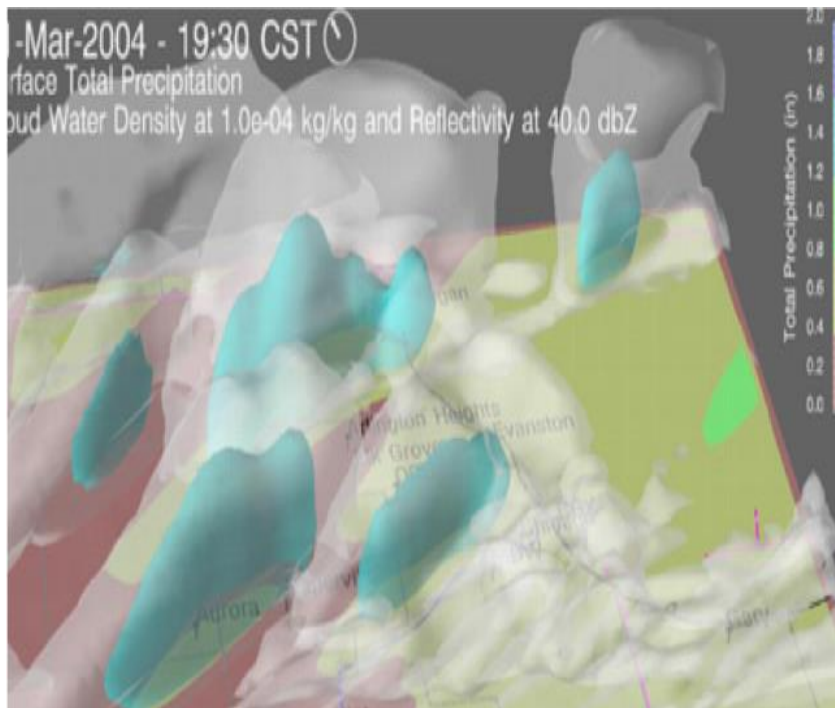
SMART DISTRIBUTION

Alternative supply methods and sensors to reduce water loss and ensure water quality



SMART STORMWATER MANAGEMENT

Alternative supply methods and sensors to reduce water loss and ensure water quality



SMART WASTEWATER TREATMENT

Organica: New thinking to deliver decentralised waste water treatment



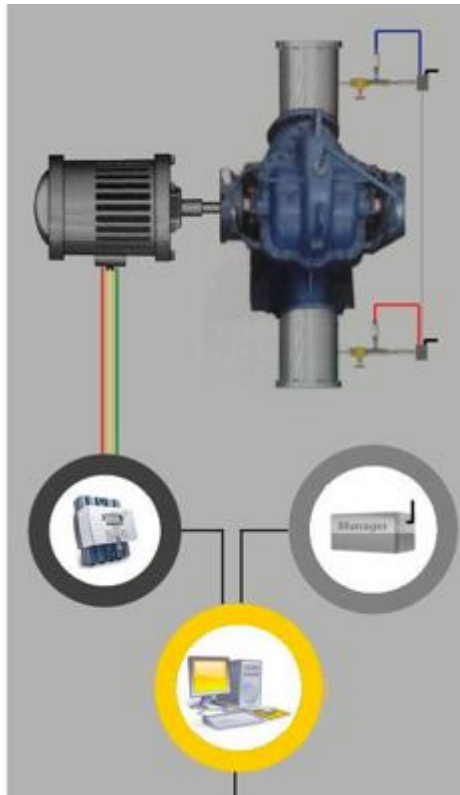
SMART WASTEWATER TREATMENT

Fluence: a containerised wastewater treatment plant



SMART DATA UTILISATION

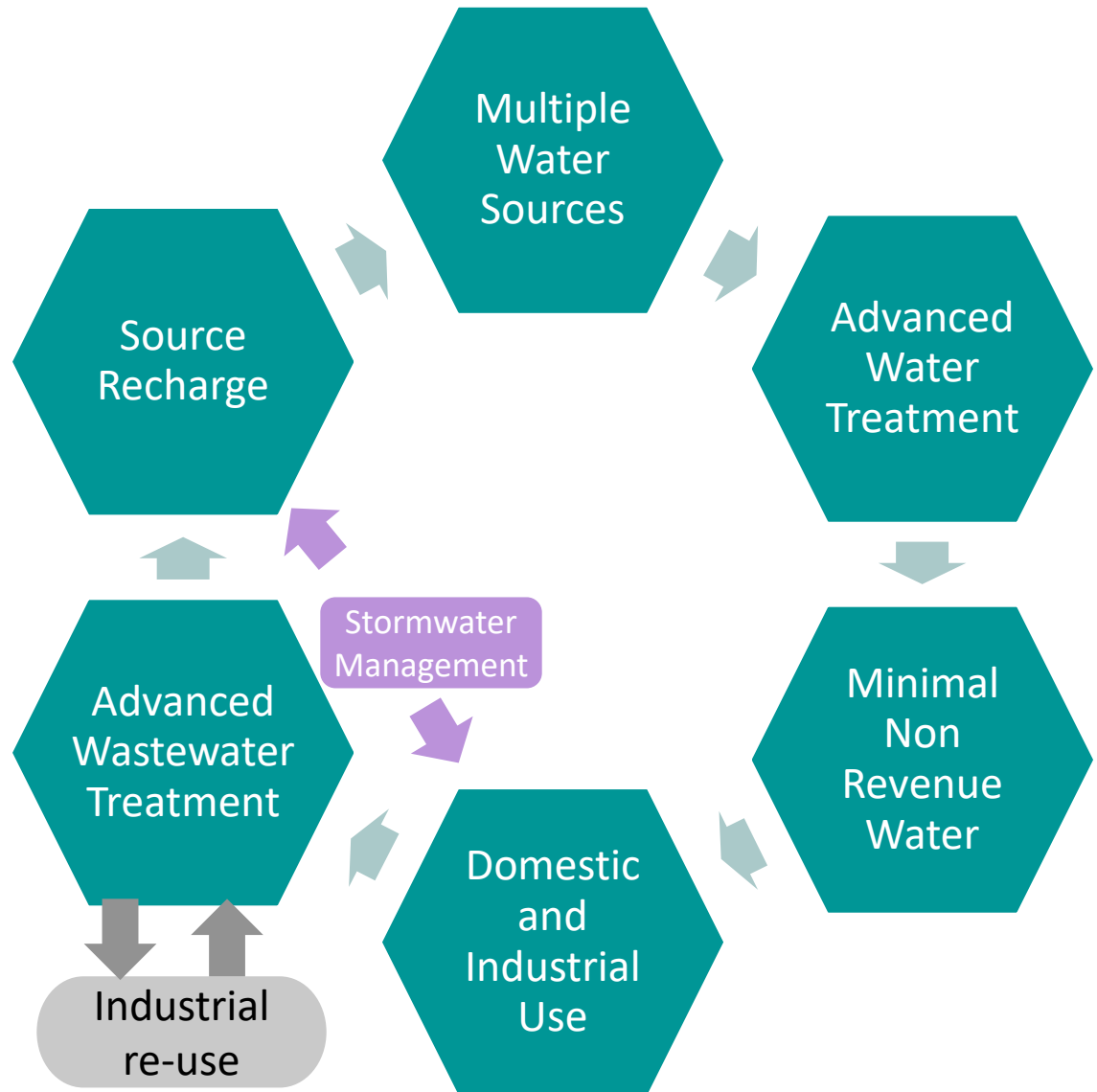
Asset development and management



Summary

Benefits of Smart Utilities

- Optimal use of limited water resources
- Harnessing technology to reduce operating costs
- Energy efficiency and reduced CO₂ emissions
- Reduced environmental degradation





Imagining the Future

Disruptive Innovation for the Water Sector

