

1. SMART KPIS

Business Plan [PDF]	Performance	Evaluation
Service 1. 18,000 Liter/Day 2. 15,300 Liter/Day 3. 85% 4. 86%	Service 1. 30,786 Liter/Day 2. 23,576 Liter/Day 3. 77% 4. 113%	Service 1. 171% 2. 154% 3. 90% 4. 171%
Financial 1. Income Water Sales 2. Expenses 3. Savings Rate 4. Cash Reserve	Financial 1. \$45,900 UGX/Day 2. \$44,828 UGX/Day 3. \$31,032 UGX/Day 4. \$11,000,000 UGX Min	Financial 1. \$70,733 UGX/Day 2. \$68,356 UGX/Day 3. -\$2,567 UGX/Day 4. \$3,876,041 UGX



How to achieve **FINANCIAL SUSTAINABILITY*** in micro rural water utilities using reliable **remote monitoring and fintech technology**

Water System Profile [PDF]

1. Population with Access:	8,000 People in 1,000 Households
2. System Capacity (Solar):	27,252 Liter/Day
3. System Components:	Solar/Generator-Hybrid; Lake Intake; Filtration/Chlorination
4. No. of Distribution Points:	15
5. Asset-Value at Installation:	\$148,370,000 UGX / \$40,100 USD
6. Anticipated OpEx:	\$413,881 UGX / \$110 USD monthly
7. Anticipated OpEx + Savings:	\$1,344,852 UGX / \$360 USD monthly
8. Installation Date:	Aug 1, 2020

- ✓ **Increased Income:** Steady, reliable and transparent income stream through:
 - No easy bypass of post or prepayments of water tariffs
 - No easy bypass of cashless payments, no cash handling, no cash loss
 - No easy fraud or corruption opportunities on the income stream
- ✓ STS water meters are less complex and lower costs (factor 25 to 50) compared to public smart water dispensers, no SIM cards, no water keys, **increased service level, consumption, and income**
- ✓ More robust and reliable compared to other smart water dispensers through independence from mobile phone networks at meter location, **increased income and minimized expenses**
- ✓ No tap operators required for cash collection, documentation and accounting of any finances, related OpEx saved, **minimized expenses**
- ✓ Remote management and reduced management complexity, **minimized expenses**



CHALLENGE

SOLUTION

ACHIEVEMENTS

Around 2 billion people lack access to safe drinking water worldwide, 800 million people in Africa alone. Yet, developing countries are littered with **BROKEN WATER SYSTEMS** because water infrastructure is not maintained. Main causes are:

***PreMa** – Prepayment Remote Management – is an innovative Model which uses **robust TECHNOLOGY** and **actionable DASHBOARDS** for Water Utility **MANAGEMENT** with the potential to disrupt the rural water supply market and to achieve **SDG 6.1: Safe Water on Premises by 2030**.*

1. Insufficient numbers of water distribution points cause long walking distances and long queuing times for water users, resulting in low service levels, low water consumption and low willingness to pay, resulting in insufficient finances for operation and maintenance.

- **ROBUST TECHNOLOGY**
 - Prepaid STS (standard transfer specification) water meters
 - Cashless mobile money payments
 - Cloud based and mobile water management and banking
 - Satellite based sensor data transmissions

2. Cash collections from water consumers at public water points or flat monthly or annual tariffs and paper-based sales recording practices are in most cases inappropriate, ineffective, and inefficient, resulting in no or low tariff collection rates (high non-revenue water rates) and cash mismanagement, resulting in insufficient finances for operation and maintenance.

- **ACTIONABLE DASHBOARDS**
 - Reliable and consistent unbiased data
 - SMART KPIS measuring service and financial performance against business plan
 - None-Revenue water monitoring
 - Utilization of system capacity monitoring

3. Unreliable and fragmented water production and sales data results in no or poor management decisions, resulting in insufficient finances for operation and maintenance at times of breakdown.

- **COMPLIANCE with critical design criteria**
 - SDG 6.1 service level “water on premises” through deploying the concept of “shared and growing numbers of household connections and oversized distribution mains”
 - Solar/Hybrid water pumping
 - Water safety through appropriate water testing and treatment technology
 - Balanced system capacity sizing (no over/under sizing) according to water demand and business plan, life-cycle cost analysis and appropriate tariff structure leading to financial sustainability.



Proof of Concept and Pilot / Mobile Money Integration world-wide / 8 Community Systems in 2 Countries implemented, further Roll-out



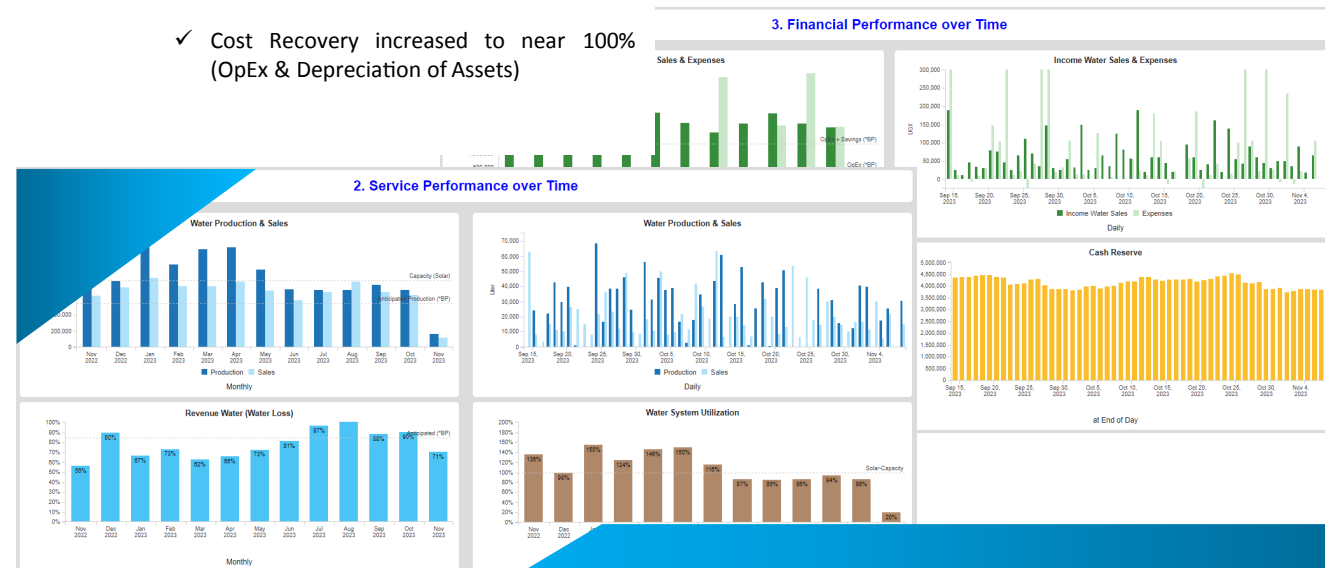
Increased Service level through **Safe Water on Premises** or in an appropriate distance is achieved for all beneficiaries.

PILOT RESULTS

- ✓ Tariff collection efficiency increased to near 100% (cash loss eliminated)
- ✓ Income doubled; Expenses minimized
- ✓ Cost Recovery increased to near 100% (OpEx & Depreciation of Assets)



Reliable and consistent data accessible remotely providing evidence on service level and financial performance of SMART KPIS - real-life example **DASHBOARD** (link below).



***FINANCIAL SUSTAINABILITY** is achieved when **income covers expenses** at the designed service level and throughout the life-cycle of a water system.

<https://portal.mwater.co/#/dashboards/4039a21636304ca4b34ad5c28f457ae2?share=b28585ca3abf424286e72f27dcd39c7>

