

SOLUTIONS FOR RURAL WATER SUPPLY MAINTENANCE



SUSTAINABLE WASH SYSTEMS (SWS) LEARNING PARTNERSHIP IN ETHIOPIA

- Work closely with USAID Lowland WASH Activity
- Seek solutions to sustainability (of rural water services) through engaging stakeholders at local levels and action research (South Ari, SNNPR; and Mile, Afar)
- Strengthening monitoring as a critical entry point (focus on Afar and South Omo)
- Strengthening maintenance through existing government-led support to communities and initiatives (local private sector engagement)
- Key question: can we make these arrangements work, or do we need to look for new financing and maintenance solutions?



FORTHCOMING

- SUSTAINING RURAL WATER: A COMPARATIVE STUDY OF MAINTENANCE MODELS FOR COMMUNITY-MANAGED SCHEMES
- By Harold Lockwood
- There are alternatives to business as usual!

SUSTAINING RURAL WATER: A COMPARATIVE STUDY OF MAINTENANCE MODELS FOR COMMUNITY-MANAGED SCHEMES



FINAL REPORT: DRAFT FOR INTERNAL REVIEW ONLY
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Comments: John B., SMW, REST/CW, IRC Ethiopia, IRC Uganda, Fundifix, Whave, WEG



STUDY OF RURAL WATER SUPPLY MAINTENANCE MODELS

- wanted food for thought on possible more ambitious policy reforms
- desk review of 22 models across 17 countries
- selected 7 case studies for inclusion
- all seek to improve community-based management, by professionalising maintenance services and making these affordable
- Government-led kebele water technician (Tigray region, Ethiopia)
- Private local service providers (SNV, Tigray region, Ethiopia)
- Wahis-Mai programme (REST/Charity:Water, Tigray region, Ethiopia)
- Handpump Mechanics Association (Kabarole district, Uganda)
- Water for Good circuit rider programme (Central African Republic)
- Whave Preventive Maintenance Service Agreements (Kumi, Kamuli, Nakaseke, Uganda)
- Fundi-Fix guaranteed maintenance service model (Kwale and Kitui Counties, Kenya)



KEY DEFINITIONS AND ACRONYMS

- Preventive maintenance: regular inspection and servicing, including replacement of consumable spare parts, to preserve assets and minimize breakdowns carried out on a regular schedule according to the requirements of components of the scheme;
- Corrective maintenance: repair and replacement of broken and worn out parts to sustain reliable facilities; this category can also include what is sometimes referred to as 'crisis maintenance', implying a failure, which requires an unplanned or emergency response to breakdown and user complaints.
- MSP = Maintenance service provision



THE PROBLEM

- Regular preventative and corrective maintenance costs money and an approach based on 'fix on failure' maintenance alone may appear cheaper in the short term.
- Continuing crisis maintenance leads to frequent breakdowns, an unreliable supply, poor service levels, and a lack of user confidence which may be very hard to re-build.
- Long-term reliance on crisis maintenance may ultimately lead to the complete failure of the infrastructure.



TYPOLOGY OF MAINTENANCE MODELS

	Ad hoc – reactive approach		Structured proactive approach		Guaranteed service approach
Principal actors	Local government as provider	Private local service provider	Associations or Federations	Government or NGO circuit rider providers	Private companies or social enterprises (with subsidies) and NGOs
Maintenance tasks	Largely corrective with some preventative and broader support	Largely corrective; occasionally including preventative	Preventative and corrective, with broader advice and support	Preventative and corrective, with broader advice and support	Both preventative and corrective maintenance to ensure guaranteed service based on KPIs
Triggers for maintenance	Demand driven (normally on failure)		Supply driven (scheduled support) and demand driven		Primarily demand driven, but including some supply driven
Extent of CBM activity	High: still relies on CBM to carry out regular O&M tasks		Moderate to high: some tasks assumed by MSP, but still relies on CBM for basic activities		Low: CBM has more limited role, principally for tariff collection
Financing at point of service	Essentially free/ highly subsidised: users may pay for parts and provide labour	Fee payment for unique repairs on case by case basis	Largely subsidised: users may pay for parts and provide labour	Largely subsidised: users may pay for parts and provide labour	Regular flat fee for service based on monthly or yearly basis, or a percentage of tariff revenue

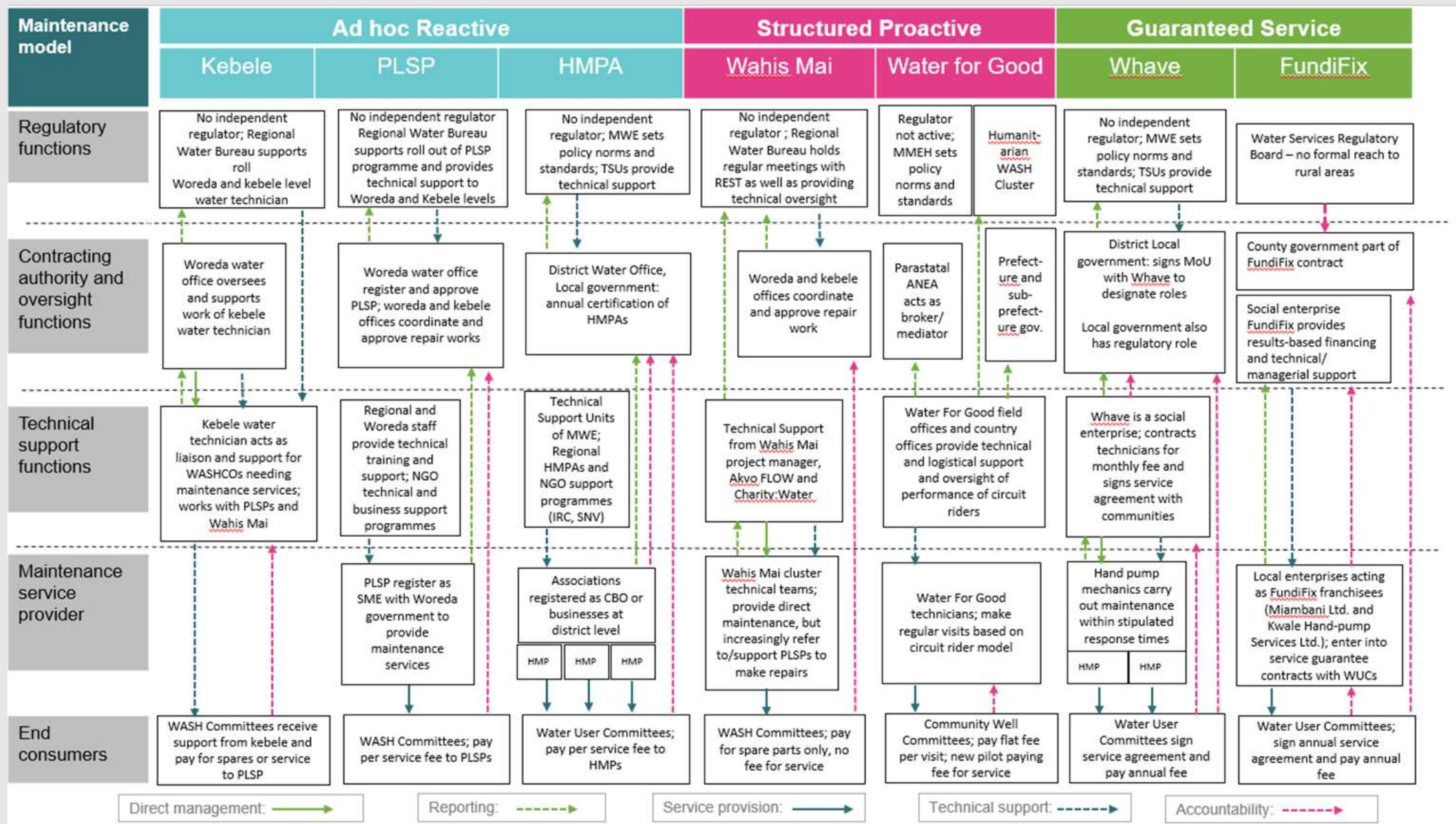


Country	Service Provider Model	Partners	Typology	Intervention Area (I.A.)	Pop. of I.A.	Pop. served directly by model	Functionality rates (average self-reported)	Population density of I.A. (p/sq. km)	Human Dev. Index (rank) (UNDP, 2018)	National GDP per capita, PPP (US\$) (World Bank, 2017)
CAR	Water For Good	Direct provision	Structured proactive	9 of the 16 prefectures in the country	2.1 million	500,000 to 600,000	>90%	Ranges from 5.2 to 13.4 (national average 7.37)	0.367 (188 th)	725.94
Ethiopia Tigray Region (34 woredas)	Govt.-led kebele technician	Woreda and kebele staff	Reactive	National model and in all 34 woredas	4.56 million	4.56 million	No reliable data	91.2	0.463 (173rd)	1,899.20
	PLSP	Direct provision	Reactive	22 of 34 woredas of region	4.56 million	~2.95 million	>93%			
	Wahis Mai	Direct provision and support via PLSP/local government	Reactive – Structured proactive	4,500 of ~17,000 water points across all 34 woredas	4.56 million	~2.95 million	90%			
Kenya	FundiFix	Miambani Ltd. and Kwale Hand-pump Services Ltd.	Guaranteed service	Kitui and Kwale counties	1.66 million	70,000	86%	Kitui: 33.21 Kwale: 78.99	0.590 (142 nd)	3,285.91
Uganda	Whave	Handpump Mechanics Association and local government	Guaranteed service	7 rural districts; due to expand to 10 in 2019	1.6 million	1.1 million	99% (2018)	240.3 (national average)	0.516 (162 nd)	1,863.83
	HPMA	Handpump mechanics and local government	Reactive	National model; Kabarole District	415,600	~300,000	59%	259		



IMPACTS ON FUNCTIONALITY

- 5 out of 7 have had a substantial +ve impact on functionality
- WHAVE have achieved above 98% functionality over past 3 years
- FundiFix are at 86% (well above 60% average in Kitui)
- PLSP model has achieved improvement from 76 to 93%, Wahis-Mai 90% (exceed average of 75% in Tigray)
- WFG's circuit rider model at 90% in CAR
- But HPMA only at 59% (average of 85%), and also low in Ethiopian woredas without an active PLSP





COMMON LESSONS

- Getting the institutional arrangements right and having good governance in place are critical
- In spite of improved financial performance, MSP models require subsidies in the short to medium terms, both at operational level as well as to cover indirect costs of operating the overall enterprise
- Establishing an MSP model is challenging as long as the market is dominated by infrastructure that is already in disrepair and requires upgrading
- To succeed, MSP models need the right markets in which to operate, both in terms of diversification and scale.



- Access to financing, through lines of credit or alternative funding sources, is critical to success
- Investing in monitoring and data collection can help to drive efficiencies, but is as - or perhaps more - important for accountability purposes and in providing robust evidence to inform policy debate
- Politics – and the politics of aid – matters for maintenance services



PRACTICAL INTERVENTIONS TO ESTABLISH AND SCALE MAINTENANCE MODELS

- Map the maintenance system
- Assess the sector policy, regulatory and legislative environment
- Carry out a thorough market analysis
- Wherever feasible and affordable, integrate smart technologies
- Support and link MSP models with financing institutions



Learn more at:

<https://www.globalwaters.org/SWS>

<https://www.ircwash.org/projects/sustainable-wash-systems-sws>

