REPUBLIC OF RWANDA

MINISTRY OF INFRASTRUCTURE

National Water Supply Policy Implementation Strategy

Kigali, December 2016

FOREWORD

Access to safe and clean water plays a vital role in social and economic development, poverty reduction and public health. For that reason, the Government of Rwanda has made sustainable water supply one of priorities of the National Development Agenda and is establishing supportive policies and legislation.

The Ministry of Infrastructure has developed the National Water Supply Implementation Strategy to provide clear direction for the implementation of key strategic actions in the water supply sub-sector. The Policy and Strategy outlines initiatives to overcome challenges and exploit opportunities in an integrated manner, and will effectively contribute towards achieving the goals of the National Development Agenda.

The Government of Rwanda will ensure increased sustainability and access to safe and clean water through improving operations and maintenance of existing water supply infrastructure and providing new water facilities.

The Government of Rwanda is also encouraging the active participation of local private service providers and operators in the water supply sub-sector and will ensure that the principles advocated by the Policy Implementation Strategy are adhered to in the entire process of water supply services provision.

Further, the Government strongly recognizes the initiatives of international and regional communities and will continue to cooperate with them to achieve the Sustainable Development Goals under the 2030 Agenda.

Germaine KAMAYIRESE

Minister of State in charge of Energy and Water

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Acronyms

CPD	Continuing Professional Development
DHS	Demographic Health Survey
EDPRS	Economic Development and Poverty Reduction Strategy
EICV	Integrated Household Living Conditions Survey
JMP	Joint Monitoring Programme
M&E	monitoring and evaluation
MDG	Millennium Development Goal
MINAGRI	Ministry of Agriculture and Animal Resources
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education
MININFRA	Ministry of Infrastructure
MINIRENA	Ministry of Natural Resources
MIS	Management Information System
MoU	Memorandum of Understanding
NGOs	Non-Government Organizations
O&M	Operation and Maintenance
PPP	Public Private Partnership
REMA	Rwanda Environment Management Authority
RSB	Rwanda Standards Board
RURA	Rwanda Utilities Regulatory Agency
RWF	Rwandan Francs
RWSS	Rural Water Supply and Sanitation
SDGs	Sustainable Development Goals
SPIU	Single Project Implementation Unit
SWAp	Sector Wide Approach
WASAC	Water and Sanitation Corporation
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation
WHO	World Health Organization
WSP	Water and Sanitation Programmes
WSS	Water Supply and Sanitation

1. INTRODUCTION

The Policy Implementation Strategy consists of three main parts. In the following chapter, a set of key performance indicators and targets are defined to describe and monitor the sector's progress towards the goals. Thereafter, the main part of the strategy provides implementation details – indicators, targets, responsibilities and cost estimates – for each of the four fields of action, which correspond to the policy's specific objectives. The final chapter provides further implementation-related information. It highlights the critical implementation issues and challenges, provides an overview of the institutional responsibilities and cooperation requirements, and summarizes the funding requirements for achieving the targets set.

2. COHERENCE BETWEEN POLICY AND THE IMPLEMENTATION STRATEGY

The policy document and the implementation strategy have been prepared back-to-back and share the same structure. Each policy statement provides the basis for related actions, responsibilities and resources as well as time-bound monitoring indicators and milestones, which are detailed in the present policy implementation strategy.

The figure below illustrates the coherence between the overarching development goals, the objectives and directions defined in the policy and the policy implementation strategy.

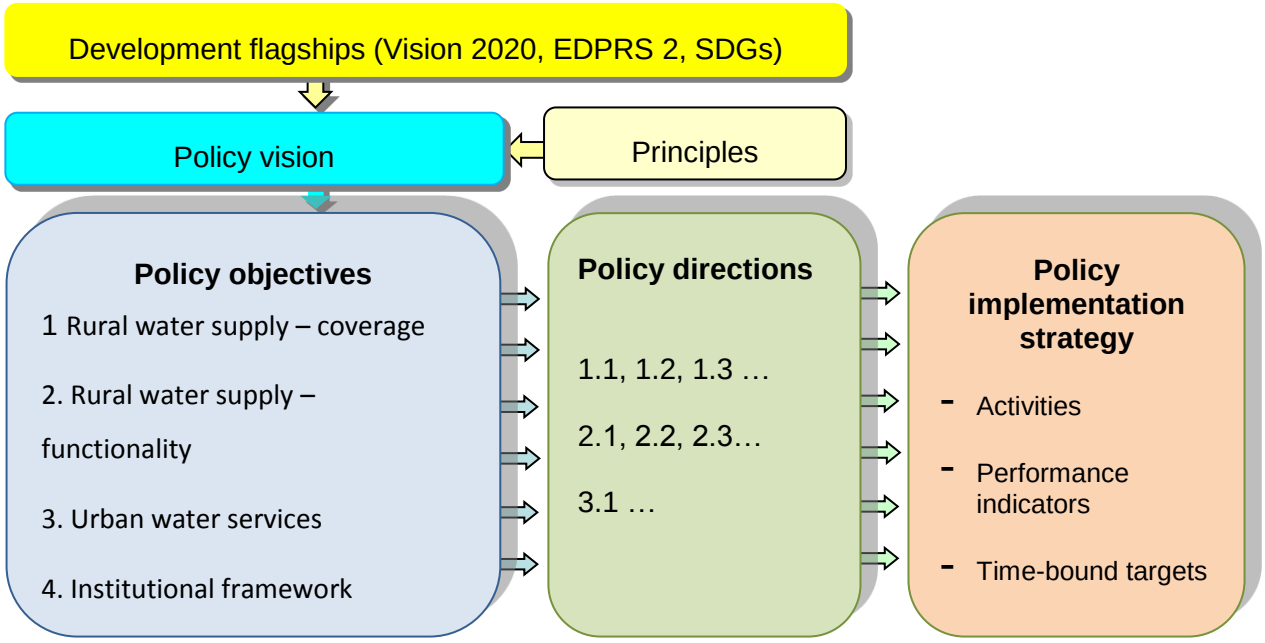

Figure 1: Coherence between the overarching development goals, policy objectives and directions

3. TIME HORIZON AND FINANCIAL REQUIREMENTS

This Policy Implementation Strategy is meant to provide guidance for the achievement of key development goals set out in Economic Development and Poverty Reduction Strategy (EDPRS) 2, Vision 2020 and the Sustainable Development Goals (SDGs). Its time horizon has been set to 2020.

The annual targets refer to financial years (July to June) in order to match Rwanda's budget cycles.

The total public funding requirements for the Water Supply Policy Implementation Strategy are about 337 billion Rwandan Francs (RWF) (US$450 million using an exchange rate of 1 US$ = 749 RWF) for the five-year period 2015/16 to 2019/20. All cost estimates are indicative, pending more detailed cost evaluations through a sector investment plan/financial model.

The bulk of investment needs is related to the infrastructure investments required for achieving 100 per cent service coverage in both rural and urban areas. The cost estimates provided here are based on per capita unit costs, to be replaced by more accurate cost estimates as soon as the rural and urban water supply master plans become available.

4. SECTOR TARGETS AND PERFORMANCE INDICATORS

4.1. SELECTION OF INDICATORS

Overall sector performance will be assessed by a small set of indicators and intermediate targets that have been defined for each of the four fields of action (specific objectives) as well as for the cross-cutting issues.

Individual performance indicators cannot capture the full range of issues to be addressed in sector development. They can, however, aggregate the information in a meaningful way and represent overall progress. This type of concise information is needed for joint sector performance monitoring in the sector-wide approach (SWAp) context; for informing Rwanda's larger planning, performance assessment and budgeting systems; as well as for communication with other government bodies, development partners and the general public.

The indicators selected here focus on outcome,[1] as opposed to direct output[2] indicators that will be used for operational purposes such as action planning and monitoring (*see chapter 7*).

As an important priority action of the policy implementation plan, broad stakeholder consultations will be held to have a national consensus on the alignment of the sector performance indicators with the emerging international consensus on monitoring progress made in achieving the SDG targets.

4.2. TARGETS AND INDICATORS – WATER SUPPLY

Performance indicator	Baseline 2015 (estimate)	Target 15/16	16/17	17/18	18/19	19/20
Rural water supply – Coverage						
1. Raise rural water supply coverage to 100 per cent by fast-tracking implementation of a strategic investment programme						
% of rural households within 500m of an improved water source EDPRS 2 Outcome Indicator 12 (b)	79 (estimate based on Integrated Household Living Conditions Survey (EICV) 4 data)[3]	85	93	100	100	100

[1] Definition Outcome: The likely or achieved short-term and medium-term effects of an intervention's outputs. Source: Organisation for Economic Co-operation and Development Assistance Committee Glossary of Key Terms in Evaluation and Results-Based Management 2002.

[2] Definitions Outputs: The products, capital goods and services which result from a development intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes. Source: Organisation for Economic Co-operation and Development Assistance Committee Glossary of Key Terms in Evaluation and Results-Based Management 2002.

[3] Note: According to EICV 4, only 60.5 per cent of urban households have access to an improved water source within 200 meters. This needs clarification by mapping unserved areas, According to EICV 4, only 47.3 per cent of rural households have access to an improved water source within 500 meters. The contradiction will be clarified by establishing detailed masterplans covering the entire national territory.

Rural water supply – Functionality **2. Ensure sustainable functionality of rural water supply infrastructure by strengthening operation and maintenance (O&M) management arrangements**						
% of rural improved water sources functional at the time of spot check	n/a[4]	70	75	80	85	90
% of public rural water supply systems managed by a contracted private operator	63,8	65	70	80	90	100
% cost recovery (revenue/O&M costs) for rural piped water schemes	n/a	80	90	100	110	120
Urban water supply **3. Ensure safe, reliable and affordable urban water supply services for all while striving for full cost recovery**						
% of urban households within 200m of an improved water source EDPRS 2 Outcome Indicator 8 (b)	69[5]	85	93	100	100	100
% non-revenue water (Water and Sanitation Corporation, or WASAC)	35[6]	32	28	24	22	20

4 Baseline data not available; functionality of schemes to be better reflected in updated M&E system.
5 Source: Rwanda Demographic and Health Survey (RDHS) 2014/15.
6 Source: Rwanda Utilities Regulatory Agency (RURA) – Key Statistics in Water and Sanitation Sector for the Period of July to September 2015.

4.3. TARGETS AND INDICATORS – INSTITUTIONAL FRAMEWORK AND CROSS-CUTTING ISSUES

Performance indicator	Baseline 2015 (estimate)	Target 15/16	16/17	17/18	18/19	19/20
Institutional sector framework						
4. Consolidate the sector's institutional, capacity building, monitoring and evaluation (M&E) and knowledge management framework; promote applied research and the international exchange of experience.						
Single Project Implementation Unit (SPIU) in WASAC established		X				
Percentage of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	N/A	60	70	75	80	80
Number of districts with fully operational WASH Boards	8	15	30	30	30	30
Number of districts with at least one qualified WSS engineer	12	15	20	30	30	30

Performance indicator	Baseline 2015 (estimate)	Target 15/16	16/17	17/18	18/19	19/20
Cross-cutting issues						
Environment and climate change						
% of WSS schemes with operational water and sanitation programmes	N/A			50%	75%	100%
Sector guidelines for integration of environment and climate change are developed			X			
Gender[7]	% women represented in key positions of		30%	30%	35%	40%

[7] Gender audit carried out for the WSS sector to inform indicators and baseline value.

	water user committees [8] % of key positions in the water sector institutions held by women					
Social inclusion	Mechanism for provision of water to the vulnerable populations is developed and under implementation			X		

4.4. FUTURE TARGETS AND INDICATORS IN LINE WITH THE SDGs

Target 6.1 of SDG 6 introduces additional more stringent criteria to address the normative criteria of the human right to water including accessibility, availability and quality.

The World Health Organization (WHO)/UNICEF Joint Monitoring Programme (JMP) has monitored progress towards Millennium Development Goal (MDG) targets for water and sanitation and developed proposals for goals, targets and indicators for Water, Sanitation and Hygiene (WASH) in the post-2015 agenda, the new SDGs. The JMP has identified a list of new indicators which eventually could be used for monitoring the proposed SDG targets in all countries.

The JMP proposal presented in the table below is currently still being discussed globally. Rwanda, under the lead of the Sector Working Group (SWG) and in collaboration with the National Institute of Statistics, shall harmonize the development of its own set of new indicators for water supply with the ongoing approach led by the United Nations and development partners in 2016.

SDG Target 6.1 – "By 2030, achieve universal and equitable access to safe and affordable drinking water for all"

Target language	Normative definitions of target elements
6.1 – By 2030, achieve	
universal	Implies all exposures and settings including households, schools, health facilities, workplaces, etc.
and ***equitable***	Implies progressive reduction and elimination of inequalities between population sub-groups
Access	Implies sufficient water to meet domestic needs is reliably available close to home
to ***safe***	Safe drinking water is free from pathogens and elevated levels of toxic chemicals at all times
and ***affordable***	Payment for services does not present a barrier to access or prevent people meeting other basic human needs
drinking water	Water used for drinking, cooking, food preparation and personal hygiene
for all	Suitable for use by men, women, girls and boys of all ages, including people living with disabilities

[8] Minimum threshold: At least 30 per cent women at all levels.

Proposed indicators for monitoring water supply services (JMP 2015)

Service ladder	Indicator	Definition	Data sources and measurability	Disaggregation	Timeline
Household services					
Safely managed water	Percentage of population using safely managed drinking-water services	Population using an improved[9] drinking-water source which is located on the premises, available when needed and free of faecal (and priority chemical) contamination	Household surveys can provide data on improved water on premises as well as availability when needed and free from contamination via direct water quality testing; administrative sources including drinking-water regulators can provide data on compliance with standards for water quality and availability	Urban/rural Wealth Affordability Others (to be confirmed)	Elements from household surveys can be reported immediately Safety/regulation will initially be estimated globally and regionally, and progressively at country level
Basic water	Percentage of population using basic drinking-water services	Percentage of population using an improved drinking-water source[10] with a total collection time of no more than 30 minutes for a round trip including queuing	Household surveys	As above	Immediate
Unimproved water	Percentage of population using inadequate sources of drinking water	Percentage of population using unimproved drinking-water[11] sources or improved drinking-water sources with a total collection time of more than 30 minutes	Household surveys	As above	Immediate
Surface water	Percentage of population using water directly from surface water sources	Percentage of population using surface-water sources[12]	Household surveys	As above	Immediate
Extra household Services					
Basic water in schools	% of pupils enrolled in schools with basic water services	Percentage of pupils enrolled in primary and secondary schools with a functional improved drinking-water source on or near premises and water points accessible to all users during school hours	Institution surveys, admin data, Education Management Information System	Urban/rural Gender	Medium term (monitoring package needs to be standardized; improved facilities depend on the type of facility; monitoring systems require national and international support)
Basic water in health-care facilities	% of beneficiaries using health-care facilities with basic water services	Percentage of beneficiaries using health facilities with a functional improved water source on premises and water points accessible to all users at all times	Institution surveys, admin data, Health Management Information System	Urban/rural	

[9] The top row is the proposed SDG indicator, the rest are part of the global reporting 'ladder' used by the JMP.
[10] MDG 'improved' indicator; include the following sources: piped water into dwelling, yard or plot; public taps or standpipes; boreholes or tube wells; protected dug wells; protected springs and rainwater. Packaged drinking water is considered improved if households use an improved water source for other domestic purposes.
[11] Unimproved drinking-water sources [MDG 'unimproved' indicator] include the following types: unprotected dug well, unprotected spring, cart with small tank/drum and bottled water.
[12] Surface water includes rivers, dams, lakes, ponds, streams, canals and irrigation channels.

5. IMPLEMENTATION STRATEGY TO ACHIEVE THE SPECIFIC OBJECTIVES

5.1. RURAL WATER SUPPLY – COVERAGE

Objective 1: Raise rural water supply coverage to 100 per cent by fast-tracking implementation of a strategic investment program.

5.1.1. Increasing access to safe water supply

The key target of rural water supply, raising access to safe water supply to 100 per cent by 2018, is ambitious. An increase of coverage of at least 7 percentage points every year is necessary, the equivalent of about 700,000 people to be served every year.

Further details of this tentative estimate will be provided below. However, it should be noted that considerable uncertainty remains. The target of 100 per cent coverage within 500 meters can only be achieved in the short term if only planned settlement (Imidugudu) sites are considered. Whether 100 per cent service coverage can be achieved will therefore partly depend on the progress of reducing scattered settlement.

A second source of uncertainty is the lack of reliable baseline data. Service coverage is much lower – only 47.3 per cent of the population served within 500 meters – according to the recent EICV 4 survey (2014) and slightly less than half of households (49 per cent) spent 30 minutes or longer to get to the water source and return (Demographic and Health Survey (DHS) 2014/2015).

This seems to be tentatively confirmed by the results of the Masterplan for the Eastern Province (2011), which established a coverage of 53 per cent for this province, which has a lower percentage of people living in scattered settlements than the other provinces.

The exact number of people to be served and the related investment needs will only be known once the master plans are completed for all provinces. This is a priority for further strategic planning. In parallel, the Management Information System (MIS) needs to be enhanced to allow clear monitor of the increase of rural water supply coverage achieved per year.

At all events, the chart below visualizes that during the past years the rate of investment in rural water supply, and hence the annual increase of coverage, was inadequate to reach the EDPRS 2 target of 100 per cent by 2018.

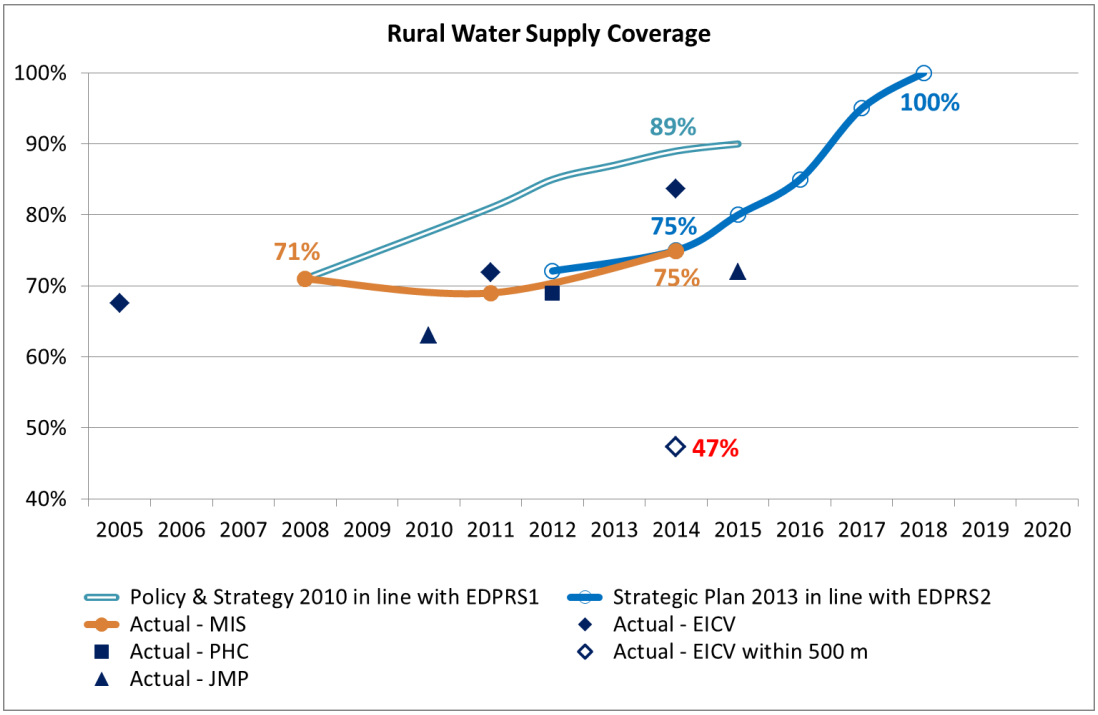

Figure 2: Evolution of rural water supply coverage since 2005 compared with EDPRS 2 targets.

It may be noted that the effort to supply water to the remaining portion of the population is becoming increasingly challenging, as the "low hanging fruits are taken". The majority of the population supplied today is served by improved point water source (protected springs, boreholes or wells; *see figure below*). However, today most of the conveniently located springs are already protected or equipped with a piped gravity flow scheme. Most of the remaining people will therefore have to be served by piped water schemes involving pumping, including large long-distance projects. Rwanda's hilly terrain requires detailed planning on how the remaining unserved areas can be covered in the most efficient way.

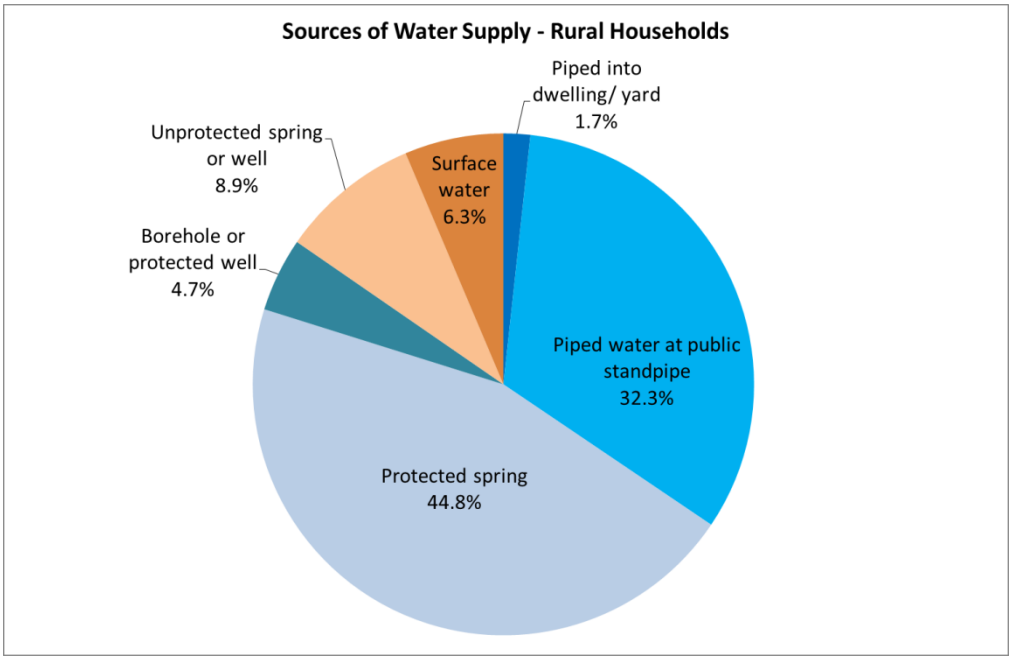

Figure 3: Sources of water supply of Rwanda's rural households (EICV 4, 2013/14)

5.1.2. Estimation of funding requirements for rural water supply

The budget estimates below are based on the following indicative assessment: Rwanda's rural population is about 9.1 million in 2015 (80 per cent of 11.4 million). The current coverage (without consideration of distance) is estimated at 79 per cent in 2015 if the rate of investment was the same as in the previous year. In this case, 1.9 million people remain to be served. Demographic growth adds another 0.7 million people to be served, but it is assumed that 0.5 million of these can be served by existing infrastructure that was designed to allow for population growth. The total additional population to be served by 2018 is hence approximately 2.1 million, which means that about 700,000 people will have to be served per year to reach the target.

A relatively high per capita investment rate of RWF 60,000 (about US$80) has been chosen assuming that most people will be supplied by piped water. Given that the habitat structure is changing, it is safe to assume that few people (or Imidugudu) can be served by point water sources (protected springs or handpumps). Possible user contributions were not considered, as they do not represent a substantial saving on capital investment.

The total investment need is RWF 133 billion (or US$177 million). This figure is meant to estimate the order of magnitude of funding requirements to achieve 100 per cent rural coverage; it cannot replace a detailed financial model and investment plan, to be prepared as part of the master plans.

In addition, many of the existing water sources – both piped water schemes and point water sources – need rehabilitation. It is assumed that these investments are partly included in the above per capita investment rate, whereas others will be deferred for implementation after the achievement of the "universal access" target.

These investments needs challenge the limits of how much can be planned, procured and implemented per year. Outstanding efforts of the sector will be needed to absorb and make effective use of these resources, assuming that they are made available in time.

5.1.3. Changing habitat patterns: Both an opportunity and a challenge for the sector

A particular challenge for the provision of water supply services arises from the fact that Rwanda's settlement structure is quite dispersed. One way the Government of Rwanda is trying to address this challenge is through the promotion of grouped settlements. Part of the rationale of the concept is that a typical grouped settlement, Imidugudu, is planned for between 100 and 200 families that should have access to adequate services, including safe water supply.

However, supplying all grouped settlements– Imidugudu, small towns and trading centres – comes with its own challenge, because efforts have to be made to meet high expectations and to keep pace with the changes of the habitat patterns. Service levels and, hence, per capita investments are in some cases expected to be higher than in dispersed settlements mainly due to the higher service levels. Additional investments will be needed to adapt existing water supply infrastructure to match the new settlement structures and increased expectations on service levels.

On the other hand, people living in grouped settlements are easier to supply, in particular with respect to the distance criterion (less than 500 metres from an improved water source). It will thus be easier to reach full service coverage than if all the sites of scattered settlement had to be serviced.

The WSS sector will aim to be involved in site development for new Imidugudu from the beginning and will actively participate in joint planning mechanisms with the urbanization and rural settlement sector.

5.1.4. Developing decentralized implementation capacities

The investments to achieve universal water supply coverage will be handled partly by WASAC (large projects) and partly by the districts. To enable districts to assume their part of the implementation responsibilities, it is necessary to strengthen decentralized capacities and to provide complementary support and monitoring.

All districts will be staffed with at least one skilled water and sanitation engineer. However, even when districts are adequately staffed there will be need for backstopping and technical support arrangements as well as for quality assurance (design review) and monitoring capacities. This support will be provided by the WASAC Rural Water Services Directorate at the centre.

5.1.5. Technology options: Standardization and innovation

The choice of appropriate technologies and service standards, sound planning and high-quality execution are important prerequisites for cost efficiency, sustainability and financial viability. The sector will address this by providing guidance and design standards for a range of technology options, and by exploring innovative options.

Affordability is a main concern in rural water supply. In general, technical solutions and service levels shall be selected by involving the beneficiaries, explaining the financial implications. Low-cost technologies shall be preferred wherever possible.

The Water and Sanitation (WATSAN) sector will set and disseminate technical guidelines, defining requirements for different service levels, different types of habitat and different types of technologies and water sources.

Gravity systems will be preferred wherever feasible, even if the initial investment cost is higher than for

a pumped system. Spring protection is the most cost-effective solution, in terms of per capita investment. Districts will therefore be encouraged to protect all springs that are used for human consumption. Spring protection for piped water schemes will be optimized to make full use of the available discharge and to avoid decreasing yields.

Rainwater harvesting, which is a viable option given that rainfall is relatively abundant in most regions of Rwanda, will mainly be promoted as a complementary source of water. Rainwater harvesting techniques and options (individual vs. collective) shall be studied and appropriate design guidelines shall be produced for each climatic region of Rwanda.

Extending the power grid and solar pumping will be promoted as alternatives to diesel pumping, which tends to be unsustainable due to excessive fuel and maintenance costs. To be sustainable, the promotion of solar pumping will have to be done in a systematic way, considering the needs for spare part supply, support capacities, etc.

5.1.6. Promoting household connections

Less than 2 per cent of Rwanda's rural population have access to water within their premises (household connection), according to the EICV 4 of 2013/14. Actual water consumption is therefore typically of the order of 6 to 8 litres per capita per day.[13] This is inadequate compared with the international standard of minimum of 20 litres per capita per day for basic access,[14] and poses a threat to the financial viability of rural water supply schemes as water sales are very low (sales at public tap stands: 3 to 5 litres per capita per day). In addition, public standpipes cause relatively high personnel costs, as the remuneration of tap attendants represents a considerable part of the total fee.

The sector will therefore consider ways to increase the number of household connections (such as subsidized connection fees, promotion of private connections at the planning stage) and will consider the promotion of yard taps (several families sharing a connection).

5.1.7. Mobilizing private-sector investments in rural water infrastructure

The potential for private investment in new rural water supply schemes, where high upfront investments are required while the revenue and customer base is small, is limited.

The situation is more promising when it comes to extensions or rehabilitations of existing schemes and service level upgrades. The type and duration of delegated management contracts shall be reviewed to mobilize this type of investments by private scheme operators.

Given the economic reality in rural areas, it must be expected that subsidies of 80–90 per cent of the investment will be required while only a small fraction can be recovered from the future users. However, even if the origin of funds is essentially public, it is worthwhile to consider public-private partnership (PPP) modalities of finding, in particular, output-based aid. The output-based aid scheme is a form of PPP that requires the private sector to design, implement and co-finance investments, and operate the built infrastructure during a certain number of years. Instead of contracting a private operator after commissioning of the scheme, a package consisting of design, construction and operation

[13] This estimate is made based on consultations with private operators and their practical experience and analysis of water sales. This estimated range is also in line with international literature.

[14] Reference: <www.who.int/water_sanitation_health/diseases/WSH03.02.pdf>.

will be procured. Under this arrangement, the successful bidder is the one requesting the lowest public subsidies. Subsidies are paid based on the delivery of the agreed output (hence the name).

It is critical to ensure that the necessary regulatory framework is in place before piloting build-and-operate contracts. Private infrastructure will have to comply with the same standards, policy requirements, and tariff and consumer protection regulations as public investments.

As the existing commercial bank system does not offer appropriate conditions (long-term, low-interest loans), the available loan financing options will be explored, in cooperation with the Rwanda Development Board (RDB).

In the future, once the sector develops beyond basic service delivery, more and more demand can be expected for this type of financing.

Other types of non-government investments to be encouraged and co-financed are:

1. Investments by religious communities, which are often ready to co-finance public systems that supply their infrastructure;
2. Community self-help initiatives (e.g., to install rainwater harvesting facilities, self-supply), to be financed through micro-finance schemes.

The key performance indicators, targets and cost estimates for Objective-1 of the Policy are presented in **Table 1**.

Table 1: Targets and cost estimates for Objective 1 – Rural Water Supply/Coverage Performance Indicator

Performance indicator	Target					Cost estimate (million RWF)	Implementation responsibility
	15/16	16/17	17/18	18/19	19/20		
1. Raise rural water supply coverage to 100 per cent by fast-tracking implementation of a strategic investment programme							
Additional people supplied by new or rehabilitated water supply infrastructure (in thousands)	700	700	700			126,000	Large projects: WASAC Small projects: Districts
1.1 Develop a set of master plans that define, for the entire national territory, the projects and investment needs to achieve 100% rural water supply coverage							
Per cent of rural population covered by water supply master plans	25%	100%				3,000	Ministry of Infrastructure (MININFRA)/ WASAC-Rural Water Supply and Sanitation (RWSS)
1.2 Develop a financing plan for achieving 100 per cent rural water supply coverage and establish funding channels for projects to be implemented by the districts							

Performance indicator	Target 15/16	16/17	17/18	18/19	19/20	Cost estimate (million RWF)	Implementation responsibility
Financing plan established	X					20	MININFRA WASAC-RWS
1.3 Empower districts for effective project implementation							
District-level capacity-building programme developed and completed	X	X				100	MININFRA WASAC-RWS Districts
1.4 Establish decentralized units of WASAC's Directorate of Rural Water Services for effective technical support and monitoring							
Per cent of decentralized support units established and operational	50%	100%				2,000 (staffing & operation)	WASAC-RWS
1.5 Develop harmonized design and implementation guidelines for rural areas							
Design and implementation guidelines prepared and disseminated		X				100	WASAC-RWS Districts
1.6 Promote household connections to improve service levels, increase water consumption and improve the financial viability of water supply schemes							
Per cent increase of rural household connections	10%	20%	20%	20%	20%	1,800 (subsidies)	WASAC-RWS Districts
1.7 Encourage and mobilize private-sector investments in new infrastructure							
Study on potential and options to leverage private capital investments		X				30	MININFRA; Rwanda Development Board; Districts

5.2. RURAL WATER SUPPLY – FUNCTIONALITY

Objective 2: Ensure sustainable functionality of rural water supply infrastructure by strengthening O&M management arrangements

5.2.1. Focus on sustainability

In the past, insufficient O&M arrangements led to a short lifespan of the infrastructure and to cyclic rehabilitation efforts. Still today, a major part of the existing rural water schemes needs rehabilitation and a high percentage is currently non-functional.

The main prerequisites for sustainable service delivery are:

1. clear institutional responsibilities;
2. quality of design and construction;
3. adequate management capacities and technical maintenance skills;
4. financial viability and affordability of the chosen service level;
5. tariffs allowing for cost recovery;
6. effective fee collection based on consumption;
7. accumulation of funds for major repairs and the replacement of equipment; and
8. availability of funding for the replacement of key assets after the end of design life.

The sector's strategy to achieve this is delegated management through PPPs, including the development of an effective regulation system. Other management models are not excluded but are subject to the same regulation and operational efficiency criteria.

5.2.2. Status quo

Today, Rwanda's rural population is served by more than 1,000[15] piped water systems and approximately 20,000 improved point water sources (protected springs or boreholes and wells equipped with handpumps), according to the National Inventory of Water and Sanitation Infrastructure.[16] Of these, 27 systems have a length of more than 40 kilometres.

Initially the introduction in 2004 of delegated management for rural water supply schemes made good progress. More recently, however, progress stalled at a level of about 50 per cent managed by private operators, and it became obvious that the current management model – with each scheme being managed individually – failed to attract professional operators. Most of the operators are small local companies, individuals, cooperatives, associations and religious communities. Typically, contracts stipulate that the operator is in charge of day-to-day operation and maintenance, including fee collection, while the district is in charge of system extensions and major repairs. The delimitation between both responsibilities and the conditions for tariff adjustments are usually not well defined. Payment is based on consumption (water metres, per jerrican sold) and the private operator's remuneration depends on the revenue collected. Districts keep a variable percentage of the fee ('redevance') which is often not kept apart from other district funds. Contract duration is typically between two and five years.

Several studies confirmed the weaknesses of the current model. The following box summarizes some of the findings and recommendations from the Assessment & Improvement of Performance of WSPs for Private Operators in Four Districts of Volcanic Region.[17]

[15] Some 1,029 systems, according to information provided by RURA in 2015.

[16] Monitoring/Evaluation and Management System of Water and Sanitation Sector and National Inventory of Water Supply and Sanitation Infrastructures. MININFRA/AAW Consulting Engineers, October 2009.

[17] UNICEF/MININFRA/WASAC, Sustainability Check for Government of the Netherlands Funded WASH Project and Neolink for UNICEF/SNV, August 2015.

Box 2: Highlights from *the "Assessment & Improvement of Performance" Study* **of 2015**

Key shortcomings

- Not all private operators fully understand their contractual and professional obligations and responsibilities.
- The reports of private operators are sometimes not submitted on time, lack details or contain questionable data.
- Districts are often not effective in overseeing implementation of the private operator management contracts or in analysing the reports received.
- Private operators do not receive feedback on reports or requests submitted to the districts.
- In general, districts do not undertake contractual mandates such as routine "spot check inspections", audits or follow-ups on the implementation of private operator contracts.
- Where there are Water Users Committees in service areas, these committees are rarely involved or engaged by districts.
- Many water facilities have high non-revenue water (NRW) levels, while others are not even aware of their levels (no measurements being taken).
- Some pumping schemes are reported to be commercially not viable with current tariff levels and revenue collection rates.
- Many handpump sources are abandoned for a variety of reasons.
- Shortcomings regarding revenue collection: manual billing and revenue collection; some private operators cannot account for a part of the collected revenue; low collection efficiency.
- Many private operators are not undertaking water-quality testing or reporting.
- Inadequate skills and experience of private operator staff.

Recommendations

- Create a strong and effective regulatory framework; provide guidance and support to the private operator.
- Economies of scale approach, life cycle costing approach, cost-reflective tariffs that offer incentives for operational efficiencies.
- Cross subsidies within systems and customer categories to minimize recourse for subsidy from the districts.
- Allow for depreciation and capital maintenance fund reserves; funds in the reserve account may be invested and with due authorizations.
- Review private operator contract framework to explicitly clarify suggested changes and recommendations once these are discussed, agreed and adopted/modified.

5.2.3. Clustering of service areas and setting up an enhanced O&M framework

Many of the weaknesses listed above are related to a large number of operators each managing a small service area with a very limited customer base and revenue. Even if the districts, RURA and WASAC could provide the resources to monitor, regulate and support each of these schemes, the existing model will not allow for economies of scale. It will not attract professional service providers or private investments.

It is therefore intended to reduce the number of operators per district to between one and three, and to introduce a licensing system for operators. Districts will be trained as asset holders and contract managers.

Contracts will be reviewed and enhanced to include agreed performance targets. Longer-term contracts for well-performing operators will be piloted as soon as the new framework is consolidated.

WASAC/Rural Water Supply and Sanitation Services and RURA will support the development of the new framework by developing standard contracts, advising on procurement and contract management issues, setting up a licensing system, and helping to clarify the mutual responsibilities between local authorities, private operators and consumers.

To facilitate information flow between the stakeholders, there are plans to set up a Web-based O&M monitoring system to keep track of O&M performance, contracts and asset management status, to be used for follow-up and benchmarking. This monitoring system will be jointly developed and used by WASAC/Rural Water Supply and Sanitation Services, RURA and the districts. Appropriate management arrangements to ensure system reliability and stability as well as high data quality (data validation) need to be agreed between these stakeholders.

5.2.4. Tariffs and cost recovery

Rural water supply tariffs have to be balanced to reconcile the interests of (1) cost recovery, (2) affordability for the rural poor, and (3) attractiveness for private operators.

Updated tariff guidelines will address the following issues:

a) Level of cost recovery, financial model to be used;
b) Cost components and minimum accounting standards;
c) Grouping of schemes with different cost structures;
d) Subsidies and cross-subsidies;
e) Mechanisms for tariff adjustments; and
f) Amount, earmarking, accumulation and use of the reserve (‘redevance’) to be set aside by the districts for major repairs, refurbishments and extensions.

Three levels of cost recovery shall be distinguished:

Levels of Cost Recovery
Level 1: Running costs for operating the water system (staff, energy, consumables)
Level 2: Running costs + all repairs (including replacement of electro-mechanical equipment)
Level 3: Running costs + all repairs + depreciation of assets

Rural water supply shall aim cost recovery at Level 2. Level 1 would not ensure the sustainability of operations, while Level 3 would not be affordable in terms of tariffs.

Under the current delegated management contracts, usually the private operator is in charge of running costs (Level 1) while the district is supposed to pay for major repairs (Level 2) and system extensions. There is need (i) to clearly define the mutual obligations and the thresholds, and (2) to regulate the fee paid to the districts and its use (to be earmarked and kept on separate accounts).

Progress towards cost recovery will be measured as collected revenue as percentage of Level 1 running costs.

Experience shows that even cost recovery at Level 2 may be difficult to achieve for systems involving diesel pumping. These types of systems will be discouraged by promoting instead electrical or solar pumping. In certain cases, subsidies or cross-subsidies may be needed to keep local tariffs affordable.

5.2.5. Capacity-building programme for improved functionality

Both main actors of the PPP model – WASH Board members, district and WASAC staff as well as private operators – will benefit from a comprehensive capacity-building programme. Private operators, in this context, are any operators working under delegated management contracts, not necessarily private companies.

The programme will include the following modules:

Table 2: Capacity-building programme for improved functionality

For districts	For private operators
1 Organization of delegated management in rural water supply (structures, procedures and responsibilities)	A Technical management of rural water supply systems (O&M)
2 Procurement of delegated management contracts	B Administrative and financial management of rural water supply systems
3 Monitoring and supervision of private operators (contractual obligations, reporting, performance monitoring, auditing, etc.)	C Commercial management and customer relations

Moreover, particular emphasis will be paid in offering on-the-job training courses.

5.2.6. Point water sources

Combining the management of rural point water sources – protected springs, boreholes and wells equipped with a handpump – with the management of piped water schemes is not recommended. Delegated managed contracts are at the limit of financial viability and should not be burdened by additional tasks.

Point water sources will therefore be managed either through specific contracts with private operators, or by strengthening the community-based maintenance system, to be supervised by the district. Districts shall choose their preferred approach.

5.2.7. Water-quality surveillance

At present, the water quality of rural sources of drinking supply is usually verified at the time of planning or commissioning but not monitored later on. The dominant problem is local contamination (damaged spring protection, lacking protection of the catchment area, lack of drainage, reservoirs, broken pipes, etc.), while the general quality of ground water resources is good. To detect local contaminations it is mandatory to set up a water quality monitoring system.

Water quality monitoring will follow a three-tier approach:

- Self-monitoring by the private operators. It will be mandatory for private operators that apply for managing the new clustered service areas to provide the necessary equipment (testing kits) and skills for self-monitoring;
- Oversight by WASAC, which can combine this activity with its urban water-quality monitoring activities; and
- External spot checks commissioned by RURA using independent laboratories.

Water-quality standards and the sampling system (frequency, number of parameters to be measured) should be realistic, that is, affordable. Field inspections should combine water sampling (at different points of the water systems) and physical inspections of the local conditions (catchment area, distance of latrines, fencing, drainage, etc.).

WASAC, in cooperation with the Ministry of Health and RURA, will develop a concept, guidelines and field capacities for regular water quality surveillance. This will also include the preparation of Water Safety Plans.

The key performance indicators, targets and cost estimates for Objective 2 of the Policy are presented in **Table 3**.

Table 3: Targets and cost estimates for Objective 2 – Rural Water Supply/Functionality

Performance indicator	Target					Cost estimate (million RWF)	Implementation responsibility
	15/16	16/17	17/18	18/19	19/20		
2.1 Cluster service areas to create economies of scale, professionalize service delivery and trigger private investment							
Per cent of rural water supply systems managed by private operators	50	60	70	80	90	120 (support and monitoring)	WASAC-RWSS Districts RURA
Number of districts in which the clustering model has been implemented	5	15	25	30	30		
2.2 Strengthen regulation of private water service providers							
Percentage of water supply and Sanitation schemes operated by a private operator submitting regular reports to the regulator	TBD					450 (sensitization, regulation, auditing)	RURA Districts WASAC-RWSS
2.3 Develop district capacities as asset holders and contract managers with support from WASAC/Rural Water Supply and sanitation							
Number of district staff trained	30	60	90			90	WASAC-RWSS Districts RURA
2.4 Set up an O&M performance monitoring framework, including a Web-based information system							

Performance indicator	Target 15/16	16/17	17/18	18/19	19/20	Cost estimate (million RWF)	Implementation responsibility
O&M performance monitoring in place Web-based information system in place and baseline data collected	X	X				100 (including software development)	MININFRA WASAC-RWSS Districts RURA
2.5 Develop tariff guidelines that take into account financial viability and affordability considerations							
Tariff guidelines developed Tariff guidelines approved and disseminated	X	X				15	RURA WASAC-RWSS Districts
2.6 Provide funds and financing mechanisms for capital maintenance, rehabilitation and renewal investments for existing schemes							
No. of rural piped water schemes refurbished or rehabilitated	TBD					40,000	WASAC-RWSS Districts
2.7 Strengthen community based maintenance system for rural point water sources							
Per cent of water points with active user committees	TBD					300 (sensitization. & training)	WASAC-RWSS Districts
2.8 Develop a water-quality surveillance system for rural water supply							
Per cent of rural water schemes with regular water-quality control Per cent of water source catchments protected according to national standard	TBD					750 (standards, sampling, analyses 500	WASAC-RWSS RURA Districts MOH

5.3. URBAN WATER SUPPLY

Objective 3: Ensure safe, reliable and affordable urban water supply services for all while striving for financial sustainability

5.3.1. Status of urban water supply services

Urban water supply services in Rwanda are exclusively provided by WASAC, a public utility operating on a commercial basis. WASAC will therefore be the key implementer of the policy and strategic plan,

under the oversight of MININFRA and regulation by RURA.

As of September 2015, WASAC served 161,154 connections (subscribers), of which 54 per cent were in Kigali City.

5.3.2. Urban water supply coverage

Achieving 100 per cent access to safe water supply in urban areas is one of the EDPRS 2 targets, to be attained by 2018. Unfortunately, the baseline is not precisely known as the available figures on urban water supply coverage are contradictory (*see figure below*). The recent EICV 4 survey indicates that 90 per cent of the urban population are using an improved source of water, but only 60.5 per cent are at less than 200 metres of this water source.

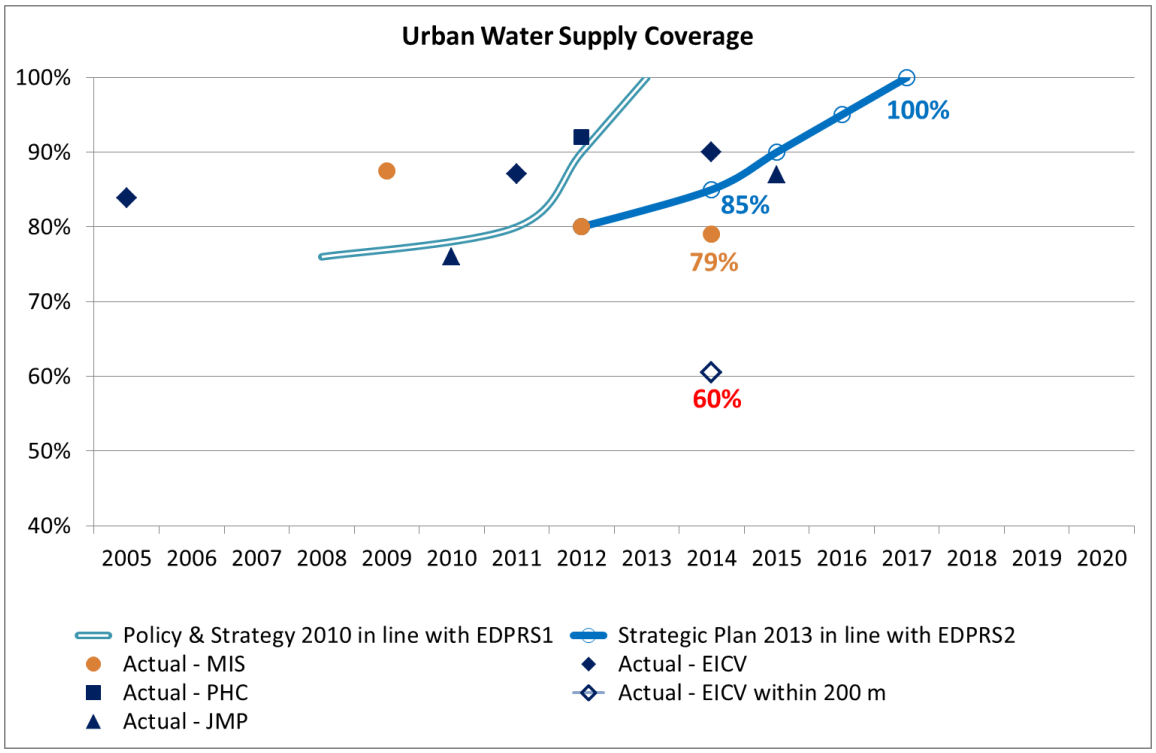

Figure 4: Evolution of urban water supply coverage since 2005 compared with EDPRS 2 targets.

In Kigali City, 39 per cent of the people get water from a public stand-post, whereas only 42 per cent have piped water on their premises, according to the RDHS (2014/15).

Given that reliable information on one of the key sector targets is needed, it is urgent to establish a new baseline on urban water supply coverage as soon as possible. At the same time, the unserved areas, including informal settlements, need to be clearly mapped to plan and strategies on how to fill the gaps must be optimized.

5.3.3. Cost recovery vs. affordability of urban water supply services

Urban water tariffs will be calculated to achieve cost recovery, initially at Level 2 (*ref. Section 7.2.4*).

Subsidies, if any, shall be targeted towards ensuring affordable basic service for the urban poor. Social block tariffs will be maintained with a cross-subsidized tariff for the basic consumption blocks (0 to 5 and 5 to 20 m^3).

Particular efforts will be made to extend water supply services to low-income households. Where extensions to poor peri-urban areas are demonstrably not financially viable, public subsidies will be considered.

The policy and practice for the management of public tap stands (water kiosks) shall be reviewed and optimized.

5.3.4. Operational efficiency and loss reduction

WASAC will continue implementing its loss reduction programme to reduce the overall 35 per cent non-revenue water, as shown in Table 4.

Table 4: Water production and non-revenue water of WASAC's water supply systems (September 2015)

No.	City/Town/Centre	Water treatment plant	Average water production (m^3/day)	Non-revenue water (%)
1	Kigali	Kimisagara	23,200	30%
		Karenge	14.500	
		Others	5,500	
2	Huye	Kadahokwa	5,500	42%
11	Muhanga	Gihuma	2,200	15%
	Nyanza and Ruhanga	Mpanga	1,600	23%
	Rubavu	Gihira	9,000	40%
	Rusizi	various	3,950	44%
10	Musanze	Mutobo	12,000	52%
3	Rwamagana	Muhazi	3,000	41%
7	Bugesera	Ngenda	3,500	40%
12	Nyagatare	Cyondo, Gihengeri	4,326	42%
	TOTAL		**126,940**	**35%**

Source: RURA: Key statistics in Water Supply sub-sector for the period of July to September 2015**.**

Table 5 presents the targets for selected key performance indicators according to WASAC's five-year Strategic Business Plan.

Table 5: WASAC strategic targets for selected key performance indicators

Key performance indicator	2015/16	2016/17	2017/18	2018/19	2019/20
Non-Revenue Water	38%	32%	28%	26%	25%
Revenue from water activities	RWF 16.3 billion	RWF 25.1 billion	RWF 35.9 billion	RWF 45.4 billion	RWF 57.5 billion
No. of individual connections	167,042	187,253	213,938	231,704	250,832
No. of standpipes	2,917	3,269	3,588	3,733	3,882
Water-quality compliance – %	95%	96%	97%	97.5%	98%
Continuity of supply – %	85%	88%	96%	98%	100%
Energy efficiency – %	57%	60%	63%	65%	72%

Source: WASAC five-year Strategic Business Plan.

5.3.5. Increasing production and distribution capacities

Water shortage due to insufficient water production has become a key issue of the urban water sub-sector that is receiving high-level attention. The situation is most serious in Kigali, where the current production of about 90,000 m³/day covers almost three quarters of the demand of about 120,000 m³/day. However, major strategic projects are under preparation.

Investors are still being sought for water supply projects that will increase water production countrywide, including a bigger water supply project that plans to take water from Mutobo in Musanze District to Kigali, with a planned capacity of 120,000 m³/day.

Coordination between urban planning and water supply services is a key issue. To implement the necessary extensions of production and distribution capacities, it is essential to prepare water supply master plans for each of the towns, and most importantly for Kigali City. These plans will outline the staged development of sources of supply, and will include a monitoring programme to survey these sources prior to its development. Alternative sources and technologies will be ranked to minimize the costs of energy and imported chemicals.

The key performance indicators, targets and cost estimates for Objective 3 of the policy are presented in **Table 6**.

Table 6: Targets and cost estimates for Objective 3 – Urban Water Supply

Performance indicator	Target					Cost estimate (million RWF)	Implementation responsibility
	15/16	16/17	17/18	18/19	19/20		
3.1 Extend urban water supply services to 100 per cent of the urban population							
Per cent of urban households having access to an improved water source within 200 metres	Establish baseline	95%[18]	100%	100%	100%	50,000[19] to be reassessed when baseline is available	WASAC City of Kigali / Districts
3.2 Develop production and distribution capacities							
Total urban water production capacity (000'm³ per day)	127	184	235	266	317	80,000 Including private-sector investments	WASAC Ministry of Finance and Economic Planning (MINECOFIN) City of Kigali/ Districts
3.3 Improve operational efficiency and reduce non-revenue water							
Per cent Non-Revenue Water	35	32	28	26	25	23,000[20]	WASAC RURA
3.4 Develop and implement a pro-poor strategy for urban water supply							
Indicator and targets to be developed						5,000 to be reassessed when indicator, baseline and targets are available	WASAC City of Kigali Districts

[18] Targets set based on the WASAC business plan.

[19] Note: The total recommended investment need for 'rehabilitation, reinforcement and extension of water distribution networks' is RWF 141 billion, according to the WASAC five-year Business Plan.

[20] Estimate based on WASAC five-year Business Plan ('Productivity Strategy') assuming that 50 per cent will be funded by WASAC revenue.

5.4. INSTITUTIONAL SECTOR FRAMEWORK

Objective 4: Strengthen and consolidate the sector's institutional and capacity-building framework.

5.4.1. Overview on the institutional challenge

The challenges in the water supply sector described in the previous chapters call for further consolidation of the institutional roles and responsibilities. Each of the main actors – MININFRA, WASAC/Rural Water Services, RURA, districts and private operators – needs strengthening to achieve significant improvements. For instance, the capacities of WASAC, districts and RURA are currently not sufficient to ensure effective support and regulation to the operators of more than 1,000 piped schemes. It is unlikely that this can be achieved by simply building the capacities of these institutions, and thus an important approach of this strategic plan is to bring in economies of scale in terms of capacity and financial viability of schemes clustering and/or contracting operators through a sector institution rather than local government.

The schematic below provides an overview of the key roles and responsibilities of the public institutions involved in the WSS sector.

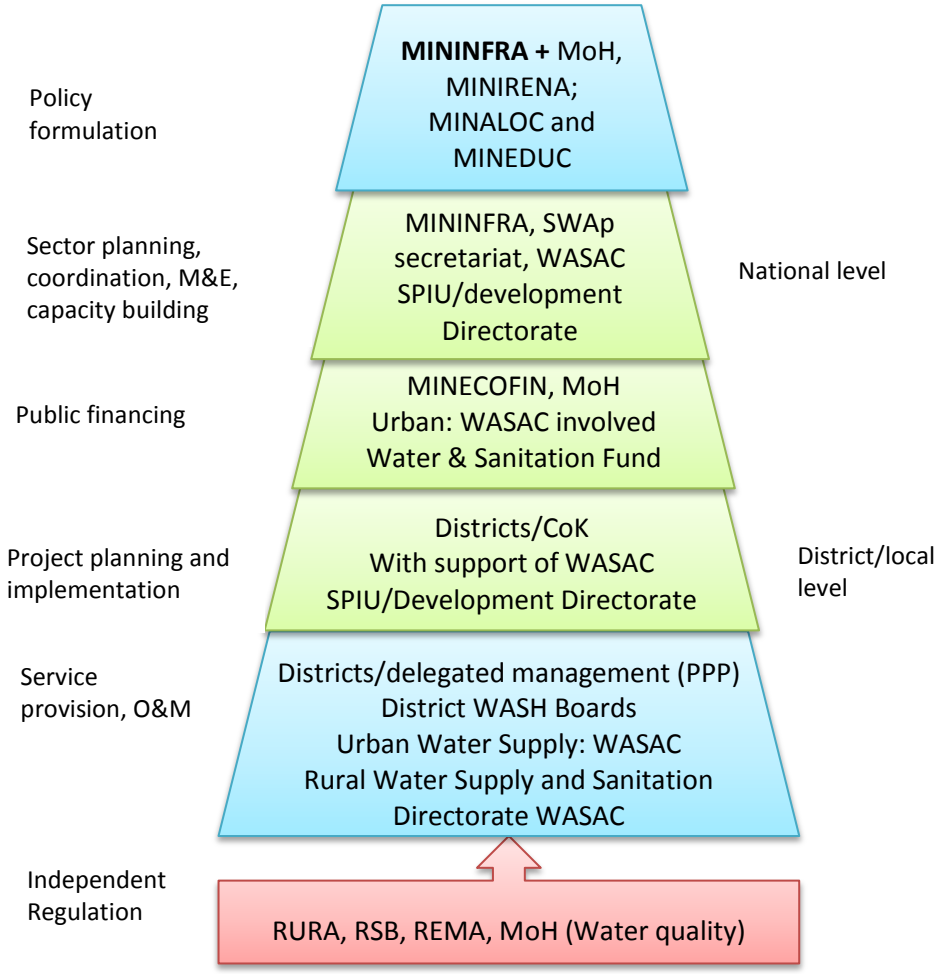

Figure 5: Overview of the key roles and responsibilities of the public institutions involved in the WSS sector

The schematic is intentionally simplified and shows public entities only whereas detailed institutional roles are contained in Table 7 below:

Table 7: Institutions involved in water supply and sanitation services

S/N	Institution	Roles and responsibilities
1	Ministry in charge of water supply	Formulation of national policies and strategies; sector oversight, budgeting and resource mobilisation; overall sector performance monitoring. Takes the lead of infrastructure related aspects of water supply; prepares and monitors water quality and hygiene standards
2	Government of Rwanda Water and Sanitation Water Supply Service Provider	Implementation of water supply policies and strategies (both urban and rural); operational sector planning, M&E; coordination of sector stakeholders; support to districts (including rural infrastructure development and PPP arrangements); management of the harmonised financing mechanism. Preparation of guidelines and standards; capacity building; applied research and knowledge management.
3	RURA	Independent regulation of the water supply sub-sector. The functions of the regulator cover the following aspects of regulation: technical, economic, legal and consumer protection.
4	MINECOFIN	Coordinates the national budgeting, planning and financing framework, with a strong role in related aspects of the WS services Subsector sector.
5	Ministry in charge of the environment and natural resources	In charge of water resources management (allocation, protection and use) including discharge regulations and environmental impact assessment of WSS Projects; leading role in enforcement of environmental regulations and awareness promotion Campaigns about domestic and industrial solid waste management.
6	MoH (Environmental Health)	Has the lead in household sanitation and hygiene promotion
7	MINEDUC	Partner for educational programmes (development of relevant curricula in coordination with MININFRA) and school

S/N	Institution	Roles and responsibilities
		water supply programmes
8	Ministry of Local Government (MINALOC)	Responsible for decentralization and matters related to local government planning, finance and administration.
9	Ministry of Agriculture (MINAGRI)	Partner for water supply to livestock, especially through dams; coffee washing stations
10	Energy sector	Connecting the pumping stations and water treatment plants to the electricity grid
11	District local governments, City of Kigali	Responsible for the provision of access to basic water supply services. Implementation of water supply and contracting private operators for infrastructure O&M; prepare and implement consolidated district development plans.
12	Communities	To be involved in project identification, planning and commissioning, as a matter of policy; form user committees to represent consumer interests; are in charge of the O&M of certain water infrastructures (community management).
13	Private sector	Participates in the execution of projects (consulting firms, contractors) as well as in infrastructure operation and maintenance (private operators, through delegated management, contracted by the districts). The informal sector and SME provide sanitation services (sludge emptying), carry out most of the individual sanitary Improvements throughout the country and are active in solid waste management (collection, recycling). Rwanda Private Sector Federation (PSF) has an important role in technical and vocational training and business development support.
14	Development partners	Support sector development in accordance with the principles agreed for the SWAP; contribute to financing sector projects through a variety of aid modalities.
15	Civil society/non-governmental organizations (NGOs)	Contribute to the implementation of water supply projects; support the SWAp in coordination mechanisms at the national and district levels.

The key steps towards consolidation of institutional reforms and establishment of an effective institutional framework include:

- Establishment of SPIU, a dedicated unit within the Water Supply Implementing Agency/ WASAC, as the planning, implementing and monitoring arm of MININFRA;
- Roll-out of the Water and Sanitation Fund as a harmonized financing mechanism

nationwide;

- Developing the implementation capacities of the district governments, recruitment of at least one water and sanitation professional and the establishment of decentralized support units of the SPIU of Water Supply Implementing Agency;
- Consolidating the public utility in charge of urban water supply and sewerage; and
- Further strengthening the regulatory framework and the role of RURA.

Districts will have the main responsibility (project ownership) for the **implementation of rural water supply projects**. However, WASAC through decentralized units of the SPIU, will provide technical support and guidance as well as targeted funding, and will ensure sector-specific monitoring and quality assurance. To this end, it will establish (i) a dedicated financing facility, the Water and Sanitation Fund, and (ii) district-level units for field support and liaison. These support units will replace the existing project implementation units and arrangements. Additional support may be provided by WASAC on request.

The responsibility for continuous service provision – i.e., for **infrastructure operation and maintenance**, will again be with the districts. Piped water supply schemes will be managed through PPP arrangements (delegated management) based on service contracts. In this context, the WASAC SPIU will provide guidance (e.g., on tariffs and contracts), while RURA will ensure independent regulation.

The public utility, WASAC, will remain the main service provider of **urban water supply** services and will in addition take responsibility for urban collective sanitation. It operates on a commercial basis and charges for its services. Oversight of urban water services is to be carried out by MININFRA, with technical support by the agency and regulatory control by RURA. The utility does not hold a monopoly, hence private companies can also provide urban water supply services.

RURA will ensure **regulation** in two respects: vis-à-vis the public, by ensuring adequate and affordable services and protecting the interest of the consumers; and vis-à-vis the service providers, by monitoring contract management, financial viability and accountability and ensuring effective competition. RURA thus covers four complementary aspects of regulation: (i) technical; (ii) economic; (iii) legal; and (iv) consumer relations.

Another important institutional challenge identified during the policy and strategy formulation process is the distinction of the two major roles of WASAC: i) WASAC's role as a water utility and ii) WASAC Rural Water Services directorate's role as a development and sector support agency. Indeed, these two mandates of WASAC are quite different:

- WASAC as a water supply utility operator, established as a public corporation, is supposed to operate based on commercial principles. Specific pro-poor measures may require subsidies, but in general the focus is on efficient, operational service delivery and financial viability.
- WASAC Directorate of Rural Water Services supports the implementation and management of rural water supply infrastructure, in particular by providing technical support and capacity building to districts and scheme operators – for project development and implementation as well as O&M – and by monitoring performance as well as sector achievements. It also channels grant funding and monitors/supports the use of earmarked sector funding to the districts. In the future, it should increasingly focus on developing the enabling framework for sanitation.

It has to be noted that the above distinction is not about urban versus rural service delivery. The difference is about acting as a commercial operator versus acting as a development agency in support to districts and other sector stakeholders, using public grant funding. Under the current setup, rural water supply tends to receive too little attention, given that 80 per cent of the population live in rural areas.

5.4.2. Strengthening of WASAC's Rural Directorate

The directorate of Rural Water Supply and Sanitation is an entity with development objectives aimed at strengthening decentralized capacities, implementing projects and reaching strategic targets in rural areas. It is not a water supply operator, does not have revenue, and channels or monitors the use of government subsidies for water and sanitation in rural areas. This focus is different from WASAC/Urban which is a water supply and sewerage corporation that operates based on commercial principles.

Given the double challenge of accelerating implementation of new infrastructure and strengthening the management and O&M systems of existing schemes, the current capacities of WASAC's directorate of Rural Water Services are not sufficient. The districts need intensive support both in terms of sector development and direct support for O&M to ensure functionality.

5.4.3. Establishing an SPIU within WASAC to support project management and development

In order to promote accelerated implementation of the policy implementation strategy, a stronger focus on project development and management is needed, and this will be promoted by the establishment of an SPIU within WASAC. The main responsibilities of the SPIU will be as follows:

a) Plan and oversee the achievement of sector goals as an extended arm of MININFRA;

b) Plan, design and manage the implementation of water supply projects in line with the master plans;

c) Supervision of use of earmarked funding to districts;

d) Provision of funds/credits for rehabilitations and extensions (not covered by rural tariffs); and

e) Channelling of targeted subsidies, and implementation of pro-poor policies.

5.4.4. Capacity development, professional training and education (particular focus at district level)

In order to address the capacity development challenges in the sector in a systematic way, MININFRA will formulate a comprehensive capacity development programme supported by harmonized funding arrangements and administered by the SWAp secretariat.

Programs for capacity development will be framed around:

- education and training;
- continued professional development; and
- the enabling environment for service delivery.

Since districts are the key institutions responsible for service delivery in the Water Supply sub-sector, it

is essential to ensure that these programmes enable district capacity to be enhanced, either directly or through cascading the outcomes of support to central government.

There are three priority areas in which the capacity development programme will invest, including:

a) Gap filling around existing education and training programme initiatives

These capacity development programmes will therefore be closely coordinated with initiatives of the Workforce Development Authority (WDA) and the Integrated Polytechnic Regional Centres and build on Technical Vocational Education and Training (TVET).

Such programmes will also provide technical assistance in support of the vocational colleges and universities as appropriate. This would include help with curriculum development (BSc and MSc) and, crucially, quality control.

Programmed training will also be provided – e.g., for newly recruited water and sanitation professionals at the district level who are required to plan and oversee the implementation of district-level WSS programmes.

b) Continuing professional development (CPD)

In addition to the urgent need to recruit additional qualified personnel to the sector, there is also a need to provide CPD to those staff already in posts. CPD is important to increase staff skills, knowledge and understanding. The key areas for CPD relate to the core functions around service delivery. A few examples would be:

i. programme management;
ii. performance measurement;
iii. monitoring, analysis and reporting;
iv. technical planning;
v. specific technical skills; and
vi. budgeting and financial planning.

c) Enabling environment

An important way to contribute to the improvement of the enabling environment is through providing a funding window that provides overall sector-wide support. Appropriate activities are those related to:

i. studies in support of Joint Sector Review undertakings;
ii. policy and strategy development;
iii. sector coordination and sector reviews;
iv. participating in sector events on request at short notice; and
v. pilot studies to promote sector reform.

5.4.5. Sector-Wide Approach

The water and sanitation policy and strategy shall be implemented through a SWAp. A Memorandum of Understanding for the Water and Sanitation SWAp was signed by the Government of Rwanda and key development partners in October 2009.[21]

[21] All quotes in this section are from the Memorandum of Understanding text.

The SWAp is defined in the Memorandum of Understanding as "a common approach and process adopted in partnership between the Ministry of Infrastructure (MININFRA) and its Partners in accordance with the partnership principles and objectives." Partners underline their commitment "to support a common program of work in which strategy, policy planning, development, monitoring, review and capacity building are carried out as a joint effort through consultation between the government and signing partners." The SWAp is understood as the framework for the development and implementation of a sector strategy endorsed both by the Government and signing partners, based on "consensus as far as possible."

The SWAp implies a holistic approach, by addressing all aspects of the sector in an integrated way, and is inclusive as it explicitly acknowledges the role of NGOs, including community-based organizations and private enterprises.

Partners will further 'align and harmonize their own planning, and performance monitoring and reviewing activities with those processes and mechanisms established in the sector-wide approach', striving for an increasing number of joint and harmonized activities. Future development assistance will be managed using existing structures as far as possible, in order to reduce transactions costs and improve sustainability. Other partnership principles are joint planning and implementation of support programmes; information sharing on the nature, timing and financing of these programmes; and support to a harmonized approach to capacity building (*refer to chapter 5.4.4*).

Among the essential components of a SWAp include:[22]

a) an agreed sector policy and strategic framework;
b) a medium-term expenditure framework reflecting sector priorities and strategies;
c) a sector coordination framework under government leadership;
d) a performance monitoring system; and
e) a focus on institutional capacity development and good governance.

All these components are under development in Rwanda. The emphasis of this strategic plan will therefore be to further refine the strategic framework of the WSS sector based on the results of the latest master planning initiatives.

Partners agree on joint objectives, principles and operating procedures, including the Harmonized Procedures Manual for project and programme implementation.
Participation in the harmonized financing mechanism being developed – which will allow for both budget support and basket funding arrangements – is encouraged, but partners are not limited to using theses modalities. "In the context of the Rwanda Aid Policy, resources are deemed to be on-budget where they are reflected in the Government of Rwanda's budget. Resources are on-plan when clear alignment with a strategic plan is demonstrated." External support can thus be on plan (EDPRS) and on budget regardless of the financing modality used. However, partners "commit as far as possible to increasingly employing Government of Rwanda disbursement and financial reporting systems."

[22] 'EU Water Initiative Africa Working Group (2009): Making it Work – Sector wide approach', Briefing Note, 2nd Africa Water Week, November 2009.

Among the agreed tools of consultation and coordination are:

- a SWAp secretariat, to be hosted by MININFRA;
- regular meetings of the Sector Working Group, the highest advisory and coordination body within the sector; and
- a Joint Sector Review, to take place once a year.

Development partners will appoint a lead donor representative to coordinate donor views, act as co-chair in sector meetings and activities, and ensure harmonization of dialogue. The Government of Rwanda will, inter alia, submit the annual work plan, budget and Medium-Term Expenditure Framework for review at the Joint WATSAN Sector Review, and will invite partner representative to the planning process.

5.4.6. Communication, consultation and coordination

Sector development and a successful SWAp depend on good communication and complementary cooperation of the different sector stakeholders – government and non-government institutions, development partners and users.

Particular emphasis will be paid during the policy implementation period to ensure a consistent and regular communications flow from the centre to the districts and lower levels of government and adequate feedback loops back.

The district water, Sanitation and Hygiene Boards will be strengthened to ensure adequate coordination of activities at the district level. The newly recruited WSS professionals at the district level will provide vital secretariat support to the district WASH Boards.

The use of modern Information and Communications Technology and social media will be encouraged to improve information flow and broad consultation processes in the WSS sector.

5.4.7. Research and knowledge management

The strategy to promote innovation and build a knowledge base relies on two main components: (1) cooperation with research organizations and (2) improved knowledge management, aiming to make experience readily available to all sector stakeholders.

Cooperation with research organizations – such as the National University of Rwanda (NUR), College of Science and Technology (CST), and Kigali Health Institute (KHI) – will involve the promotion and support of applied research and thesis in relevant fields. Support can include the provision of data, sensitization of stakeholders, guidance, as well as financial support for expenditures such as data collection, travel and subsistence.

Applied research will focus on innovative technologies and approaches, which are not necessarily new but are not yet standard in Rwanda, and hence will be tested and adapted for Rwandan conditions.

Other research will aim to measure the impact of water and sanitation inventories at the beneficiary level, including unintended impacts, longer-term impacts and impacts on cross-cutting issues: impacts on the role and living conditions of women, vulnerable people, on water resources, etc. These scientific impact evaluations are not to be confused with standard evaluations which are part of the project cycle. Data will be disaggregated in order to capture effects on women, children and the poor.

Finally, the implications of climate change are another expected focus of research.

Knowledge management will initially focus on making the existing experience available. One of the first steps will be to create, based on the existing inventory, a national database of water supply and sanitation facilities containing key data on technologies, operational status and benchmarking data, including reference to related studies and evaluation reports.

The overall responsibility to initiate and coordinate the above activities will be with MININFRA and WASAC.

5.4.8. International exchange and cooperation

Participation in international workshops and conferences will be active, but selective, in order to avoid excessive absence of key sector staff. Study tours and exchange visits will focus on (a) the East Africa region and (b) on countries with emerging economies where appropriate, cost-effective approaches can be studied.

The key performance indicators, targets and cost estimates for Objective 4 of the policy are presented in Table 8.

Table 8: Targets and cost estimates for Objective 4 – Institutional development

Performance indicator	Target					Cost estimate (million RWF)	Implementation responsibility
	15/16	16/17	17/18	18/19	19/20		
3.2 Establishing an SPIU within WASAC to support project management and development							
Rate of implementation of the WSS Masterplan (Number of projects under implementation versus projects planned)		80%	80%	90%	90%		WASAC MININFRA
3.3 Capacity development, professional training and education (particular focus at district level)							
Comprehensive capacity development programme formulated supported by harmonized funding arrangements administered by the SWAp secretariat		X					MININFRA Sector working group SWAp secretariat
3.4 Sector-Wide Approach							
Percentage of water- and sanitation-related official development assistance that is part of the government-coordinated spending	na	60	70	80	80		MINECOFIN SWAp secretariat, MININFRA

Performance indicator	Target					Cost estimate (million RWF)	Implementation responsibility
	15/16	16/17	17/18	18/19	19/20		
plan							
3.5 Communication, consultation and coordination							
Policy implementation coordination committee established and meeting every six months		X	X	X	X		MININFRA, Prime Minister's Office

5.5. COORIDNATION AND COOPERATION REQUIREMENTS

The implementation of the Policy and the Policy Implementation Strategy will be a joint responsibility of various government institutions – several ministries and national autonomous entities as well as local governments – under the overall oversight of MININFRA and WASAC, its main implementation arm. Government bodies, development partners and non-government stakeholders will cooperate in a SWAp framework.

MININFRA will lead the institutional reform consolidation process and will host a permanent Sector Working Group that ensures coordination and monitoring of the sector programme, including dialogue and communication with other sector stakeholders (in particular local governments, other sector institutions, cross-sectoral planning and regulatory bodies, NGOs and the private sector). The Water Supply sub-sector coordination secretariat will be further strengthened and support MININFRA and the Sector Working Group in the day-to-day management of the WSS sector.

The magnitude of the planned interventions, combined with the need to revise and develop the institutional framework, makes it obvious that the first year of policy implementation is decisive for laying the ground for successful sector development. This involves strengthening and consolidating existing institutions, financing and coordination mechanisms; capacity building at all levels; sector harmonization; and the formulation and funding of the key projects to be carried out in subsequent years.

This will require considerable efforts, clear priorities and adequate planning and management capacities. It is strongly recommended to strengthen the sector management capacities by involving technical assistants during at least three years.

At the central level the following coordination and collaboration mechanism and activities are proposed:

1. **Constitution of a national water and sanitation policy and strategy implementation monitoring committee.**
   The proposed policies/strategies implementation monitoring committee will include:

   1) Ministry of Infrastructure;
   2) Ministry of Finance & Economic Planning;
   3) Ministry of Natural Resources;
   4) Ministry of Health;

5) Ministry of Local Government, including districts' authorities;
6) Ministry of Education; and
7) City of Kigali.

2. **Development of a detailed implementation plan with clear timelines to facilitate tracking of the key actions/recommendations.**
3. **Half-yearly reporting on progress to the Sector Working Group in line with the SWAp arrangements.**

This coordination and collaboration mechanism will be mirrored at the district level whereas the District WASH Board supported by the WASH officers employed by the district will provide the institutional platform for effective coordination of policy implementation activities at the district level.

5.6. IMPLEMENTATION COSTS AND FINANCING

5.6.1. Total funding requirements

As summarized in the table below, the total public funding requirements for the Implementation strategy are about RFW 337 billion (US$450 million) for the five-year period 2015/16 to 2019/20; see the table below for a breakdown. All cost estimates are indicative, pending more detailed cost evaluations through a Sector Investment Plan/financial model.

The costs below refer to public funding requirements only, to be provided through the government budget and/or through channels of development cooperation. Private investments (by households or companies) and costs covered by fees (such as O&M costs) are not shown. However, these types of financing will be described in the following section on financing arrangements.

Table 9: Public funding requirements in the water supply sector 2016–2020

Programme	Public funding requirements Total costs over five years RWF billion	US$ million[23]	Proportion
Rural water supply – increasing coverage	133	177	40%
Rural water supply – ensuring functionality	42	56	13%
Urban water supply	158	211	46%
Institutional sector framework and capacity building	4	5	1%
	337	**450**	**100%**

[23] Exchange rate used: 1 US$ = 750 RWF.

5.6.2. Sector financing arrangements, by sub-sector

Rural water supply – new infrastructure: The bulk of new infrastructure and major rehabilitation works will continue to be funded by the Government of Rwanda and its development partners. Community contributions are important to foster commitment and ownership but will not exceed a percentage of the total upfront investment. NGOs will continue to contribute to infrastructure development. The potential for private investment in new rural water supply schemes is limited: it requires high upfront investments while the revenue base is small. However, the private sector will be involved through PPP arrangements and is expected to invest in extensions or rehabilitations of existing schemes and service-level upgrades. The type and duration of delegated management contracts shall be reviewed to mobilize this type of investments by private scheme operators.

Rural water supply – O&M: As a matter of policy, O&M costs of rural water supply infrastructure will be covered by user fees. Tariffs will be set to ensure the financial viability and sustainability of scheme operations, at a level of cost recovery that includes major repairs and replacement of electro-mechanical equipment but not asset depreciation. Targeted subsidy schemes or cross-subsidy arrangements (by grouping schemes) will be considered in exceptional cases where the local conditions do not allow for cost recovery with affordable tariffs. WASAC will develop guidelines for tariffs and for the use of fees set aside by the districts, while RURA will be in charge of regulation. The Government will support the transformation of existing schemes for delegated management by providing subsidized water meters.

Urban water supply: The operational costs of urban water supply shall be entirely covered by user fees, with the long-term objective to achieve full cost recovery. In the short and medium term, extensions of the production and distribution capacities will be funded by the Government, but the utility will be encouraged and supported to identify other sources of funding, such as loans. The opportunities to mobilize private investment (e.g., in bulk water supply) will be explored.

Institutional sector framework and capacity building: The ambitious sector objectives can only be achieved if the institutional framework is developed to an adequate level of capacities and operational funding. In the past, many activities – senior sector staff, costs of workshops and studies, development of the MIS, etc. – have been covered by individual projects or development partners on a case-by-case basis. In the context of the SWAp, joint financing channels will be established to finance sector development activities such as:

- Programme management, including SWAp secretariat costs;
- Workshops, joint performance reviews, etc.;
- Information and communication technology costs (MIS, website, external communication);
- Capacity building and training courses organized by the sector;
- Consultancies, studies and technical assistance;
- Research grants for applied research in the WSS services sector; and
- Exchange visits, study tours and participation in international conferences.

A key challenge is to ensure regular and sufficient funding for the human resources and operations of the SPIU in WASAC. By replacing the existing project implementation units these offices will not increase the total transaction costs of the sector, but they will be financed through harmonized sector channels rather than project budgets as in the past.

5.7. MONITORING & EVALUATION AND RESULTS-BASED MANAGEMENT

The sector made considerable efforts to develop its M&E system, which is a core part of the sector framework and SWAp. Its further optimization is one of the tasks tackled by this Policy Implementation Strategy. The ultimate objective is full implementation of results-based management at the sector level.

Considerable progress was made in 2009 by establishing a comprehensive, Web-based MIS and conducting a baseline assessment. The challenge is to make it fully operational, develop sustainable data collection, reporting and quality assurance mechanisms and formats, and provide training to all the stakeholders involved in system operation, including in particular at the decentralized level (data providers).

To implement this, sector officer will be appointed for planning, M&E and data and information management, in addition to the technical staff needed for MIS operation. A focal point in charge of data collection and progress monitoring will be nominated in each district. Efforts will be made to involve other stakeholders, in particular the utility and the NGOs active in the water sector, in the monitoring and reporting system.

Joint multi-stakeholder sector reviews will be held on a regular basis, at least annually. Key information on sector performance and EDPRS-related indicators will be made available online.

One of the key challenges is to combine administrative, programme-related reporting with national household surveys. The WSS sector, coordinated by the agency, will collaborate with the National Institute of Statistics to ensure compatibility and synergies between both types of information collection. The sector MIS will be linked to Rwanda's cross-sectoral planning and reporting systems such as the EDPRS Monitoring Matrix. It will also inform coordination forums such as the Sector Implementation Group, forum of the Secretary Generals, Development Partners Coordination Group and Cabinet.

In line with the recently adopted 2030 Agenda for Sustainable Development, "Transforming our world" the Government of Rwanda will ensure that the sector monitoring framework will be adapted and revised in order to ensure compliance with the emerging global SDG monitoring framework.

5.8. LEGAL IMPLICATIONS

As already mentioned in the policy, there is a consensus among key stakeholders in the water sector that there is a need for a comprehensive review and update of the current legislation on water supply with the aim to publish a coherent water supply law.

This important exercise will go a long way in addressing all potential legal implications of the proposed policy directions and the revised institutional framework in the National Water Supply Policy Implementation Strategy.

Annex 1: Targets and indicators related to SDG 6

Targets and indicators related to SDG 6.

Ensure availability and sustainable management of water and sanitation for all

Target 6.1 *'By 2030, achieve universal and equitable access to safe and affordable drinking water for all'*

- **Percentage of population using safely managed drinking water services**

Target 6.2 *"By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations"*

- **Percentage of population using safely managed sanitation services**
- **Percentage of population with a hand-washing facility with soap and water at home**

Target 6.3 *"By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and increasing recycling and safe reuse globally"*

- **Percentage of wastewater safely treated**
- **Percentage of water bodies with good ambient water quality**

Target 6.4 *"By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity"*

- **Level of water stress: freshwater withdrawal in percentage of available freshwater resources**
- **Percentage of change in water use efficiency over time**

Target 6.5 *"By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate"*

- **Degree of integrated water resources management implementation (0–100)**
- **Percentage of transboundary basin area with an operational arrangement for water cooperation**

Target 6.6 *"By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes"*

- **Percentage of change in wetlands extent over time**

Target 6.a *"By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies"*

- **Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan**

Target 6.b *"Support and strengthen the participation of local communities in improving water and sanitation management"*

- **Percentage of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management**

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