Testing and Scaling up the M4Water System in Uganda

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Joseph Abisa, Research Officer Triple-S Uganda

Presentation Outline

- Introduction
- Rational and objectives
- Key system functions
- How the system works – reporting a problem
- progress to date
- Uniqueness of the system
- Costs for national deployment
- Emerging issues and challenges
- Key messages on M4W
- Next steps

Introduction

- Mobile for Water (M4W) is a multi stakeholder collaborative initiative to improve the functionality of rural water sources in 8 districts in Uganda.
  - —Stakeholders: IRC/Triple-S, SNV, Makerere University, Water Aid, Ministry of Water and Environment, Districts
  - —Participating districts: Lira, Kabarole, Arua, Kasese, Kyenjojo, Masindi, Amuria, Katakwi
  - —Details available at http://m4water.org/

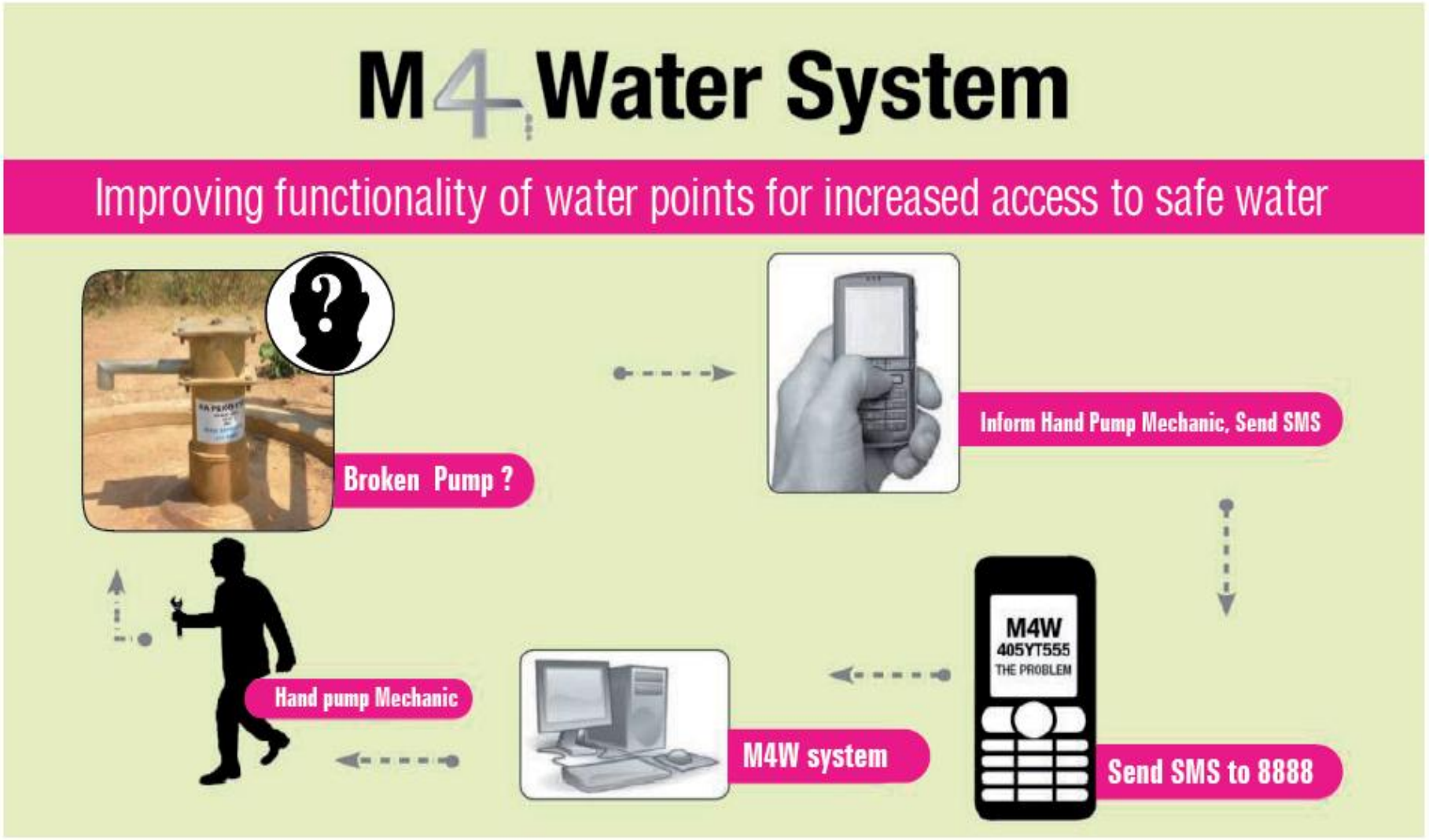
Rationale & Objectives

- Rationale for the initiative:
  - —30 to 40% of systems in Africa don't function at all
  - —20%+ failure rates for hand pump technologies
  - —Lack of accurate data about sources complicates monitoring, evaluating and reporting on rural WASH services
- Objectives of M4W
  - —Improving efficiency in reporting faults
  - —Triggering action to repair non-functional sources
  - —Improving efficiency in updating information systems

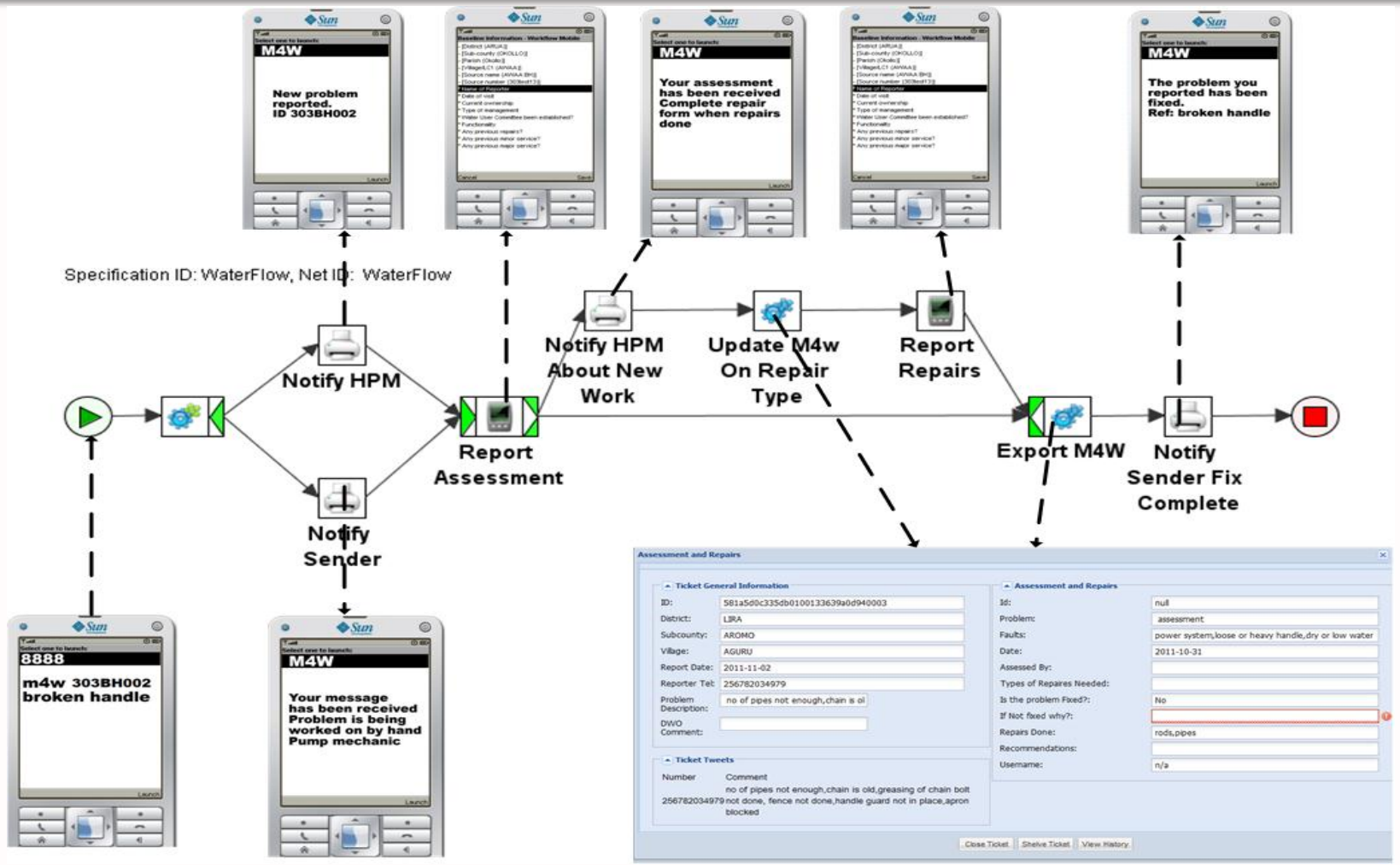
Key System Functions

- Monitoring data
  - Data collected on status of water points
  - Data stored in the District Water Manag't Info Systems
  - Data may be used for updating the national database
- Reporting faults
  - Care taker or community member sends an SMS to 8888
  - System prompts HPM to conduct an assessment
  - Spare parts bought, fixed, water source repaired
- Inspection information
  - H/As collect sanitation information
  - Information is sent into the system at district
  - Information collected based on MWE guidelines

How the System Works



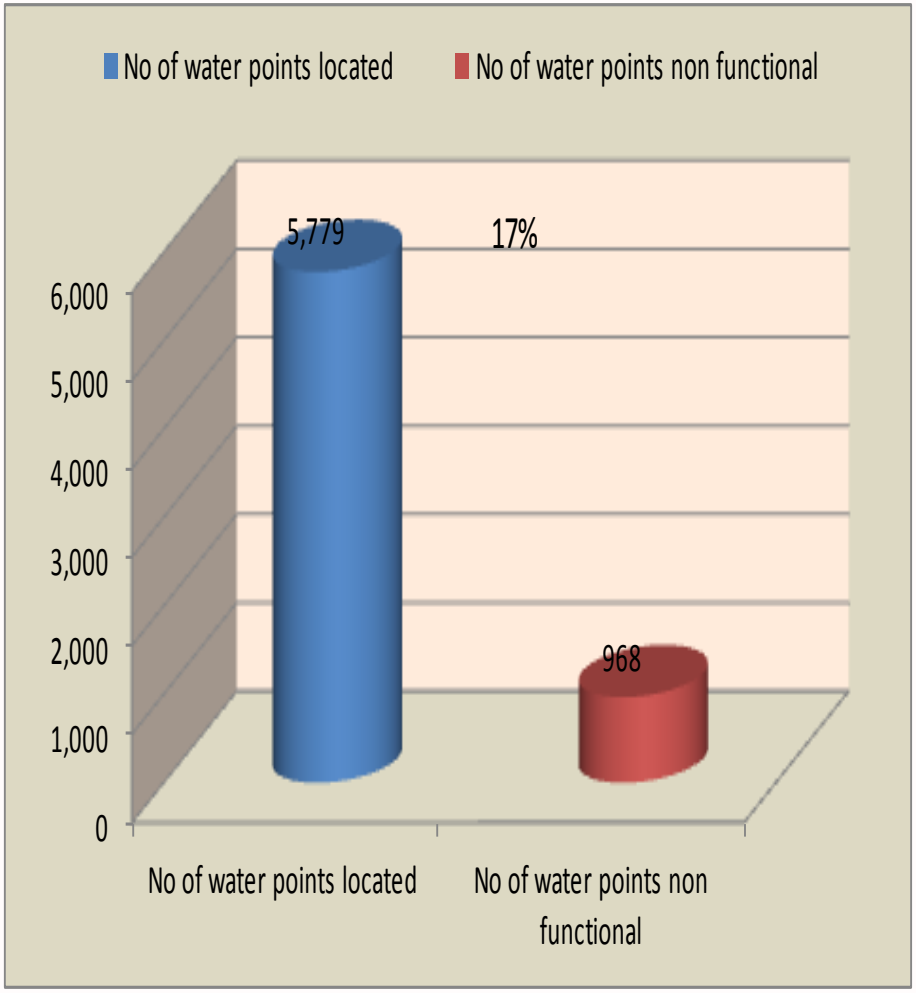
Reporting a problem - Implementation

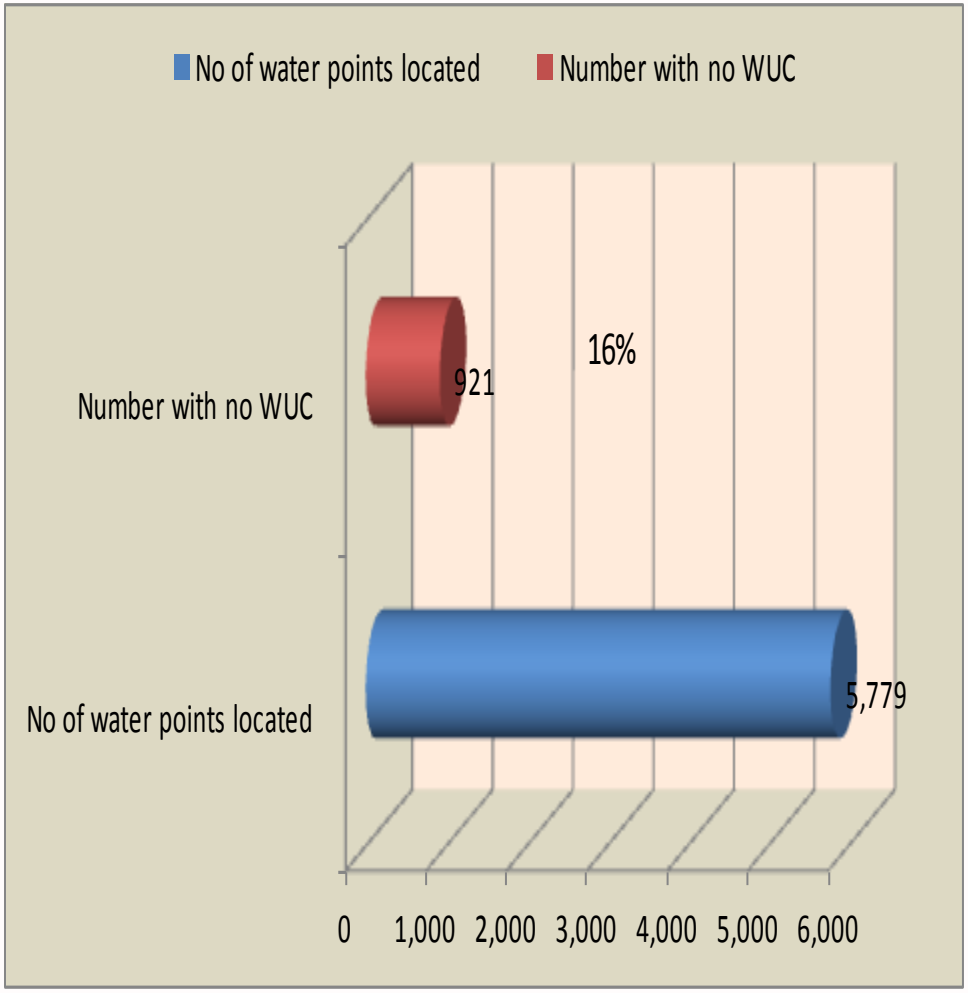


Progress to date

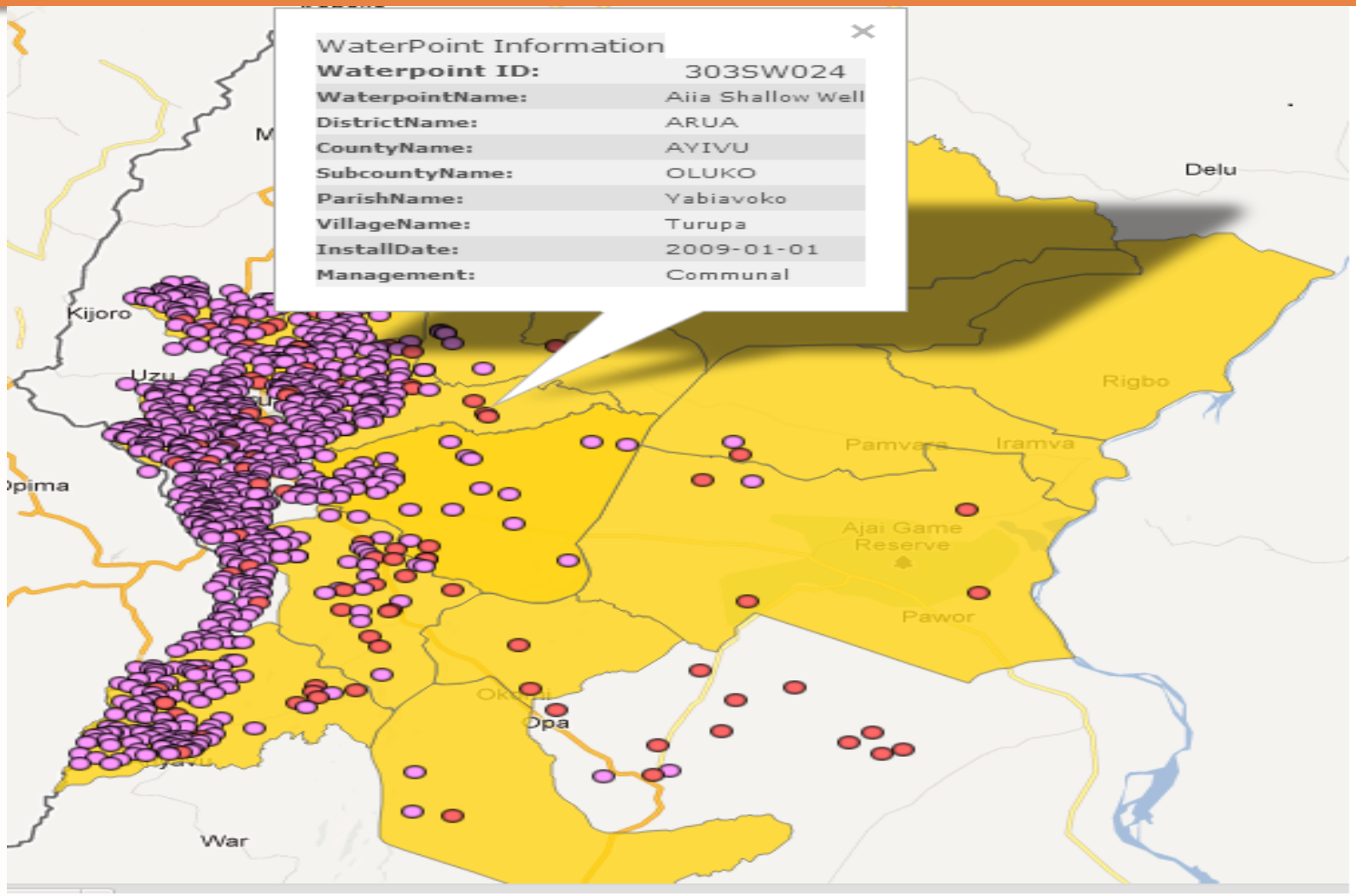
- Communities now reporting faults using the system
- Facilitated the collection of monitoring data
- Improved speed of repairs (27/84 repaired)
- Generated data for updating information systems
- District Water Officers using data for planning
- Improved accuracy of water source information
- System helped identify sources not on database
- Provided information for learning

Management Vs Functionality





GIS Visualization



Uniqueness of M4W System

- Generic and open-source tool for Rapid Application Development (http://openxdata.org)
- Provides instant data for updating MIS
- Data collection at local level, reporting at national
- Monitoring component tracks national indicators
- Use of government structures at national & district levels
- Community involvement encourages sustainability

Total Cost of Ownership

Component	Cost drivers	Examples	Estimates
Phone hardware, Handset devices	Type of handset being used, wear and tear	Nokia/Symbian, Ideos/Android	Low (<=$40) and viable for volume deployment
Software license or service subscription fees	Opensource Vs Proprietary	LAMP, Unix, Linux, Windows,	All open source so no license costs.
Training , Support & Consulting	Handset complexity, Tools complexity, Skills requirements	Training workshops, local champions, System admin, Devt support from Mak	1 MIS admin@2M/month, 1 database Admin@2M/month
Data Transmission	Internet connection, SMS	SMS Data/IP: GPRS, Edge, 3G, 4G, Wi Fi, Bluetooth	National agreements for toll free SMS line. Cost per data upload 2UGX.
Locally hosted Data Centers and Server Hardware	Local IT personnel Lack of power & reliable infrastructure	Local SMS Gateways, database servers, Line of business	Cost per month for server approximately 200 USD

Costs for Nationwide Deployment

No.	Item Description	US $
1	Hardware (280,000 for 1,400 Sub Counties)	156,800
2	Insurance (10% of Hardware) @ year	15,680
3	Data collection (2000/= @ for 144,000)	115,200
4	System Support (5M @ month for 1 year)	24,000
5	Data Center (500,000/= @ month for 1 year)	2,400
	Training and support costs (eight districts)	51,824
6	**Total Projected for Initial Deployment**	**314,080**
7	**Subsequent Recurrent Costs @ year**	**46,080**

Emerging Issues & Challenges

- Limited M4W information use at district level
- M4W data yet to be used for updating WATSUP
- Unique identifiers on water points lost/damaged
- Network connectivity issues
- Loss of mobile phones, dead batteries, etc
- Low capacity of HPMs for data collection
- Need to consider maintenance rather than repair
- Some key questions not yet answered

Key Messages on M4W

- A real potential for updating DWMIS & NWMIS
  - —Data collected directly updates the DWMIS
  - —Data may also be used for updating the NWMIS
  - —Reduced paper work in data collection, entry, analysis etc
- A cost effective tool for monitoring WASH services
  - —National deployment in 120 districts would cost $314,080
  - —Subsequent recurrent costs per year would be $46,080
  - —MWE spent about $1M in 2010 to update the WATSUP
- Use of gov't structures key in rolling out system
  - —Involvement of districts and S/Cs (DWOs, HA, CDOs etc)

Next steps in phase 2 of M4W

- Answering main questions of the initiative
  - —Has M4W reduced on down time in the pilot districts?
  - —Has M4W improved functionality of rural water sources?
  - —Can M4W provide data for updating district and national Water Management Information Systems?
  - —What are the costs of implementing M4W?
- Providing system maintenance services to districts
  - —Provided a service contract to MU (CIT) systems maintenance

Thank You!