An AMCOW Country Status Overview

Water Supply and Sanitation in Rwanda

Turning Finance into Services for 2015 and Beyond

wsp water and sanitation program

unicef

The first round of Country Status Overviews (CSO1) published in 2006 benchmarked the preparedness of sectors of 16 countries in Africa to meet the WSS MDGs based on their medium-term spending plans and a set of 'success factors' selected from regional experience. Combined with a process of national stakeholder consultation, this prompted countries to ask whether they had those 'success factors' in place and, if not, whether they should put them in place.

The second round of Country Status Overviews (CSO2) has built on both the method and the process developed in CSO1. The 'success factors' have been supplemented with additional factors drawn from country and regional analysis to develop the CSO2 scorecard. Together these reflect the essential steps, functions and results in translating finance into services through government systems—in line with Paris Principles for aid effectiveness. The data and summary assessments have been drawn from local data sources and compared with internationally reported data, and, wherever possible, the assessments have been subject to broad-based consultations with lead government agencies and country sector stakeholders, including donor institutions.

This second set of 32 Country Status Overviews (CSO2) on water supply and sanitation was commissioned by the African Ministers' Council on Water (AMCOW). Development of the CSO2 was led by the World Bank administered Water and Sanitation Program (WSP) in collaboration with the African Development Bank (AfDB), the United Nations Children's Fund (UNICEF), the World Bank and the World Health Organization (WHO).

This report was produced in collaboration with the Government of Rwanda and other stakeholders during 2009/10. Some sources cited may be informal documents that are not readily available.

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Strategic Overview

Rwanda has made good progress in extending water supply and sanitation coverage during the past few years, under clear political commitment to three complementary sets of targets: the Economic Development and Poverty Reduction Strategy (2012), Millennium Development Goals (2015), and Vision 2020.

The institutional framework has been reinforced by the recently updated National Policy and Strategy for Water and Sanitation Services (2010), addressing all four subsectors. The Ministry of Infrastructure leads coordination of stakeholders in the water supply subsectors, sharing this role with the Health Ministry in the case of sanitation. There are nonetheless outstanding challenges, regarding planning and budgeting, monitoring and evaluation, as well as capacity building at lower levels of government following decentralization.

Rwanda is closing the gap on its targets, but is unlikely to attain the required coverage levels by 2015 without an increase in financing. The coverage trend over the past 10 years for rural water supply demonstrates the country's capacity for developing new projects; while for sanitation the enabling environment and capacity for service development will need to be strengthened further in the medium term. After several years spent on fundamental sector reforms, implementation in the urban subsectors requires attention. For the newly launched public utility, Energy, Water, and Sanitation Authority (EWSA), the main planning and budgeting challenge will be to stay ahead of rapid urban growth.

To meet the national targets for 2015 would require an additional 425,000 people to gain access to improved water supply, and nearly half-a-million to gain access to improved sanitation, each year. Comparing estimates of required capital investment with what is anticipated to be available from government, donors, and households, there is an annual financing gap of at least US$27 million per year. Households' capacity for sharing the costs of water supply capital investments is limited, and the strategy views their main contribution as being towards operations and maintenance costs, through water fees and tariffs. In the sanitation subsectors on-site technologies predominate: household contributions to capital investment are consequently expected to be high, to be supported by limited public subvention and large-scale promotion and education campaigns.

In previous years a third of capital investments have been financed from domestic sources: this proportion is expected to increase annually in the medium term. However, the true extent of available funding in the years to come remains unclear. Annual Public Expenditure Reviews have improved public financial management, but without an agreed sector investment plan, the sector does not yet have a clear view of financing for the 2012–15 period.

The enabling environment for service delivery, although guided by sound policy tools, would benefit from strengthened planning and budgeting instruments, linked to a fully operational monitoring and evaluation system. Transparency and governance in expenditure and output provide a strong basis for project implementation, among central agencies as well as districts.

Sustainability has become a rising concern with decentralization. The rural water supply subsector has switched from a community management model, to one of public-private partnership. Nearly 30 percent of rural water schemes are already managed by private operators and the Economic and Poverty Reduction Strategy aims for 50 percent by 2012. There is thus potential for attracting private investment in the medium term, although public finance for rehabilitation is urgently required, as an estimated 30 percent of infrastructure is still in poor shape.

Benchmarking confirms that the service delivery pathways in Rwanda are in good shape for turning finance into services in the rural subsectors but that urban water supply and sanitation need greater attention.

This second AMCOW Country Status Overview (CSO2) has been produced in collaboration with the Government of Rwanda and other stakeholders.

Agreed priority actions to tackle these challenges, and ensure finance is effectively turned into services, are:

Sectorwide

- Build districts' capacity in terms of the quantity and skills of staff, to the level required to attain sector targets.
- Develop a sector investment plan to guide the balance of investment to each of the subsectors, as urban water supply and sanitation are currently significantly underfunded relative to requirements.
- Utilize modern communication technologies (for example, a user-friendly website), to promote a standard and 'official' set of figures and performance assessments.

Rural water supply

- Encourage donors to join harmonized procedures and to pool funding for rural water supply.
- Publish a national inventory for RWS, including access rates and strategic ratios.
- Develop technical assistance support for private operators of rural schemes.
- Closely monitor O&M performance by RWS operators, to ensure long-term sustainability of water services.

Urban water supply

- Undertake reform and revise tariff to improve operational performance and ensure financial viability of urban water services under the newly established EWSA.
- Update water supply master plan for Kigali taking into account urban growth and projected settlement patterns.
- Promote investment in urban water supply to expand production capacity and expand and rationalize distribution network.
- Develop pro-poor programs to serve low-income households including improved management of public kiosks and social connections.

Rural sanitation and hygiene

- Establish district-level surveys of access and need, to better monitor equity.
- Carry out research into appropriate technologies, aiming at a large-scale transition from traditional to hygienic latrines at affordable cost to households.
- Encourage all projects to follow sector policy on user contributions.

Urban sanitation and hygiene

- Develop an action plan for Kigali, adapted to Millennium Development Goal targets, and based on on-site sanitation for the medium term in line with sanitation master plan.
- Develop private sector involvement in both hygiene promotion and on-site sanitation (latrine equipment, cheaper septic tanks, emptying trucks, and safe dumping sites).
- Improve coordination between MVK (that is, Kigali Town Municipality) and the new utility, Rwanda Water and Sewerage Corporation.


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Contents

Acronyms and Abbreviations

AfDB	African Development Bank
AMCOW	African Ministers' Council on Water
CAPEX	Capital expenditure
CSO2	Country Status Overviews (second round)
ECOSAN	Ecological sanitation
EDPRS	Economic Development and Poverty Reduction Strategy
EWSA	Energy, Water, and Sanitation Authority
EU	European Union
GDP	Gross domestic product
GNI	Gross national income
GoR	Government of Rwanda
HAMS	School Hygiene and Sanitation (Hygiène et Assainissement en Milieu Scolaire)
HH	Household
IDA	International Development Association (World Bank)
JMP	Joint Monitoring Programme (UNICEF/ WHO)
LIC	Low income country
M&E	Monitoring and evaluation
MDG	Millennium Development Goal
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education
MININFRA	Ministry of Infrastructure
MINISANTE	Ministry of Health
MVK	Kigali Town Municipality (Municipalité de la Ville de Kigali)
NGO	Nongovernmental organization
O&M	Operations and maintenance
OPEX	Operations expenditure
PER	Public Expenditure Reviews
PHAST	Participatory hygiene and sanitation transformation
PPP	Public-private partnership
REMA	Rwanda Environmental Management Agency
RSH	Rural sanitation and hygiene
RURA	Rwanda Utility Regulatory Agency
RWASCO	Rwanda Water and Sewerage Corporation
RWS	Rural water supply
SWAp	Sector-Wide Approach
UNICEF	United Nations Children's Fund
USH	Urban sanitation and hygiene
UWS	Urban water supply
VIP	Ventilated improved pit (latrine)
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WSP	Water and Sanitation Program

Exchange rate: US$1 = RWF 583.[1]

1. Introduction

The African Ministers' Council on Water (AMCOW) commissioned the production of a second round of Country Status Overviews (CSOs) to better understand what underpins progress in water supply and sanitation and what its member governments can do to accelerate that progress across countries in Sub-Saharan Africa (SSA).[2] AMCOW delegated this task to the World Bank's Water and Sanitation Program and the African Development Bank who are implementing it in close partnership with UNICEF and WHO in over 30 countries across SSA. This CSO2 report has been produced in collaboration with the Government of Rwanda and other stakeholders during 2009/10.

The analysis aims to help countries assess their own service delivery pathways for turning finance into water supply and sanitation services in each of four subsectors: rural and urban water supply, and rural and urban sanitation and hygiene. The CSO2 analysis has three main components: a review of past coverage; a costing model to assess the adequacy of future investments; and a scorecard which allows diagnosis of particular bottlenecks along the service delivery pathway. The CSO2's contribution is to answer not only whether past trends and future finance are sufficient to meet sector targets, but what specific issues need to be addressed to ensure finance is effectively turned into accelerated coverage in water supply and sanitation. In this spirit, specific priority actions have been identified through consultation. A synthesis report, available separately, presents best practice and shared learning to help realize these priority actions.

2. Sector Overview: Coverage and Finance Trends

Coverage: Assessing Past Progress

From baseline coverage rates of 64 percent for improved water supply and 29 percent for improved sanitation in 1990, Rwanda has made progress over the past decade, leaving a relatively modest gap to reach the government's 2015 targets (Figure 1). According to government data, improved water supply coverage fell to 39 percent following the genocide period, since which coverage has increased yearly by 2.3 percent, reaching 72 percent in 2009. The sanitation subsector also shows sustained progress reaching 45 percent in 2009 but there is no government or other estimate for sanitation coverage following the genocide.

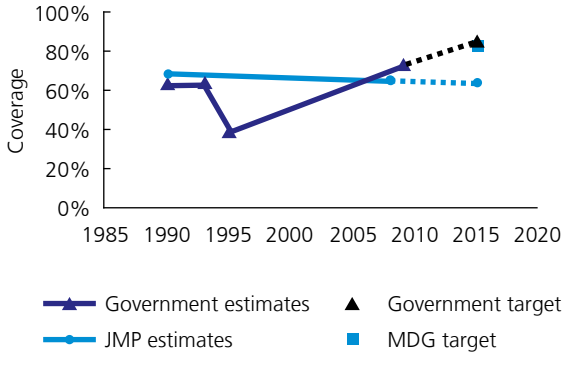
Rwanda has its own 2015 targets: an 85 percent coverage rate for water supply and a 65 percent coverage rate for sanitation. These are aligned with the 2012 Economic Development and Poverty Reduction Strategy (EDPRS) targets (80 percent for water supply and 47 percent for sanitation) and those of Vision 2020 (100 percent for both water supply and sanitation). There is a slight difference between the Millennium Development Goal (MDG) targets as derived from JMP data (which remain the 'official MDG' targets at the international level) and the national targets, which the Government of Rwanda also refers to as MDG targets.

The government's estimates and targets are derived from national infrastructure surveys, published since 1992.[3] They provide estimates of the population served relative to installed facilities, assuming a certain number are served by each facility ('provider data'). The CSO2 also compares countries' own estimates of coverage with data from the UNICEF/WHO Joint Monitoring Programme (JMP).[4] Unlike government estimates, JMP data is based on household surveys ('user data').

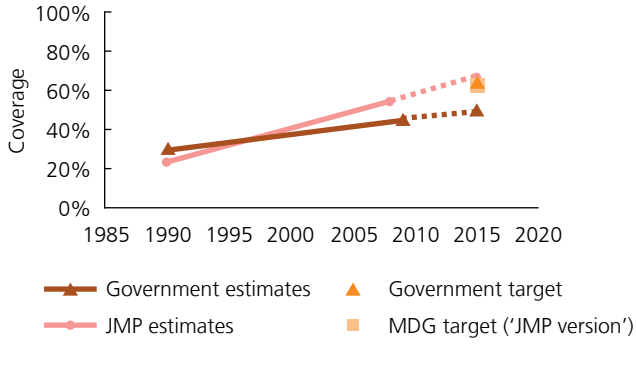
For water supply, the JMP estimates that coverage decreased from 68 percent in 1990 to 65 percent in 2008, while sanitation coverage increased from 23 percent to 54 percent. The JMP trendline for water supply does not, however, capture the drop in services following the genocide, as there were no household surveys between 1992 and 1998. Based on an extrapolation of the later JMP data the water supply MDG target (JMP version) may be missed by as much as 20 percentage points (Figure 1). For sanitation, the JMP trendline indicates progress needs to be sustained at past levels to achieve the MDG target (JMP version). Figure 1 also reveals slight differences in the 1990 baselines used by JMP and government (3 percent for water supply and 6 percent for sanitation), as well as in the 2015 targets: for water supply, 84 percent for the JMP MDG vs. 85 percent for the

Figure 1
Progress in water supply and sanitation coverage

Water supply



Sanitation



Sources: JMP 2010 Report and MININFRA.

government target; for sanitation, 62 percent for the JMP MDG vs. 65 percent for the government target.[5]

Investment Requirements: Testing the Sufficiency of Finance

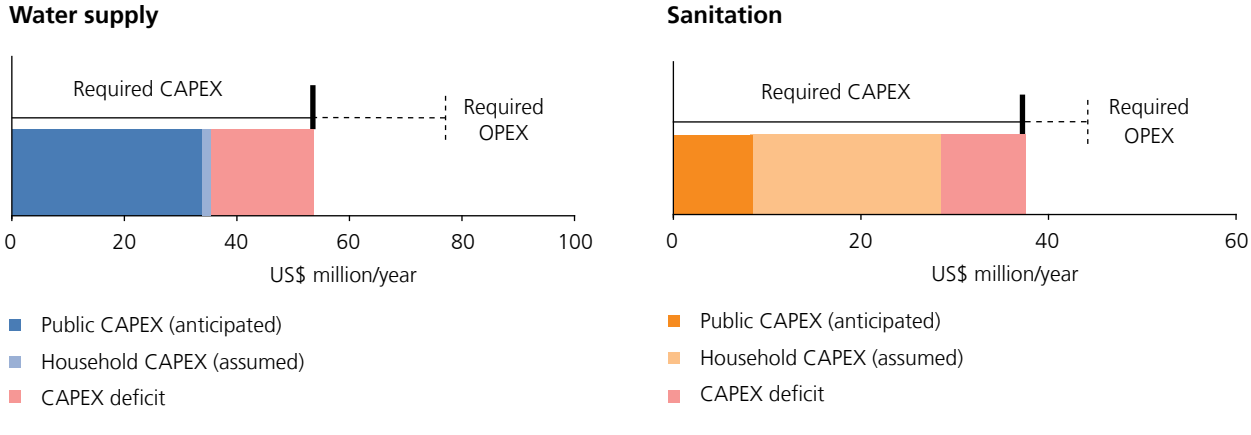
An estimate of the investment required to meet the national 2015 targets was developed using the CSO2 costing model, using data on coverage, technology mix, unit costs, and other variables gathered in 2009, (due to the need for shared baselines and benchmarking across more than 30 participating countries). The CSO2 costing model allows estimated capital investment requirements to be compared with anticipated public investment, and the assumed contribution from households (Figure 2).[6] Investment requirements for operations and maintenance (OPEX) are assessed separately (Table 2). Input data and the costing results were validated by a Ministry of Infrastructure (MININFRA) task force.

The financing requirement based on national targets shows that expanding coverage of improved water supply to 0.425 million people per year[7] will require an estimated annual capital investment (CAPEX) of US$54 million (Figure 2 and Table 1). Of this US$2 million per year is expected to be contributed by households (5 percent contribution in rural areas; no user contribution in urban areas), leveraged by the US$34 million per year anticipated in public investment (domestic and donor). This leaves a funding gap of US$18 million per year, even assuming that funds can be allocated optimally between rural and urban subsectors (the current projections suggest the deficit is larger for rural water supply).

Achieving improved sanitation access for just under half-a-million people a year to meet the national target is estimated to require annual capital investments of US$38 million per year (Figure 2 and Table 1). Users are expected to bear around 70 percent of costs in rural and urban areas (on-site sanitation remaining dominant for the period), but this will require sufficient inputs from government and donors to leverage household funds. With US$9 million per year anticipated in public sanitation capital investments (US$8 million of which is for rural sanitation), a US$9 million per year deficit remains, mainly in the urban sanitation subsector. Given the rapid population growth of the capital Kigali—expected to grow to over a million people by 2015—there is likely to be demand for more sophisticated and expensive sanitation technology options, including sewerage with implications for higher CAPEX requirements.

The above figures are based on Government of Rwanda coverage data, and their version of the MDG targets for 2015. If the costing is repeated using coverage and MDG targets derived from the JMP 2010 Report, the investment requirement would be around 17 percent higher for water supply, and 20 percent lower for sanitation (2 percent more overall). This is due more to differences in estimates of current coverage between the government and JMP, than differences in their versions of the MDG targets, which are slight (see Figure 1).

Figure 2
Required vs. anticipated (public) and assumed (household) expenditure



Source: CSO2 costing.

Table 1
Coverage and investment figures[8]

	Coverage		Target	Population requiring access	CAPEX requirements		Anticipated public CAPEX			Assumed HH CAPEX	Total deficit
	1990	2009	2015		Total	Public	Domestic	External	Total		
	%			'000/year	US$ million/year						
Rural water supply	62%	72%	85%	330	42	40	12	18	30	2	11
Urban water supply	93%	76%	85%	94	12	12	1	3	4	0	8
Water supply total	**65%**	**72%**	**85%**	**425**	**54**	**52**	**13**	**21**	**34**	**2**	**18**
Rural sanitation	29%	44%	65%	405	28	8	2	6	8	18	3
Urban sanitation	38%	54%	65%	85	10	3	1	0	1	2	6
Sanitation total	**29%**	**45%**	**65%**	**490**	**38**	**11**	**3**	**6**	**9**	**20**	**9**

Sources: MININFRA, JMP 2010 Report, and CSO2 costing.

The contribution of local government and small nongovernmental organizations (NGOs) to estimates of anticipated public investment is not fully accounted for, due to inadequate documentation, implying a slight overestimation of the financing gap. On the other hand, while in Rwanda there is an implicit assumption that operations and maintenance costs (OPEX/O&M) will be recovered from users this is not always the case. For rural water supply the national policy of promoting public-private partnership (PPP) for O&M has delivered good results over the past three years. But private operators are not yet fully professionalized and district offices in charge of PPP monitoring are yet to adjust to their new role. The risk is that operating costs are met while more major maintenance is underfinanced, storing up even larger rehabilitation costs when systems fail, which would need to be subsidized with public capital finance. Table 2 and Figure 2 show that, especially in the case of water supply, the additional O&M costs are significant.

For sanitation, the majority of costs are expected to be met by users, with public investments equivalent to 30 percent of total CAPEX. However, the absence of a clear user contribution policy, with adequate 'software' to back it up, may restrict actual contributions from households (for the costing model the ratio of public/household contributions was estimated by a MININFRA task force). Leveraging the required household contributions will in any case require a major scaling up of promotion campaigns—Hygiene as envisaged in the Sanitation Presidential Initiative (HSPI) which has raised the profile of existing programs

Table 2
Annual O&M requirements

Subsector	O&M US$ million/year
Rural water supply	19
Urban water supply	6
Water supply total	**24**
Rural sanitation	4
Urban sanitation	3
Sanitation total	**7**

Source: CSO2 costing.

such including Community Based Environmental Health Promotion Program (CBEHPP) and the school hygiene and sanitation program (HAMS, *Hygiène et Assainissement en Milieu Scolaire*). These software costs are additional to the capital investment requirements as discussed earlier.

These considerations are only part of the picture. Bottlenecks can, in fact, occur throughout the service delivery pathway—all the institutions, processes, and actors that translate sector funding into sustainable services. Where the pathway is well developed sector funding should turn into services at the estimated unit costs. Where it is not, the above investment requirements may be gross underestimates. The rest of this report evaluates the service delivery pathway in its entirety, locating the bottlenecks and presenting the agreed priority actions to help address them.

3. Reform Context: Introducing the CSO2 Scorecard

While the rural water supply sector began to take shape in the 1960s, and an urban utility was created in 1976, the first National Sectoral Policy was developed only in 1992. It has subsequently been revised four times to include emerging issues such as: community management and demand responsive approaches (1997); decentralization and reinforced participation (2004); and sanitation and the environment (2010). Analysis of the sector's recent history puts the service delivery pathway in context, which can then be explored using the CSO2 scorecard, an assessment tool providing a snapshot of reform progress across the 'building blocks' that make up the pathway in each subsector: three building blocks which relate to enabling services; three which relate to developing new services; and three which relate to sustaining services. Each building block is assessed against specific indicators and scored from 1 to 3 accordingly.[9]

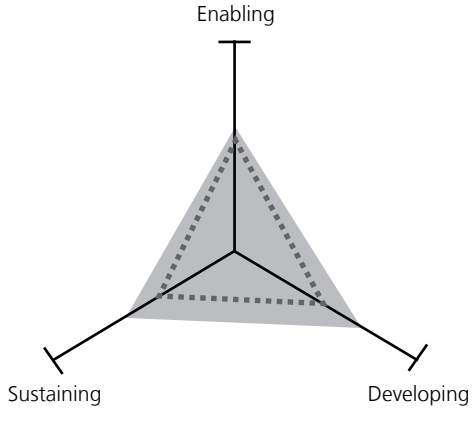
In 1994 Rwanda was afflicted by a genocide that destroyed hundreds of thousands of lives. The human tragedy was accompanied by a loss of capacity and the widespread destruction of WSS infrastructure. Against the 1990 baseline, water supply coverage declined by more than 20 percent. A following period of emergency programs resulted in neglected maintenance, low investment, and abandonment of cost recovery.

Reforms to address these monumental challenges have been varied. In terms of developing the enabling environment for service delivery, the decentralization process has seen steps towards bottom up planning (the National Decentralization policy was launched in 2000 and the process entered its second phase in 2006)[10]. But a five-fold reduction in the number of staff in central government has not been compensated for at district level; districts now lack technical support from central WSS institutions as well as skilled staff of their own. There are promising developments under way to harmonize donors' funding procedures. Though not yet a fully-fledged Sector-Wide Approach (SWAp), in 2008 harmonized procedures for project implementation (technical and financial) were adopted by major funding agencies (the World Bank, African Development Bank, European Union, and International Development Association).

Moving downstream along the service delivery pathway, reforms to enhance development of new services on the ground, as well as the sustainability of those services, have been put in place for both rural and urban water supply. For rural water supply (RWS), the aim has been to improve cost recovery by moving from community management to private operators, with the introduction of local PPP. In urban areas the public utility underwent a series of reform process from 2003, first separating water supply from electricity, but concluding in 2010 with a new combined electricity and water public utility (that is, the Energy, Water and Sanitation Authority, or EWSA), which has also added sewerage management to its mandate. Though the sanitation sector has received less emphasis in these reforms, its share of attention has been growing since 2004.

Figure 3 shows Rwanda has developed relatively strong capacities throughout the service delivery pathway (enabling, developing, and sustaining services), giving confidence that the country is able and ready to absorb larger amounts of money and successfully translate them

Figure 3
Average scorecard results for enabling, developing, and sustaining service delivery, and peer-group comparison



Source: CSO2 scorecard.

into sustainable services. Rwanda performs consistently better than its peers—low-income countries with a GNI below US$500 per capita (Atlas method).

Sections 4 to 6 highlight challenges across three thematic areas—the institutional framework, finance, and monitoring and evaluation (M&E). The related scorecard indicators, which give an empirical basis for evaluation, are presented at the beginning of each section. The scorecards for each subsector are presented in their entirety in Sections 7 to 10.

Table 3
Key dates in the reform of the sector in Rwanda

Year	Event: Rural	Year	Event: Urban
1964	Rural water supply delegated to an NGO for the whole country, under Government of Rwanda financing	1976	REGIDESO, created in 1939 and covering Rwanda and Burundi, is replaced by ELECTROGAZ, a national monopolistic public utility managing power and water in urban areas (Kigali city and 14 secondary towns by 2009)
1978	Participatory approach introduced by NGOs		
1992	First national policy on WSS		
1994	Genocide, followed by humanitarian and emergency programs up to 1999		
1997	Update of national water policy (demand responsiveness, community management through Regies Associatives)	1999	ELECTROGAZ monopoly removed and sector liberalized
2001	RURA (multisectoral regulatory agency) created		
2006	Decentralization process enters second phase, with central staff reduced by factor of five		
2007	National Strategy on Sanitation and Promotion of Hygiene		
2008	Management of environment, water resources, and water supply services separated between three ministries Law passed for the use, conservation, protection, and management of water resources Environmental Health Policy (MINISANTE, the ministry of health) Government of Rwanda participates in AfricaSan II and signs the eThekwini Declaration		
2009	SWAp MoU signed National WSS Policy fourth revision (decentralization, PPP, and sanitation)	2009	Rwanda Water and Sanitation Corporation (RWASCO) launched
		2010	Establishment of EWSA (Energy, Water and Sanitation Authority) to absorb RECO (energy) and RWSACO (water and sewerage)

4. Institutional Framework

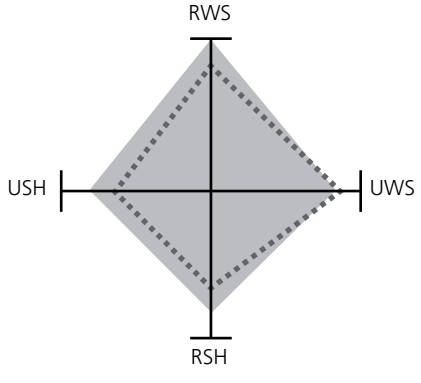
Priority actions for institutional framework

- Build districts' capacity, in terms of the quantity and skills of staff, to the level required to attain sector targets.

Since 1992 Rwanda has had a clear policy for water supply, which has been regularly adapted, is well known to stakeholders, and supported by the central authorities. Each policy revision has been developed through a broad participative process. The last update (gazetted in April 2010) aimed to integrate such concerns as decentralization, national quality standards, hygiene behavior, dissemination of rainwater harvesting techniques, industry development, chemical and biological pollution, and private sector investment. Critically, sanitation has also now been recognized as a national priority.[12] Figure 5 shows the main institutions active in the sector, and their roles.

Related scorecard indicators, which look at the extent to which national targets, policies, and institutional roles have been put in place, show that all subsectors perform similarly, with Rwanda performing better than the average for its regional peer group (Figure 4). The following paragraphs highlight outstanding challenges for the institutional setup of the sector

Figure 4
Scorecard indicator scores relating to institutional framework compared to peer group[11]



Rwanda average scores

Averages, LICs, GNI p.p. <=$500

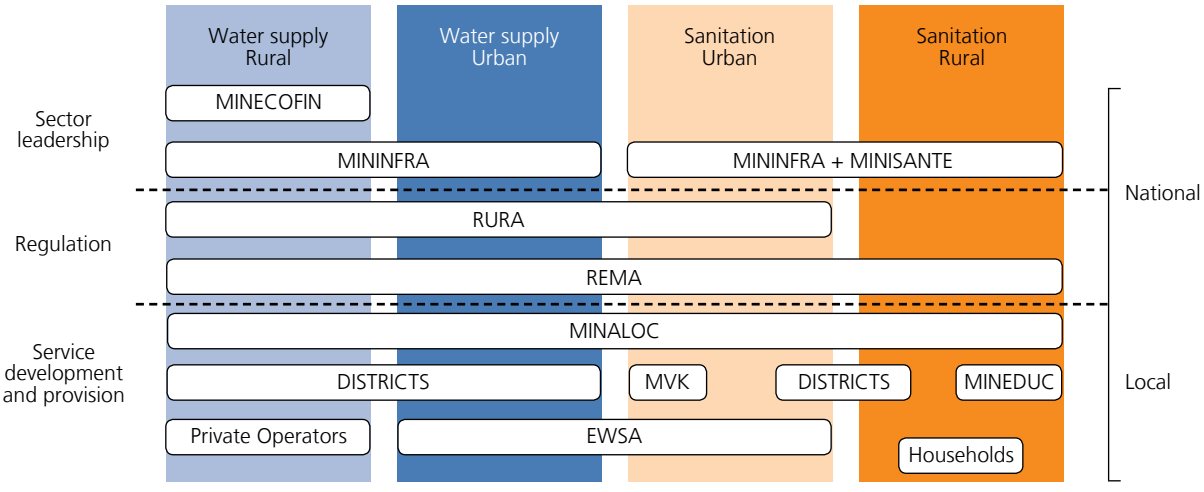
Source: CSO2 scorecard.

Decentralization: Ensuring capacity at local levels. Rwanda's decentralization process was intended to develop district-level service delivery capacity, in parallel with significant staff reductions in central government. However, districts have not yet received the financial resources and skilled staff required to boost WSS service delivery, and still need support in planning, implementation, monitoring and evaluation, capacity for which is now limited in central government. Even though they have been consolidated from 90 to 30 in number, districts are struggling to obtain the same level of operational capacity and experience as was previously available at national level.

Regulation: Developing Rwanda Utility Regulatory Agency's (RURA) presence and powers in rural areas. Regulation works reasonably well for urban water supply services. For rural water supply the RURA lacks sufficient field-level capacity to monitor and regulate relations between districts, private operators, and users. An appropriate operating model for the RURA to supervise all the districts and the dozens of small-scale operators has yet to be established. Urgent strengthening of the RURA is required in this regard, especially with private operators expected to manage 50 percent of schemes by 2012.[13]

Donor coordination: Ensuring sufficient focus on sanitation and underprivileged districts. Donors could do more to reinforce equity in terms of the attention they give both to sanitation and to underserved

Figure 5
Institutional roles and relationships in the water supply and sanitation sector



MININFRA (Ministry of Infrastructure): National policies, guidelines and strategies for the WSS sector, enhancing institutional and human resource capacity of districts, monitoring the implementation of government policies. Leads WSS sector stakeholder coordination
MINECOFIN (Ministry of Finance and Economic Planning): Responsible for budgeting and financing of WSS, participates in fixing utility rates. External Finance Unit, Central Public Investment, and External Finance Bureau manage external funds, including project approval and implementation monitoring. Key actor in improving external aid coordination
MINALOC (Ministry of Local Government): Decentralization process, management of RWS projects by grassroots communities. Ensures local institutions contribute to effective service delivery, aiming at community and socioeconomic development. Funds small-scale WSS projects
MINISANTE (Ministry of Health): Provides preventive, curative, and rehabilitative services. Supports MININFRA in promoting hygiene and monitoring water quality
MINEDUC (Ministry of Education): Cooperates in implementing hygiene programs
RURA (Rwanda Utility Regulatory Agency): Regulates water supply and sanitation services. Allows fair competition and protection of both consumers and operators, facilitates private sector involvement (PPP)
REMA (Rwanda Environmental Management Agency): Monitors and facilitates fundamental right to live in a healthy and balanced environment
MVK (Kigali town municipality) and **Districts**: Organize access to proper sanitation for their populations (including solid waste collection, transport and disposal). Districts are committed to agreed goals through a performance convention passed with MINALOC. They are also in charge of providing safe water and organizing supply services
EWSA: Energy, Water and Sanitation Authority that has absorbed RECO (Energy) and RWSACO (water and sewerage). Launched in 2010

Source: Various.

areas of the country. There is general agreement that each donor will concentrate on a specific area of the country until EDPRS and MDG targets are met. However, due to limited M&E it is difficult to establish whether the benefit is equitably distributed across the country. A programmatic approach could better harmonize procedures, especially if it supports the development of sector basket funds.

Rural operators: Reinforcing professionalism in public-private partnerships (PPP). A strategy launched in 2007 to promote the involvement of private operators in managing rural water schemes shows signs of success. However, while both districts and operators see local PPP as a way to address performance and governance issues in existing community management regime, they aren't yet equipped for PPP at scale. The rules of engagement are not yet sufficiently clear to ensure a sustainable benefit for all stakeholders. Thus far, the spirit of partnership between public and private partners has often decreased once contracts are signed. Based on recent studies and expert reports, enhanced professionalism appears to be a key challenge in strengthening the PPP strategy.[14]

5. Financing and its Implementation

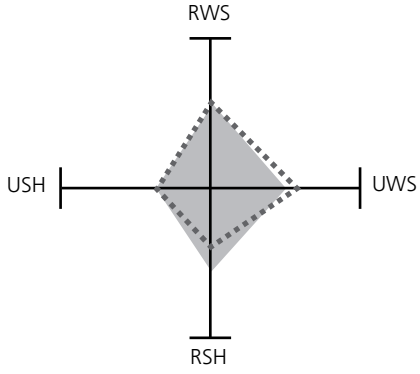
Priority actions for financing and its implementation

- Develop a sector investment plan to guide the balance of investment to each of the subsectors, as urban water supply and sanitation are currently significantly underfunded relative to requirements.

The scorecard indicators relating to finance range from the development of a SWAp and costed investment program, to the overall sufficiency of finance and extent of its utilization (foreign and domestic). As can be seen from Figure 6, Rwanda's finance indicators are slightly above the average for the peer group for all subsectors except urban water supply. Outstanding challenges include the projected annual financing gaps for all subsectors (elaborated in Sections 7 to 10), and utilization of donor funding which is below 75 percent across subsectors. In addition to the priority action to develop investment planning, outlined above, harmonizing donor funding modalities may help to address low utilization rates.

Effective strategies: Developing a business plan for the MDGs. Rwanda is committed to three coordinated and closely linked sets of targets: EPDRS 2012, MDG 2015, and Vision 2020. Up to 2012 progress will be closely monitored via the EPDRS roadmap. Additionally, it has been announced that the eThekwini commitment will soon be met (0.5 percent of GDP dedicated to sanitation and hygiene).

Figure 6
Scorecard indicator scores relating to financing and its implementation, compared to peer group[15]



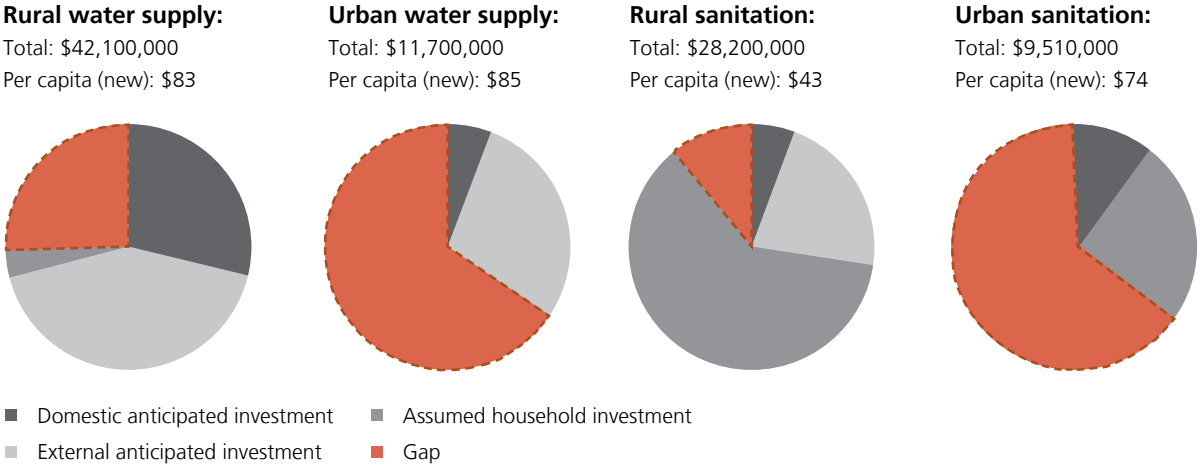
Source: CSO2 scorecard.

However, to realize these targets, a detailed needs-assessed business plan for reaching the MDGs is required to guide investment. In spite of regular increases in the domestic budget, boosted by budget support, reliance on donor project funding to the WSS sector is high. The lack of clear investment guidance in the run up to 2015 could influence outcomes especially in the urban subsectors, which are particularly underfunded relative to requirements, despite urgent need in Kigali to develop and rehabilitate the water supply system and to build a modern sewerage and treatment system. The rural sector appears comparatively well financed, though in absolute terms, the deficit for rural water supply is the largest. Figure 7 shows the balance of anticipated CAPEX, between donor finance, households (expected contribution), and domestic finance, as well as the projected capital financing gap (red color), if each of the four subsectors' national targets are to be achieved.

Despite attracting the largest share of public finance, rural water supply won't fill its 25 percent gap in the run up to 2015. The 65 percent gap for urban water supply reflects the long and uncertain reform process, which discouraged medium-term planning and investment. Anticipated rural sanitation financing appears almost sufficient at a nationwide scale, but this hides great regional disparities. The challenge is more obvious for urban sanitation, with low investment anticipated from

the government and virtually none from external donors. Both urban and rural sanitation are heavily dependent on household contributions, which will require additional public resourcing for hygiene promotion and sanitation marketing ('software'). Hygiene promotion may have benefits for the rural water supply subsector, as the per capita average use of clean water is very low over the country (less than 5 liters per day).[16]

Figure 7
Overall annual and per capita investment requirements and contribution of anticipated financing by source



Source: CSO2 costing.

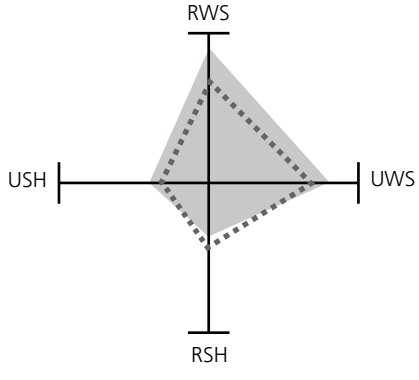
6. Sector Monitoring and Evaluation

Priority actions for sector monitoring and evaluation

- Utilize modern communication technologies (for example, a user-friendly web site), to promote a standard and "official" set of figures and performance assessments, made visible and accessible to nonexperts.

Sector M&E has made progress but this is mostly a secondary benefit from sector coordination efforts, as a full M&E system, with dedicated tools and a departmental unit, isn't yet in place. Divergent data and reports are published by multiple organizations, using inconsistently implemented field surveys and varying definitions. Performance assessment of operators and districts is limited, restricting the government's ability to advise and control. As shown in Figure 8, water supply subsectors nevertheless perform well across scorecard indicators relating to M&E compared to the peer-group. Both sanitation subsectors perform less well—political commitment to sanitation being a fairly recent development (2007–08). Figure 9 shows the M&E cycle in its current state.

Figure 8
Scorecard indicator scores relating to sector M&E, compared to peer group[17]



Source: CSO2 scorecard.

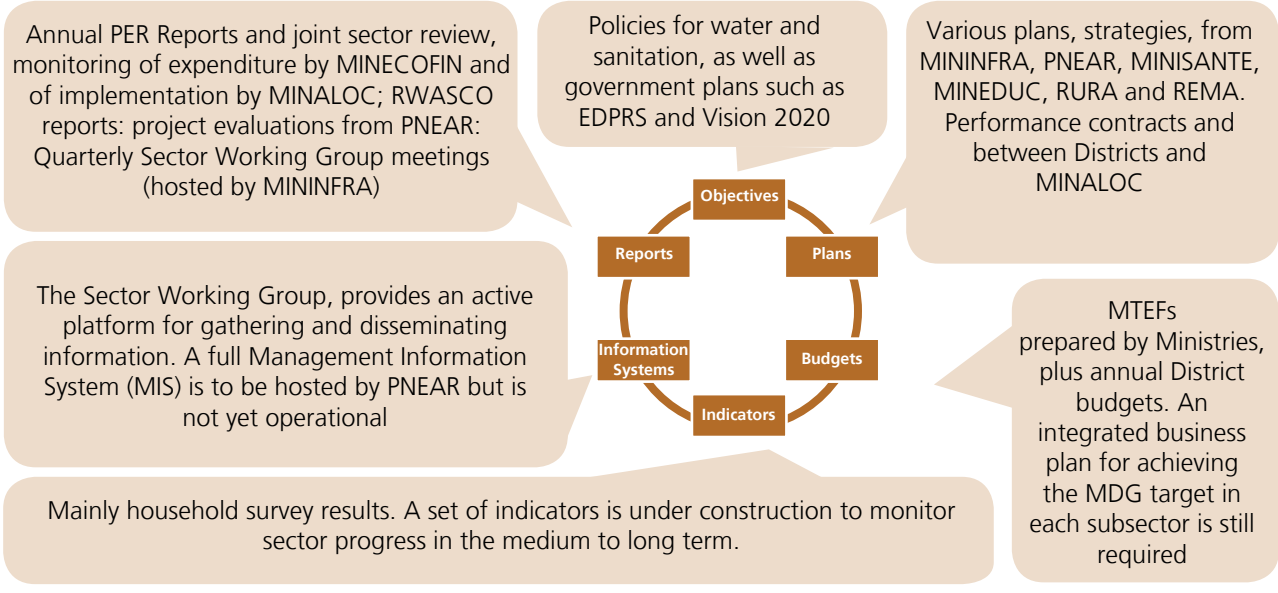
Public expenditure reviews (PERs): Further improving value. Since 2005 Rwanda has held annual sectoral PERs, complemented by an annual 'joint sector review' with donors (each April). Existing PERs bring together budgets, actual expenditure, and output data. The quality of the PERs is increasing each year, but coherence between successive reports could be improved, and expenditure as well as output data are incomplete at the district level. The PERs could also provide more strategic projections, linking analysis to targets (for example, the MDGs). This would further emphasize the need for a budget structure better able to provide a breakdown of local and subsector expenditure.

Rural water monitoring: Maintaining the database. National surveys of RWS facilities have not been regularly updated since decentralization. A new management information system is expected, but in the meantime an accurate understanding of where the facilities are in each district or of local access rates, is limited. As a consequence, evaluation of rehabilitation needs, or assessment of operational performance of the PPP strategy, is difficult. When specific studies are conducted, they are restricted to small sample populations and do not feed into the framework of a wider sector M&E system.

Definitions and standards: Ensuring consistency. While policies and strategies are regularly updated, the definitions on which they rely are not fully standardized, resulting in confusion when implementing or monitoring. Household surveys are regularly undertaken, the last one in 2008 (Interim Demographic and Health Survey, IDHS) but indicators are not coordinated with WSS national policy definitions, or with the institution responsible for

services (MININFRA). Accurately assessing access to WSS facilities is complicated by varying definitions of what an acceptable 'source of drinking water' or hygienic toilet is. Finally, modern tools such as web sites with free and user-friendly access, have not been explored for data presentation or dissemination of guidelines.

Figure 9
The monitoring and evaluation cycle in the Rwandan water sector



Source: Various.

7. Subsector: Rural Water Supply

Priority actions for rural water supply

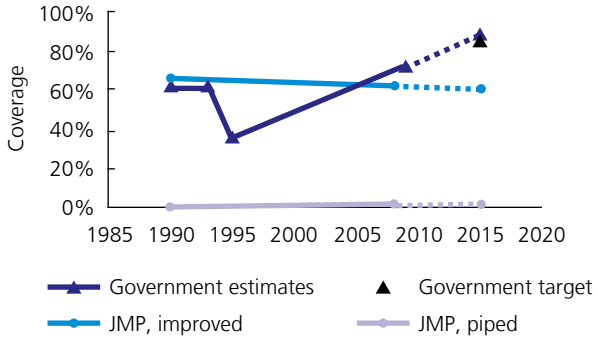
- Continue advocacy for donors to join harmonized procedures and basket funds.
- Publish a national inventory for RWS, including access rates and strategic ratios. A triennial update and publication would shape a recognized standard and promote 'official' survey results.
- Develop technical assistance support for private operators, exploring the potential contribution of modern communication technologies available in Rwanda.
- Closely monitor O&M performance by RWS operators, to ensure long-term sustainability of water services.

The government's estimates from MININFRA show coverage of 72 percent in 2009.[18] This progress was made from a post-genocide low estimated by the government to have been 36 percent. If the trend continues at these rates, the government's 2015 target of 85 percent may well be met. The JMP estimates access to be lower (62 percent), with a falling trendline from a higher 1990 estimate.[19] However, as explained in Section 2, the JMP trendline does not capture the drop in services following the genocide, as there were no household surveys between 1992 and 1998.

Data sources also differ, with the JMP assessing use through household survey data, and MININFRA providing estimates based on the number of facilities (which is not the same as actual use). Neither method addresses quality and quantity, for instance, the WHO's 20 liters per capita criteria. Piped coverage (household connections) remains limited in rural areas (1 percent).

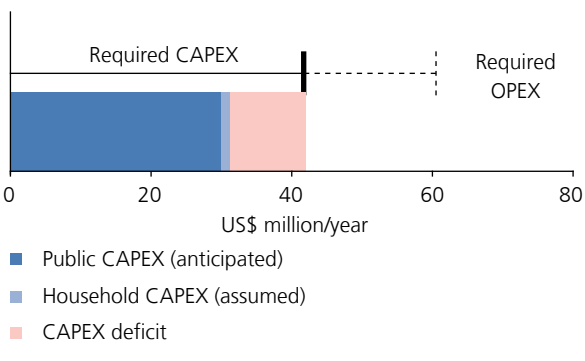
The CSO2 estimate of required capital investment to meet the government target shows a shortfall of US$11 million per year (Figure 11), assuming anticipated public investment of US$30 million per year and household contributions of US$2 million per year (users meeting 5 percent of the cost of any scheme). The CSO2 estimates additional OPEX requirements of US$19 million per year, which are expected to be covered by users, boosted by the PPP framework. Appropriate regulation and monitoring is

Figure 10
Rural water supply coverage



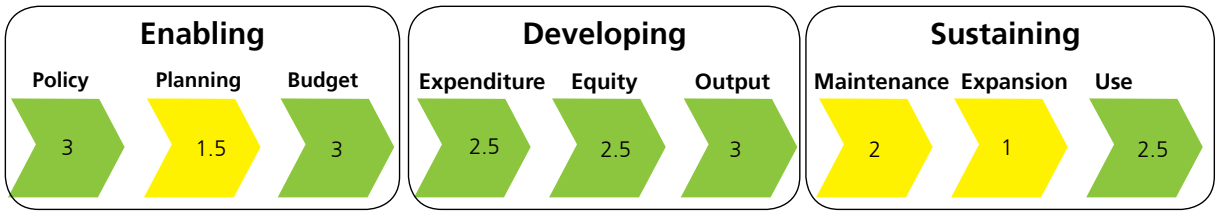
Sources: JMP 2010 Report and MININFRA.

Figure 11
Rural water investment requirements



Source: CSO2 costing.

Figure 12
Rural water supply scorecard



Source: CSO2 scorecard.

required to adapt tariffs to economic constraints, to avoid OPEX becoming a burden on public finance in the form of deferred maintenance and rehabilitation needs.

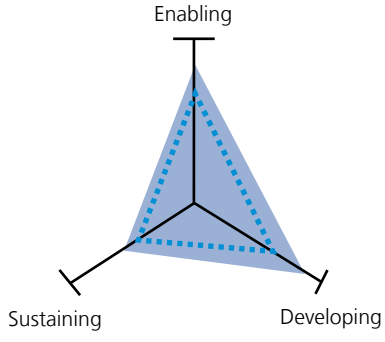
Authorities have, up to now, focused on structural reforms, including consolidation of approaches and harmonized project procedures and financing. Despite the challenges of decentralization (severe decrease in human and logistical resources in central institutions, without equivalent increase in district-level capacity), this has led to good and sustainable results during the 2005–09 period.

The subsector scorecard (Figure 12) indicates that enabling conditions for progress towards the MDG target are good, with sound **policy** and **budgeting**. The scorecard uses a simple color code to indicate: building blocks that are largely in place, acting as a driver on service delivery (score >2, green); building blocks that are a drag on service delivery and require attention (score 1–2, yellow); and building blocks that are inadequate, constituting a barrier to service delivery and a priority for reform (score <1, red).

Planning, however, suffers from the lack of a specific MDG business plan, which does little to attract additional financing. Capacity for developing services on the ground is also good, with high utilization rates for domestic funds, and national-level **expenditure** monitoring. **Equity** also registers a high score, with allocation criteria used to target funds to underserved areas, and local participation encouraged at every stage of project cycle, with clear responsibilities assigned, as a pillar of both EDPRS and Vision 2020.

Building blocks relating to sustaining services also score reasonably. **Maintenance** of existing infrastructure is improving with the introduction of private management

Figure 13
Average RWS scorecard scores for enabling, developing, and sustaining service delivery, and peer-group comparison



Source: CSO2 scorecard.

(PPP strategy), with a target of 50 percent of rural schemes to be managed by private operators by 2012. Nonetheless, the real standard of O&M executed by private operators needs to be monitored, and fee rates require regulation. **Expansion** suffers from the lack of planning at the district level to keep pace with increasing demand; PPP potentially offers new opportunities for financing expansion, pending adapted contract conditions. The score for the **Use** indicator is, in part, attributable to the success of demand-responsive programs at the district level. Benchmarking Rwanda against its peers (Figure 13) shows above-average performance throughout the service delivery pathway. The scorecard performance suggests good potential for contributing to meeting the MDG target, inhibited by availability of finance rather than subsector processes—though monitoring and investment planning should be strengthened.

8. Subsector: Urban Water Supply

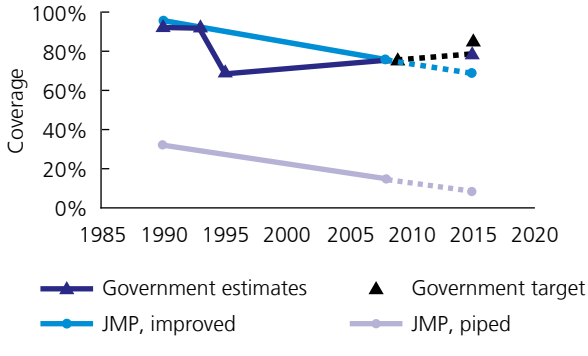
Priority actions for urban water supply

- Undertake reform and revise tariff to improve operational performance and ensure financial viability of urban water services under the newly established EWSA.
- Update water supply master plan for Kigali taking into account urban growth and projected settlement patterns.
- Promote investment in urban water supply to expand production capacity and expand and rationalize distribution network.
- Develop pro-poor programs to serve low-income households including improved management of public kiosks and social connections.

The urban water supply subsector shows an overall negative trend relative to 1990 baselines, whether estimated by MININFRA using provider data (76 percent in 2009)[20] or the JMP using household surveys (77 percent in 2008). Meanwhile, EWSA (the public utility in charge of urban water supply and sanitation) puts current coverage at 71 percent.[21] Again the JMP trendline does not capture the drop in services following the genocide. What the trend over the period also masks is very rapid urban expansion. There were nearly five times as many Rwandans living urban areas in 2008 as compared to 1990—an increase of 1.4 million urban dwellers. Thus, despite the rapid expansion of number of connections since 2005—from 45,000 to about 78,000—the percentage of the urban population with access has inevitably dropped since 1990 and led to a need for greatly increasing the raw water supply to urban areas. JMP estimates of household connections also show a decreasing trend since 1990 (from 32 percent to 15 percent in 2008).

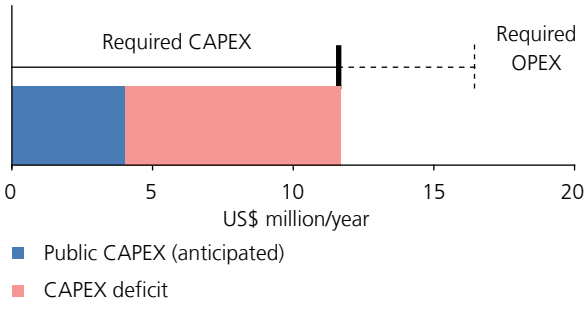
To reach the government target, the CSO2 costing model estimate indicates a total capital investment need of US$12 million per year. Without any expected household contribution, anticipated investment of US$4 million per year leaves a shortfall of US$8 million per year (Figure 15). An additional OPEX requirement of US$5 million per year

Figure 14
Urban water supply coverage



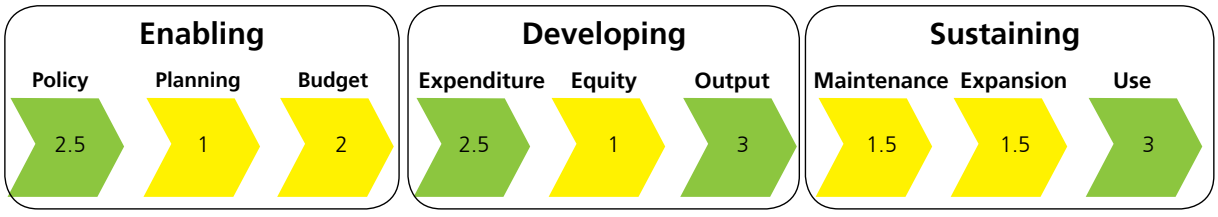
Sources: JMP 2010 Report and MININFRA.

Figure 15
Urban water investment requirements



Source: CSO2 costing.

Figure 16
Urban water supply scorecard



Source: CSO2 scorecard.

is expected to be covered from user fees, as it has been in past years: cost recovery may improve with forthcoming regulation of water pricing.

The subsector scorecard shows that the enabling environment of the urban water supply service delivery pathway is reasonably well developed (Figure 16). Though the **policy** building block scores high, **planning** is limited by the slow evolution of the urban utility reforms, and the absence of a sectorwide approach based around a full needs assessed business plan. The recently launched EWSA should develop such a plan and build upon renewed donor interest in the subsector.

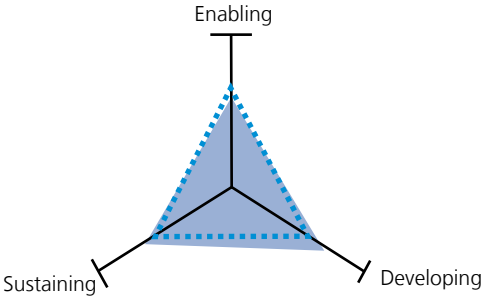
Building blocks of the service delivery pathway relating to developing services are strong, relative to peer group, showing potential to develop new services despite a negative coverage trend over past decades. The score for **equity** is limited, however, showing the lack of procedures and criteria for enhanced targeting, resulting in unequal service delivery across urban areas, with some suffering severe shortages.

Building blocks relating to sustaining services have the highest average score—not least because of the retention of experienced ELECTROGAZ (now RWASCO) operational staff. In terms of maintenance, the score is reduced by levels of nonrevenue water, which has deteriorated from about 30 percent in 2005 to about 37 percent in 2009.[22] The underlying operational costs for the water utility are driven up by a high dependence on imported energy (47 percent of recurrent expenditure) and chemicals (25 percent of recurrent expenditure).

Revenues from water supply services are well below operating costs; current operating ratio stands below 0.6. The recent tariff study has recommended modulated increases to bring the operating ratio slightly above 1 but still far from full cost recovery.

The **expansion** of the network, especially to secondary centers, was a major challenge for the stability of RWASCO's finances (together with reducing nonrevenue water)—especially as it managed sewerage and was not able to subsidize water supply costs through power tariffs, as ELECTROGAZ could. RWASCO had limited managerial autonomy. The degree of financial and operational autonomy afforded to the urban water services department under the EWSA framework is yet to be fully defined. The main source of finance in the near term is likely to be external partners. Partners would, however, want to have a clear understanding of EWSA finances and the flows of revenues and expenses between its components departments.[23]

Figure 17
Average UWS scorecard scores for enabling, developing, and sustaining service delivery, and peer-group comparison



Source: CSO2 scorecard.

9. Subsector: Rural Sanitation and Hygiene

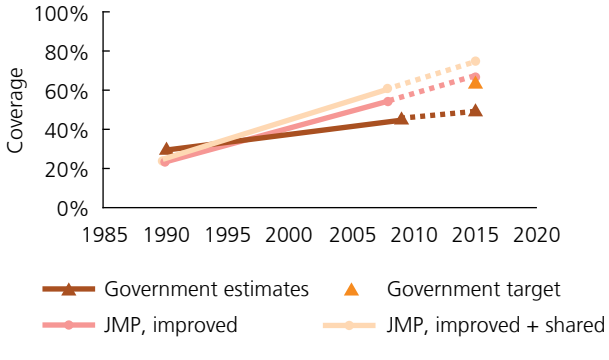
Priority actions for rural sanitation and hygiene

- Define coordinated standards and a methodology for surveying and sector evaluation.
- Establish district-level surveys of access and need, to better monitor equity.
- Carry out research into appropriate technologies, aiming at a large-scale transition from traditional to hygienic latrines at affordable cost to households.
- Encourage all projects to follow sector policy on user contributions, and to invest a significant share of their budget (15 percent at least) in sanitation software and hardware, with the aim of leveling access rates with the water supply subsectors in the medium term, and achieving universal access by 2020.

For 2009 MININFRA uses its own survey data to establish 44 percent as the official national access rate and the baseline for future monitoring. The JMP trendline incorporates a 2008 household survey, the results of which MININFRA has queried,[24] yielding a 55 percent access rate for 2008. For 1990, meanwhile, MININFRA estimates coverage at 29 percent, based on an average from successive JMP reports.[25] The latest JMP report (2010 issue) estimates 1990 coverage at 22 percent. A major point of debate is how to define a hygienic household sanitation facility in Rwanda's rural subsector, which partly underlies the conflicting survey results.

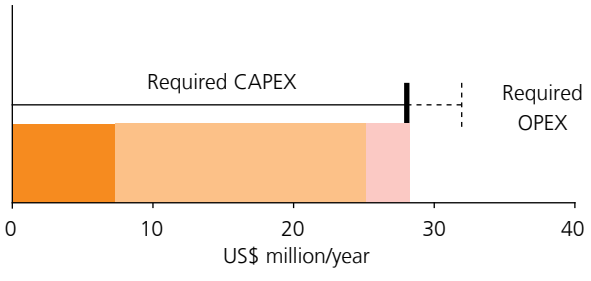
The CSO2 estimates capital investment requirements of US$28 million per year to achieve the national subsector target of 65 percent coverage (Figure 19). Anticipated public investment of US$8 million per year (which includes some finance for promotion and hygiene awareness campaigns) is expected to leverage household contributions to a capital of around US$18 million per year,[26] leaving a US$3 million per year deficit. The CSO2 estimates additional annual OPEX requirements of US$4 million per year, which are expected to be fully covered by households (as sanitation facilities are private).

Figure 18
Rural sanitation coverage



Sources: JMP 2010 Report and MININFRA.

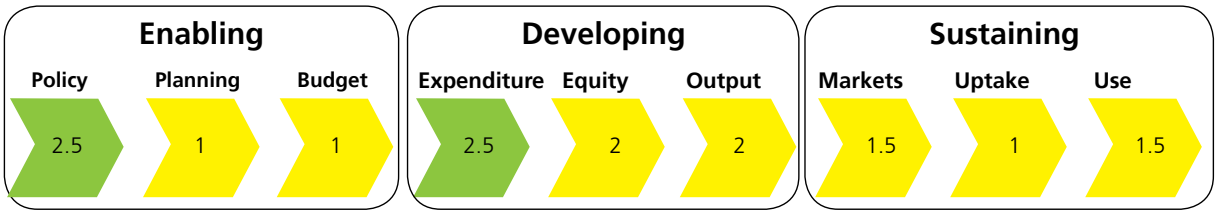
Figure 19
Rural sanitation investment requirements



Public CAPEX (anticipated, includes some software financing)
Household CAPEX (assumed)
CAPEX deficit

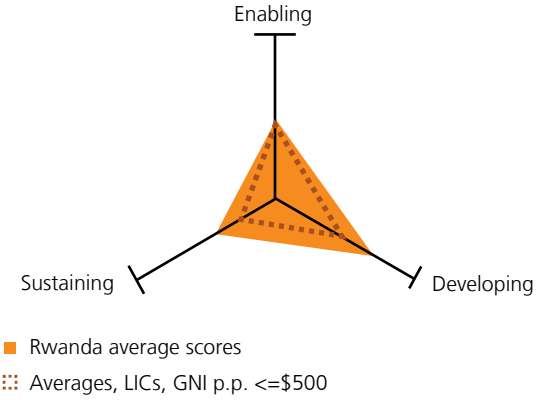
Source: CSO2 costing.

Figure 20
Rural sanitation and hygiene scorecard



Source: CSO2 scorecard.

Figure 21
Average RSH scorecard scores for enabling, developing, and sustaining service delivery, and peer-group comparison



Source: CSO2 scorecard.

Although figures for the coverage rate in 2008–09 differ between government and JMP sources, Rwanda has achieved notable progress. Some of this stems from the reconstruction period following the genocide. Supported by relief agencies, an estimated 300,000 houses, most of which included latrines, where built for the estimated 1.5 million returning refugees.

Since then regular campaigns from the Health Ministry, supported by 45,000 health workers together with HAMS and Participatory Hygiene and Sanitation Transformation (PHAST) programs in schools, have resulted in continued progress. Around 80 percent of Rwandans now use traditional latrines though these are often unhygienic: consequently the strategy aims to shift people to hygienic, 'improved' latrines, for which an appropriate definition and affordable technologies are yet to be defined. The national policy also promotes sanitation facilities in public areas (for example, main roads, bus stations, and markets).

In December 2009 the Environmental Health Desk of the Ministry of Health launched a Community-Based Environmental Health Promotion Program (CBEHPP) to further build on progress made under the PHAST and HAMS approaches. CBEHPP is described as "... a hygiene behavior change approach to reach all communities and empower them to identify their personal and domestic hygiene and environmental health related problems (including access to safe drinking water and improved sanitation) and solve them". These developments have received backing from the highest level—the Hygiene and Sanitation Presidential Initiative (HSPI)—which will see CBEHPP's expansion to all 30 districts.

The scorecard (Figure 20) shows that **policy** tools are largely in place, with agreed national targets and a subsector policy document. The 'enabling' score is reduced by institutional fragmentation, mainly due to recent decentralization. The central government is developing coherent and effective coordination, but districts are not yet sufficiently informed or mobilized in the subsector. The score for **planning** is, as for all subsectors, limited by the lack of a costed investment plan, while that for **budgeting** suffers most from a budget structure that does not allow subsector spend to be disaggregated. A bridging issue is that sanitation doesn't yet benefit from an integrated M&E system allowing plans and budgets to be established on the basis of consolidated progress reports.

Aspects relating to developing services perform well, above the regional peer-group average (Figure 21). **Equity** scores well for participatory procedures and use of criteria to allocate finance, in common with the RWS subsector.

Building blocks relating to sustaining services perform least well on the scorecard, but still better than the peer-group average by some margin. **Markets** for rural sanitation suffer from a weak supply chain with proposed 'improved' technologies still too expensive for most households. Performance contracts for districts to improve living standards at household level may help in this regard, but experienced engineers and trained technicians are rare at district level, leading to variable implementation quality. The subsector has too long been dominated by donors' pilot programs (Sanplat in the late 1980s, Ventilated Improved Pit (VIP) latrines in the 1990s, ECOSAN today), which has done little to promote private sector involvement.

The score for **uptake** of sanitation and hygiene highlights the lack of impact monitoring and outcome evaluation—a difficult task given the complicated cause and effect links between public interventions and outcomes, which mainly take place at the household level. Despite concerted hygiene awareness campaigns, uptake of hand washing has been limited and could be better supported through integration in each water supply project.

10. Subsector: Urban Sanitation and Hygiene

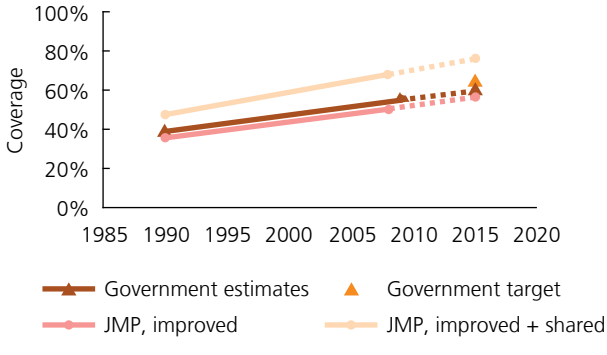
Priority actions for urban sanitation and hygiene

- Develop action plan for Kigali, adapted to the MDG targets, and based on on-site sanitation for the medium term, in line with the sanitation master plan.
- Support Kigali Town Municipality (MVK) to utilize GIS capabilities to monitor access rates.
- Develop private sector involvement in both hygiene promotion and on-site sanitation businesses (latrine equipment, cheaper septic tanks, emptying trucks, and safe dumping sites).
- Improve coordination between MVK and the new utility RWASCO.

Based on its own survey data, MININFRA estimates 54 percent to be the official 2009 national access rate and baseline for future monitoring. The current access rate according to the JMP is 50 percent (2008). For 1990, as in the case of rural sanitation, MININFRA uses an average from JMP reports to establish a 1990 baseline of 38 percent,[27] slightly higher than the JMP 2010 report's estimate of 35 percent. Overall, there is little divergence between MININFRA and JMP trends, compared to other subsectors. Progress in coverage needs to be accelerated slightly to meet the national subsector target of 65 percent. Use of shared sanitation facilities was estimated by the JMP to be 18 percent in 2008.

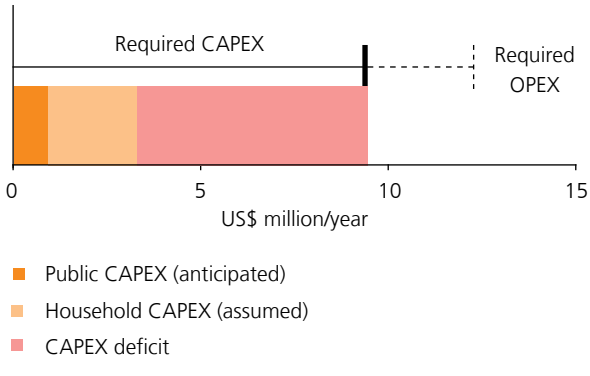
The estimated required CAPEX to meet the national coverage target is US$10 million per year. Anticipated public investment of US$1 million per year is expected to leverage a little over US$2 million per year in household investments, on the expectation that users will meet 70 percent of costs.[28] This leaves a capital financing deficit of US$6 million per year. Additional O&M costs (OPEX) of US$3 million per year are expected to be covered by households. The substantial expected contribution from households (70 percent of total costs), will require significant and effective promotion and education activities from government.

Figure 22
Urban sanitation coverage



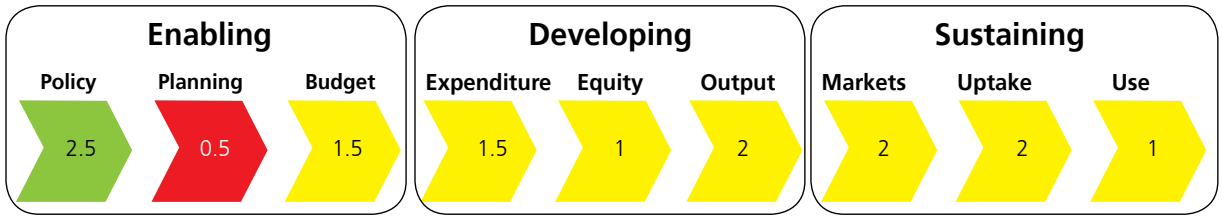
Sources: JMP 2010 Report and MININFRA.

Figure 23
Urban sanitation investment requirements



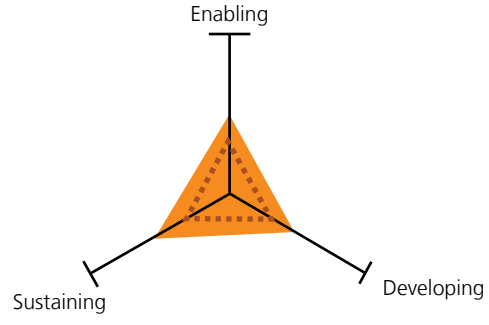
Source: CSO2 costing.

Figure 24
Urban sanitation and hygiene scorecard



Source: CSO2 scorecard.

Figure 25
Average USH scorecard scores for enabling, developing, and sustaining service delivery, and peer-group comparison



Rwanda average scores
Averages, LICs, GNI p.p. <=$500

Source: CSO2 scorecard.

The subsector scorecard indicates a less evolved service delivery pathway for urban sanitation and hygiene than for Rwanda's other subsectors (Figure 24), though the performance is still better than the peer-group average across enabling, developing, and sustaining building blocks (Figure 25). The first step, defining a policy framework, has been achieved, with policies from MININFRA (National Policy and Strategy for Water Supply and Sanitation Services, 2010) and the Health Ministry (Environmental Health Policy, 2008), as well as a Sanitation Master Plan for Kigali town (2007).[29] While a lead agency is in place (MININFRA), responsibilities shared with the EWSA and municipalities aren't yet efficiently coordinated—especially between the MVK and EWSA. Subsector **planning** is much weaker than policy development, constituting a barrier for the whole pathway. There are no moves towards a SWAp (unlike in other subsectors), and few needs-assessed investment plans for secondary towns.

The subsector should receive additional guidance from the new bill governing town planning and building in Rwanda. This could strengthen organization and planning of both on-site and sewerage facilities. The 2008 meeting AfricaSan +5 boosted coordination between Rwandan institutions, based on an understanding that no one institution can successfully address sanitation alone, especially in the urban context. In the near term, action plans addressing the subsector target are likely to focus on adapted on-site sanitation, as up to now no significant investment program is anticipated for developing public sewerage systems, despite Vision 2020 aiming at universal access by the end of the next decade.

Among building blocks relating to developing services, **expenditure** for the subsector receives a lower score due to the absence of consolidated reporting. As in urban water supply, budget allocation criteria are not used to target resources to underserved areas, reducing the score for **equity**.

At the sustaining end of the service delivery pathway, there appears to be potential in terms of **markets** for sanitation goods such as latrines and slabs, and pit-emptying services, with the government actively encouraging private sector participation.

Notes and References

[1] Global Economic Monitor, The World Bank. 2010 Average.

[2] The first round of CSOs was carried out in 2006 covering 16 countries and is summarized in the report, 'Getting Africa On-Track to Meet the MDGs on Water and Sanitation'.

[3] MININFRA. 2009. Water Supply and Sanitation Current Status.

[4] UNICEF/WHO Joint Monitoring Programme. 2010. *Progress on Sanitation and Drinking Water: 2010 Update.* JMP estimates are based on a linear regression of nationally representative household surveys.

[5] The government 1990 baseline is calculated by taking an average of figures from the 2006, 2008, and 2010 JMP reports, which themselves have fluctuating baselines due to the influence of additional surveys on the regression method used to calculate the JMP trendline.

[6] In the absence of a clear policy on user contributions, the proportion of capital costs assumed to be met by households was estimated in Ministry of Infrastructure Task Force meetings, as: 5 percent for rural water supply, 0 percent for urban water supply and 70 percent for both rural and urban sanitation subsectors.

[7] Population calculations are based on National Institute for Statistics of Rwanda (NISR), as published on the web site: http://statistics.gov.rw

[8] Due to rounding, component figures may not sum to totals.

[9] The CSO2 scorecard methodology and conceptual framework are discussed in detail in the synthesis report.

[10] Ministry of Local Government, Good Governance, Community Development and Social Affairs, Government of Rwanda. 2007. Rwanda Decentralization Strategic Framework.

[11] Indicators relating to the institutional framework section are: All subsectors: targets in national development plans/ PRSP; subsector policy agreed and approved (gazetted as part of national policy or as standalone policy); RWS/UWS: institutional roles defined; RSH/USH: institutional lead appointed.

[12] The following texts framing the development goals of the country also have a bearing on the water supply and sanitation sector: Rwanda Vision 2020. 2003; Organic Law determining the modalities of protection, conservation and promotion of environment in Rwanda. 2005; Economic Development and Poverty Reduction Strategy, 2008–2012 (EDPRS). 2007; Bill governing town planning and building in Rwanda. 2009.

[13] Government of Rwanda. 2007. Economic Development and Poverty Reduction Strategy 2008–2012 (EDPRS).

[14] Jos Van Gastel. 2007. Promotion and establishment of Public-Private Partnerships (PPP) for management of rural water schemes; and, Hydroconseil. 2009. PPP performance in management of rural water supply systems in Rwanda.

[15] Indicators relating to the section on financing and its implementation are: All subsectors: programmatic Sector-Wide Approach; investment program based on MDG needs assessment; sufficient finance to meet MDG (subsidy policy for sanitation); percent of official donor commitments utilized; percent of domestic commitments utilized.

[16] Hydroconseil. 2009. PPP performance in management of rural water supply systems in Rwanda, p. 24.

[17] Indicators relating to the sector M&E section are: All subsectors: annual review setting new undertakings; subsector spend identifiable in budget (UWS: inc. recurrent subsidies); budget comprehensively covers domestic/donor finance; RWS, RSH, and USH: domestic/donor expenditure reported; UWS: audited accounts and balance sheets from utilities; RWS, RSH, and USH: periodic analysis of equity criteria by CSOs and government; UWS: pro-poor plans developed and implemented by utilities; RWS/UWS: nationally consolidated reporting of output; RSH/USH: monitoring of quantity and quality of uptake relative to promotion and subsidy efforts; All subsectors: questions and choice options in household surveys consistent with MDG definitions.

[18] MININFRA. 2009. Water Supply and Sanitation—Current status.

[19] The JMP regression line declines largely because of the negative influence of the results of a 2008 survey (Ministry of Health, National Institute of Statistics of Rwanda, ICF Macro. 2009. Rwanda Interim Demographic and Health Survey), the results of which are disputed by MININFRA.

[20] MININFRA. 2009. Water Supply and Sanitation—Current status.

[21] ELECTROGAZ. 2009. Performance assessment.

[22] ELECTROGAZ Annual Report 2008; and ELECTROGAZ. 2009. Performance Assessment.

[23] Law establishing Rwanda Energy, Water and Sanitation Authority; March 2011.

[24] Ministry of Health, National Institute of Statistics of Rwanda, ICF Macro. 2009. Rwanda Interim Demographic and Health Survey (IDHS) April 2009.

[25] Figures in JMP reports change between successive issues, due to the regression line method of calculation. For rural sanitation the MDG baseline (1990) is estimated by the JMP at 36 percent in the 2006 report, 29 percent in the 2008 report, and 22 percent in 2010 report. The Government of Rwanda tries to follow the JMP definitions and standards, and agrees to use JMP estimates as its own data for rural sanitation in historic periods are imprecise. To even out the JMP's 'floating' baseline the government's agreed baseline for access rate in 1990 is the average from the three JMP reports, that is, 29 percent.

[26] See note 6. The exact extent to which public finance leverages household contributions will depend on the *implementation* of any user contribution policy (in terms of promotion and marketing efforts, as well as the effectiveness of any subvention system), rather than the policy *intention*.

[27] Again, the average of three successive JMP reports is taken. See note 25.

[28] See note 6.

[29] NWSC Study: Guide for Tariff and Billing Systems for Urban Water Systems in Rwanda; draft December 2010.

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