African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa
Mobiliser des ressources pour l'eau en Afrique

REPUBLIC OF RWANDA

Rwanda National Integrated Water Supply and Sanitation Master Plans

Project Appraisal Report

November 2016

African Water Facility | Facilité africaine de l'eau
African Development Bank | Banque africaine de développement
BP 1387 Abidjan 01, Côte d'Ivoire, Immeuble CCIA,
Avenue Jean Paul II | CCIA 10th Floor, 10 R
africanwaterfacility@afdb.org
www.africanwaterfacilty.org

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II. LIST OF ACRONYMS

AfDB ..... African Development Bank

AWF ..... African Water Facility

EN..... European Norm

ESAP ..... Environmental & Social Assessment Procedures

ESIA ..... Environmental and Social Impact Assessment

EWSA……..Energy Water and Sanitation Authority

GIS ..... Geographic Information System/s

HH ..... Household

IUWM ..... Integrated Urban Water Management

MDG..... Millennium Development Goal

MINAGRI ..... Ministry of Agriculture

MINALOC ..... Ministry of Local Governments

MINECOFIN..... Ministry of Finance and Economic Planning

MINEDUC ..... Ministry of Education

MINICOM..... Ministry of Trade and Industry

MININFRA ..... Ministry of Infrastructure

MINIRENA..... Ministry of Natural Resources

MIS..... Management Information System

MOH..... Ministry of Health

O&M ..... Operation and Maintenance

PIU ..... Project Implementation Unit

PO..... Private Operator

REMA ..... Rwanda Environmental Management Authority

RNRA..... Rwanda Natural Resources Authority

RURA..... Rwanda Utilities Regulatory Authority

SC..... Steering Committee

SDG..... Strategic Development Goal

SESIA..... Strategic Environmental and Social Impact Assessment

WASAC ..... Water and Sanitation Corporation

WatSan ..... Water Supply and Sanitation

III. Executive Summary

Background : The newly adopted SDGs, in particular Goal 6, have set 2030 as the target timeframe to achieve universal and equitable access to safe and affordable drinking water and access to adequate and equitable sanitation and hygiene for all. Whereas access to improved water and sanitation services in Rwanda has constantly increased in recent years, the rate of increase is still insufficient to achieve the country's stringent Vision 2020 targets. Moreover, preserving these gains and best practices from national water and sanitation programmes while strengthening decentralized implementation capacities remains a challenge. Private operators working in rural areas are often not yet fully professionalised whereas District staff may have appropriate levels of education, are often short on specific Public Private Partnership (PPP) and Water Supply and Sanitation (WSS) field experience. This situation calls for a comprehensive capacity-building programme that targets both districts and private operators' staff. Additionally, although the Water and Sanitation Corporation (WASAC) and its predecessors have made significant efforts towards developing water supply and sanitation master plans for various parts of the country with varying degrees of detail to guide the achievement of universal access to water supply, national comprehensive water supply and sanitation plans still do not exist. It is against this background that the Government of Rwanda, through WASAC, has applied to the African Water Facility (AWF) for funding to support the development of water supply and sanitation master plans.

Goal: The overall project goal is to provide the Government of Rwanda with long-term 25 year masterplans that will allow the identification and implementation of effective water supply and sanitation projects. The project's immediate outcomes will be twofold: 1) a tool (the Master Plans) which allows the Republic of Rwanda to maximise effectiveness and efficiency of future investments in water supply and sanitation and to attract additional funds for these investments, and; 2) improved capacities of WASAC and 30 districts to plan, design, finance, implement and manage water and sanitation projects and infrastructure. Immediate project outputs include: (i) National Water Supply and Sanitation Master Plans are agreed to by all stakeholders including an approved list of prioritised integrated WatSan projects and 2) capacity built amongst stakeholders for better management and implementation of WatSan projects and systems.

Activities and Implementation: The Recipient of the AWF grant will be the Government of the Republic of Rwanda, with WASAC as the Implementing Agency. The project, which will be implemented over a 24 month period, consists of three (3) project components as follows: (i) Component 1 deals with the Development of the National Water Supply and Sanitation investment plans for a 10 year horizon, and the preparation of feasibility and detailed designs for small selected prioritised projects. Component 2 focuses on capacity building activities for main stakeholders, WASAC, district staff and private sector staff on previously identified topics (3) Component 3 comprises project management, stakeholder consultation and community participation and also includes the establishment of a Project Implementation Unit (PIU) within WASAC to coordinate project implementation. An international consultancy firm will be recruited to undertake the technical studies and prepare the Masterplan. A Project Steering Committee which consists of representatives from various stakeholders will provide technical oversight and guidance to the PIU.

Cost and Financing: The total project costs amounts to Euro 2,250,614 of which the African Water Facility will contribute Euro 1,950,894 (87%) and the Government of Rwanda will contribute Euro 299,720 (13%) of the total project amount.

Recommendation: Based upon a critical assessment of the relevance, effectiveness, and sustainability of the project, as well as the credibility and capacity of the Implementing Agency, it is recommended that a grant of Euro 1,950,894 from the AWF be extended to the Government of Rwanda for the implementation of this project.

IV. LOGICAL FRAMEWORK

Country and Project Name: Rwanda National Integrated Water Supply and Sanitation Masterplans

Purpose of the project: Provide the Government of Rwanda with a planning tool (Master Plans) that will allow the identification and implementation of effective water supply and sanitation projects.

Results chain		Performance indicators			Means of verification	Risks/mitigation measures
		Indicator (including CSI)	Baseline 2015	Targets		
Impact	1. Water supply coverage is increased (as required by SDG 6, Vision 2020 and WatSan Strategy Objective 1)	Percentage of population with sustainable access to improved water	74.2%[1] absolute 8,260,000 (Statistical Yearbook 2014 extrapolate.)	100% by 2030 absolute 17,180,000 (NWRMP medium projection)	Rwanda Statistical Yearbook, WASAC MIS	Sustained Government support for all new and on-going water and sanitation sector-related activities and programmes
	2. Sustainability of water supply and sanitation services is assured (as required by WatSan Strategy Objectives 2+3)	No. of non-functional systems	38%[2]	10% by 2030		Sufficient financial means available (master plan will show clearly how much money is needed to achieve targets)
	3. Rural and urban areas have sufficient sewerage and waste disposal systems (as required by SDG 6, Vision 2020)	Percentage of population with access to improved sanitation	74.5%	100% by 2030		

[1] Rwanda Statistical Yearbook 2014
[2] WASAC MIS 2015

Results Chain		Performance Indicators				Risks/mitigation measures
		Indicator Including CSI)	Baseline 2015	Targets	Means of verification	
Outcomes	1. WASAC/Districts are able to plan, design, finance, implement and manage water and sanitation projects/infrastructure	1. No. of WASAC staff capable of maintaining WatSan master planning process	0	9 (2030)	Project Reports	Risk: Training of stakeholders within the project insufficient Mitigation: Master Plan consultant will assess stakeholders capacities and include necessary capacity building activities in the Master Plans Risk: Government unable to provide Master Plan budget required to achieve targets Mitigation: Development Partners involvement in preparation of Master Plan; Donor Round Table in last phase of project
		2. No. of WASAC staff having received specific training	0	20 (2020)		
		3. No. of District staff able to manage implementation of WatSan projects	0	60 (2020)		
	2. Effectiveness and efficiency of investments in water supply and sanitation are maximised	1. Rate of increase to access to adequate water supply and sanitation services	1. 0.8% WS 1.7% San.[3]	1. 4.5% WS 5.9%San.[4] (Annual)	Water and Sanitation Master Plans	
		2. No. of integrated projects planned (projects targeting more than one use of water)	2. 0	2. 6 (2020)		
	3. Master Plans attract additional funds from development partners	1. Funds pledged	0	Sufficient to cover 100% of investment needs	Project Completion Report	

[3] JMP data 2010 to 2015

[4] Predicted rate to reach a coverage of 100% by 2030, assuming a population growth rate of 2,7%.

Results Chain			Performance Indicators				Risks/mitigation measures
			Indicator Including CSI)	Baseline 2015	Targets	Means of verification	
Outputs	2.1	Stakeholders have received training in relevant areas to improve their capacity to implement and manage WatSan projects and systems	1. No. of district staff trained	1. 0	1. 60[5] (2019)	Project Progress Reports Completion Report	Risk: no agreement on Master Plans or prioritised project list Mitigation: Early involvement of all relevant stakeholders
			2. No. of WASAC staff trained	2. 0	2. tbd		
			3. No. of PO staff trained	3. 0	3. 83[6] (2019)		
	2.2	National Water Supply and Sanitation Master plans are agreed by all stakeholders	Approved Masterplan reports	0	2 (2019)		
	2.3	Approved list of prioritised integrated WatSan projects prepared	Approved list of prioritised WatSan projects	0	1 (2018)	Project Progress Reports Completion Report	
	2.4	Feasibility and detailed designs undertaken for prioritised small investments	Feasibility studies and detailed designs for small interventions undertaken	0	3 (2019)	Project Progress Reports Completion Report	
Key activities	Components					Inputs	
	Component 1 Master Plan						
	Phase 1 – Diagnosis					Total Project Cost 2,250,614 €	
	Phase 2 – Scenarios Comparison						
	Phase 3 – Master Plan and detailed designs					**Financing Plan**	
	Component 1 Capacity Building						
	Phase 1 – Diagnosis					AWF Grant – 1,950,894 €	
	Phase 2 – Training plan development					Government of Rwanda – 299,720 €	
	Phase 3 – Training						
	Component 3 Consultation and Project Management						
	Project Management						
	Stakeholder Consultation						

[5] At least 25% of these will be women

[6] At least 25% of these will be women

1 STRATEGIC CONTEXT

1.1 Project Origin

The Government of the Republic of 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) . However, preserving these gains and best practices from the national water and sanitation programmes, while strengthening decentralized implementation capacities, remains a challenge. Private operators working in rural areas are often not yet fully professionalised. District staff may have appropriate levels of education, but are short of specific Public Private Partnership (PPP) and Water Supply and Sanitation (WSS) field experience. This situation calls for a comprehensive capacity-building programme that targets both districts and private operators' staff. Additionally, although the Water and Sanitation Corporation (WASAC) and its predecessors have made significant efforts towards developing water supply and sanitation master plans for various parts of the country with varying degrees of detail to guide the achievement of universal access to water supply, national comprehensive water supply and sanitation plans still do not exist. It is against this background that the Government of Rwanda (GoR), through WASAC, has applied to the African Water Facility (AWF) for funding to support the development of water supply and sanitation master plans. The AWF proposes to support the GoR in developing national masterplans that will guide the development of water and sanitation projects going forward.

1.2 Background

1.2.1 The newly adopted SDGs, in particular Goal 6, set 2030 as the target timeframe to achieve universal and equitable access to safe and affordable drinking water and access to adequate and equitable sanitation and hygiene for all.

1.2.2 According to the Joint Monitoring Programme (JMP) for Water Supply and Sanitation June 2015 estimates, Rwanda's national coverage for water supply stands at 76% while the national sanitation coverage is lower at 62%. Disparities do exist between urban and rural water and sanitation coverage figures. Rural coverage figures for both water and sanitation stand at 72% and 63% for rural water and sanitation coverage respectively compared to 87% and 59% for urban water and sanitation respectively.

1.2.3 Rwanda has made significant efforts to increase water and sanitation coverage figures over the past years and remains committed to 100% coverage by 2017. EDPRS II therefore identified and prioritised water supply and sanitation services as a critical service that will contribute significantly to the attainment of the growth needed for Rwanda.

1.2.4 Whereas access to improved water and sanitation services has constantly increased over the past years in Rwanda, the rate of increase is still insufficient to achieve both SDGs as well as the more stringent Vision 2020 targets. A more co-ordinated and concerted effort is therefore required to direct efforts towards achieving full coverage.

1.2.5 For the sake of this project, the term "sanitation" covers sewerage, faecal sludge management, storm water management and solid waste management.

1.3 Water Resources

1.3.1 The total annual rainfall is 27.505 billion M^3 while the total renewable water resources per annum is 6.826 billion M^3 with a groundwater recharge of 4.554 billion M^3. With a per

capita fresh water availability of less than 1000m^3 - which is less than the average 4000m^3 for Africa - Rwanda remains a water-scarce country. It is estimated that about 4.3$km^3$of the rainfall in the country, per year, is lost as runoff water – with 80% of this draining into the River Nile and flowing on to Lake Victoria while about 20% drains into River Ruzizi and flows on to Lake Tanganyika.

1.3.2 Most of the water abstracted (by both public institutions and private individuals) for distribution and for use mainly comes from Natural Water Springs (located mainly in the lowlands - uphill and in valleys), from Small rivers (with varying amounts during the dry times), from big rivers (Ruzizi, Nyabarongo, Akanyaru, Ruhwa, Muvumba etc) and from Inland small and big lakes and also from Ground water (mainly boreholes).

1.3.3 Precipitation is the main source of water for production in the country. With the on-going changing climate status however - due to global warming - the temperatures and the rainfall pattern is changing each year and less amounts of rainfall precipitation this being experienced. This change is expected to have a negative impact on the on the country's economy – hence the need to better plan on how best to implement measures that will mitigate the negative effect.

1.4 Sector Status, Priorities and Institutional Arrangements

1.4.1 Rwanda's overall development objectives and planning tools are driven by Vision 2020, the Economic Development and Poverty Reduction Strategy (EDPRS II; 2013-2018) as well as Rwanda Government's 7 year program (2010-2017). The EDPRS II, which runs from 2012/13 to 2017/18 has set very ambitious targets for the water supply and sanitation sector, aiming to reach 100% coverage rate by 2017. The revised Water and Sanitation Sector Strategic Plan 2013/14-2017/18 ensures that the sector strategy is aligned to the new objectives and targets of EDPRS II.

1.4.2 All water supply and sanitation service responsibilities are delegated to communities and districts with the exception of planning, regulation, hygiene promotion, monitoring, and oversight. However, WASAC is the entity in charge of, among others, ensuring that planning of investment in the water and sanitation sectors meets the water and sanitation policies as adopted by Government.

1.4.3 The Water Supply and Sanitation Corporation (WASAC) is the company responsible for the implementation of water and sanitation related policies and strategies. It therefore undertakes planning, piloting, capacity building and sensitizing management of infrastructure functions. WASAC was established in 2014 by dividing the Energy, Water and Sanitation Authority (EWSA) hence making WASAC and Rwanda Energy Group (REG) into two independent separate companies.

1.4.4 The Rwanda Environmental Management Authority (REMA) is responsible for environmental affairs. REMA has a key role to play towards the achievement of the national sustainable development goals as set in out in the National Development Vision 2020.

1.4.5 The Rwanda Utilities Regulatory Authority (RURA) was created in 2001 with the mission to regulate certain public utilities, among others water and sanitation. Rwanda Natural Resources Authority (RNRA) is the focal point for integrated water resources management.

1.4.6 The sector has continued to promote delegated management of water supply schemes to private operators. There are currently 83 private operators manage approximately 800 water supply schemes on behalf of the district councils. The private sector is currently involved in the

Kigali Bulk Water Project which the Bank is also finanancing through the private sector department.

1.4.7 Integrated Water Resources Management begins with the development of a National Water Resources Masterplan (2014; currently under review) that includes a water management information system component, with both tools allowing a detailed overview on water resources and water demand. The National Water Resources Master Plan defines the framework for the water supply and sanitation masterplans.

1.5 Previous Efforts towards Developing Water and Sanitation Masterplans

1.5.1 Recognising the lack of planning and co-ordination for water supply and sanitation, the Government of Rwanda, with the support from Japan International Cooperation Agency (JICA), produced a Water Supply Master Plan for the Eastern sub-basin covering 9 269 km^2 equivalent to 35 % of the total country area based on administrative boundaries.

1.5.2 The Government of Rwanda has funded the Water Supply Master Plan for the upper Nyabarongo basin covering 5 700 km^2 an equivalent to 21 % of all country. However this Masterplan does not have sufficient details and only focused on the basins within the catchments and not their interdependencies.

1.5.3 The initial study for the Kigali Masterplan was funded by the Bank and considered updating the 1997 Study and Prioritizing Designs for some of the parts of Kigali. The current Project – Kigali Centralized Sewerage System – detailed studies of the Priority Area– is being carried out by the City of Kigali with funding from the European Investment Bank with the detailed design now about 80% complete.

1.5.4 However, the Masterplan prepared for the Eastern Province is outdated and needs to be updated. Additionally this Masterplan was not developed on a catchment basin approach, which holistically considers the interdependencies but rather on administrative boundaries at the time. The Nyabarongo upper catchment masterplan does not define the list of priority projects that need to be developed further. It is simply a detailed extension of the National Water Resources Masterplan. There is need to update these plans using the catchment basin approach which is also well aligned with the National Water Resources Masterplan.

1.5.5 The National Water Resources Master plan on the other hand only focused on the assessment of national water resources and national water resources needs and uses over time and does not consider sanitation services.

1.5.6 Despite all these efforts which have been partly isolated, and often times driven by Donors'interests, the Government of Rwanda is yet to develop **national** water supply and sanitation master plans which are critical to sustainable water supply infrastructure development and management and also defined in the Sector Strategic Plan as a top priority. To assure efficient and effective utilisation of available resources, there is need to prepare countrywide water supply and sanitation master plans in a **standardised form**. As country wide plans, they will cover an area of 26,334 km^2 and a population of app. 10.7 Million (2013, Statistical Yearbook 2014).

1.6 Problem Definition

1.6.1 Actual progress towards meeting the stringent water and sanitation 2020 ambitious targets is lagging with the rate of growth having been on average 0.8% per year (excluding. population growth) for access to improved water and 1.7% per year for access to improved

sanitation. In order to achieve 100% coverage by 2020, the growth rates, accounting for a population growth rate of 2.7%, would have to be 8.3% and 12.7% per year respectively.

1.6.2 Increasing rates of access to a level which is sufficient to reach the targets for water supply and sanitation requires effective and efficient utilisation of available resources and concreted donor co-ordinated efforts guided by overall strategic plans. Unfortunately, existing plans only cover parts of the country and are not based on standards that allow comparability and some are partly outdated.

1.6.3 Integrated plans that consider other relevant actors in water supply and sanitation are not available, with the National Water Resources Master Plan (NWRMP) being the first attempt to integrated management of water resources. However, the NWRMP only considers water resources and not and sanitation services.

1.6.4 The water and sanitation strategy aims at mainstreaming capacity building in all programs and projects to strengthen districts' ownership and management of rural water schemes, as well as private operators' to ensure they deliver services efficiently and in an affordable manner, and for WASAC to ensure that it is able to meet the growing demand in a sustainable manner. Training needs to be offered to the private operators in rural areas who are often not yet fully professionalised. District staff may have appropriate levels of education, but are often short of specific Public Private Partnership (PPP) and WSS field experience. This situation calls for comprehensive capacity-building programmes targeting both district and private operators' staff.

1.6.5 The challenges of rapid population growth, increased urbanisation and industry, environmental degradation and pollution are leading to accelerated depletion and degradation of available water resources, while climate change is bringing uncertainty to future supply. To reverse this trend, one of the programmes of action of Rwanda's Green Growth and Climate Resilience Strategy (2011; programme 3) is integrated water resource management of which the proposed masterplans will play a critical part.

1.6.6 The national water supply and sanitation masterplans are therefore critical to mobilizing and directing Government and the different development partners' participation in the water and sanitation sub-sector towards achieving 100% coverage in both and sanitation. The Masterplan will not only help identify development opportunities in the sector that other development partners may participate but will also facilitate government to make more informed decisions in which areas to progressively intervene in to address the national water and sanitation sector coverage concerns.

1.7 Beneficiaries and Stakeholders

The direct beneficiaries of the project will be the Government of Rwanda, in particular the stakeholders active in providing water supply and sanitation services, i.e. WASAC, the 30 districts and private operators, who are providing water supply and sanitation services. Donors working in the sector would also directly benefit from the Masterplan as they will be equipped with a tool that would guide and justify their investment decisions. Indirect beneficiaries will be the population of Rwanda through improved water supply and sanitation services, improved environmental conditions resulting in improved standards of living. Other beneficiaries will include sector working groups, other water users, e.g. farmers and production industry by improved access to water for production, reduced production cost, etc.

1.8 Justification of AWF Intervention

1.8.1 The AWF's strategy focuses on supporting project preparation, water governance and water knowledge to help African countries meet their national water and sanitation goals and targets dictated by the Sustainable Development Goals and the Africa Water Vision 2025. The proposed project is well aligned with the Africa Water Vision 2025, in particular as far as sustainable access to safe and adequate water supply and sanitation, adequate quantity and quality of water for sustaining ecosystems and biodiversity, effective and sustainable strategies for addressing natural and man-made water-resources problems, including climate variability and change, and public awareness and commitment for sustainable water-resources management are concerned.

1.8.2 The national water supply and sanitation masterplans are critical to mobilizing the different development partners' participation in the water and sanitation sub-sector. Many of the development partners' interventions have not been well justified and guided. The masterplan will guide the Government and all the other development partners' efforts in the water and sanitation sector towards achieving 100% water and sanitation coverage in Rwanda in an effective and efficient way.

1.8.3 The project also proposes to undertake feasibility studies and detailed designs for small follow-on investments, and is well aligned with AWF's Strategic Priority 1 'preparing investment projects'. The Master Plans will undoubtedly form the required base for the preparation of larger investment projects. The identification of cost effective projects for submission to various funding agencies will be a direct output of the proposed project.

1.8.4 Under its strategic pillar 2, the African Water Facility supports the development of policies, strategies, plans and instruments at local, national, regional, and transboundary levels. The proposed project is in line with this strategic priority.

1.8.5 The AfDB Ten Year Strategy for 2013-2022 formulates two objectives, the second of which focusses on ensuring sustainable inclusive growth with infrastructure development as one of its five operational priorities. The proposed project obviously contributes to this strategy by basing the infrastructure development on an integrated planning approach with a strong focus on sustainable infrastructure.

1.8.6 The project is well aligned with the AfDB's High 5s particularly "Improve the quality of life for the people of Africa".

2 THE PROJECT

2.1 Project Objective

2.1.1 The purpose of the project is to provide the Government of the Republic of Rwanda with long-term 25 year Master Plans and 10 year investment plans for Water Supply and Sanitation for the entire country that will allow the identification and implementation of effective water supply and sanitation projects.

2.2 Outcomes and Impacts

2.2.1 The project's immediate outcomes will be twofold:

i) A planning tool (Master Plan) which allows maximisation of effectiveness and efficiency of future investments in water supply and sanitation that will also attract

additional funds for these investments. This would result in the following main long-term impacts:

a) Water supply and sanitation coverage increased (as required by SDG 6, Vision 2020 and WatSan Strategy Objective 1)

b) Sustainability of water supply and sanitation services is assured (as required by Rwanda's Water and Sanitation Strategy Objectives 2 & 3)

c) Sufficient sewerage and waste disposal systems in rural and urban areas as required by SDG 6 and Vision 2020.

ii) Improved capacities of WASAC staff and 30 districts to plan, design, finance, implement and manage water and sanitation projects and infrastructure

2.3 Outputs

2.3.1 There will be two main project outputs:

i. National Integrated Comprehensive Water Supply and Sanitation Masterplans (including an approved list of prioritised integrated WatSan investment projects) agreed by all stakeholders.

ii. Stakeholders have received training in relevant areas to improve their capacity to sustainably manage and implement WatSan projects and systems.

2.4 Project Components and Activities

2.4.1 Project activities are grouped in three project components:

i. Component 1 - Master Plan Development

ii. Component 2- Capacity Building

iii. Component 3 - Consultation and Project Management

2.4.2 Component 1: Integrated Water Supply and Sanitation Master Plan

2.4.2.1 The project defines sanitation as the management of sewage and faecal sludge, solid waste and storm water. A water supply and sanitation system is a set of technologies and/or processes working together, forming service chains or combinations thereof. The project will, in this sense, focus on water supply and sanitation systems and ensure optimization of the linkages with other sectors through an integrated approach.

2.4.2.2 The development of the Water Supply and Sanitation Master Plan will follow a planning process as shown in Figure 1. Whereas the main process will follow linear logic – from analysis and diagnosis of existing framework conditions, to the development and evaluation of long-term scenarios, to ultimately medium term Master Plans, a number of iterative steps may be required to be able to agree on one final Master Scenario which will form the base for the development of the Master Plans. In addition, the Master Plans need to recognize that environmental, technical and economic conditions in the coming years might significantly differ from the current forecasts: consequently, thus they should be sufficiently flexible and easily adjustable by WASAC at the end of the project.

2.4.2.3 The national water supply and sanitation masterplans shall make reference to the existing national water resources management masterplan. The identification of additional drinking water needs, water sources availability, as well as possible solutions will be conducted on a catchment basis and will be in accordance with the national water resources masterplan.

Results from the Masterplans development will provide additional inputs to the national water resources management masterplan.

Phase 1 – Diagnosis

2.4.2.4 The Consultant will prepare a comprehensive diagnosis of the current water supply and sanitation sector and its linkages with other relevant sectors e.g. storm water management, waste management (however included in the definition of sanitation), energy, agriculture, industry and commerce, and land use planning. This diagnosis should give a clear picture of the current situation, and identify strengths, weaknesses, opportunities and risks of the sector.

2.4.2.5 This first phase of the assignment aims to provide comprehensive input for the development of water supply and sanitation scenarios in the next phase. As a first step, a socio-economic and technical survey shall be carried out aimed at assessing the state of existing water supply and sanitation facilities and infrastructure, their social, environmental and financial impacts, user groups' capacities to pay, etc.

2.4.2.6 For the sake of an integrated approach, this analysis and diagnosis of the basic framework shall not only cover existing water supply and sanitation technologies, systems and infrastructure, but also other relevant aspects that include: water resources, water quality, water supply, climate change , public health, land use and urban planning, legal and regulatory framework, agriculture, commerce and industry, environment, hydrogeology, geology/soil (sensitive areas), institutional framework, biosolids re-use, energy/electricity, storm water, mining and tariffs structure.

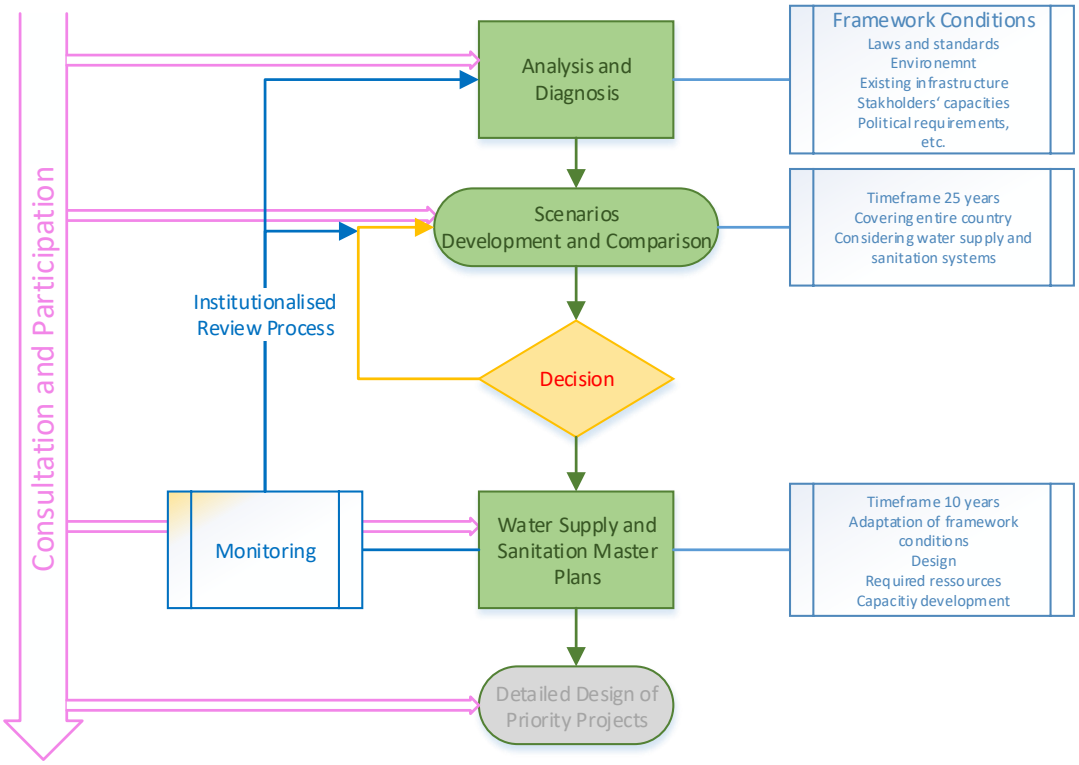


Figure 1: Water supply and Sanitation planning process (detailed design of small priority projects will form part of phase 4)

2.4.2.7 The Results of this phase shall be presented as much as possible in maps based on and integrated in existing GIS/MIS systems.

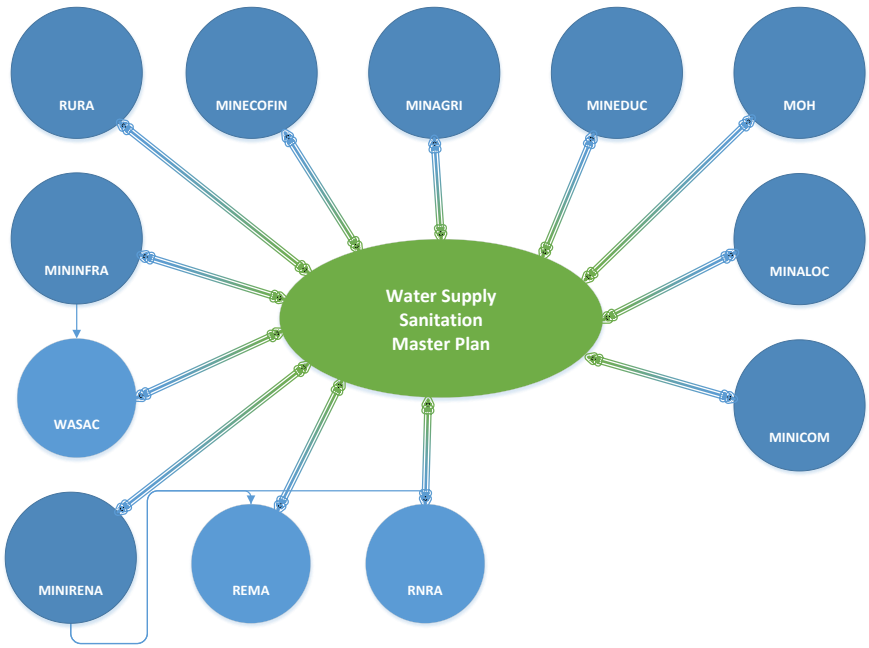


Figure 2: Stakeholders in the Development of WatSan Masterplans

Phase 2 - Scenarios Comparison

2.4.2.8 This part of the planning phase should compare scenarios for a 25 year planning horizon in a comprehensive manner. Scenarios will be based on valid water supply and sanitation policies and strategies.

2.4.2.9 As a first step, the range of applicable, possible technical options will be defined. By nature of an integrated approach technology options utilising synergies between different sectors will have to be included.

2.4.2.10 Different scenarios will then be developed. A scenario is defined as a desired ultimate state of water supply and sanitation infrastructure and services for a given area, in this case the entire country. Scenarios will range from traditional approaches to highly innovative approaches and technology options, considering different degrees of centralisation/decentralisation, utilisation of alternative sources, etc.

2.4.2.11 Scenario development should not be hindered by the current regulatory framework and current practices; scenarios may utilise technology options, which the current regulatory framework has not considered and for which it may therefore be inhibiting. In addition, proposed technology options' performance may deviate from currently valid standards. In such cases, the scenarios will highlight and justify required measures to create a supportive environment for these technologies (e.g. amendment of standards). Scenarios will consider political requirements, manifested in strategic documents, and planned developments in other sectors, e.g. agriculture, land use, water supply, solid waste, as well as their impact on these sectors.

2.4.2.12 The scenarios shall be prepared for a number of logically definable areas, e.g. catchments. In case of mass flows (of water, wastewater, waste) crossing boundaries of these areas are identified, interface conditions will have to be defined to be able to quantify the effect

of these mass flows on criteria used for comparison of scenarios. If, for example, waste is "exported" from catchment A to catchment B, then the effect of this export has to be considered for catchment A's scenario in terms of a share of criteria values (cost, benefits, energy, etc.) from catchment B's scenario.

2.4.2.13 Scenarios shall be developed including feasible combinations of new and conventional technologies as well as different degrees of centralisation.

2.4.2.14 Every scenario description shall include:

- a description of:
  - proposed technical solutions foreseen for all different locations in the targeted area;
  - estimated mass flows (water, sludge, COD) and energy requirements;
  - estimated infrastructure dimensions;
  - estimated cost of investment, broken down by units;
  - estimated cost of operation and maintenance (by units).
- Plans/maps indicating essential units based on approved respectively proposed land use plans.
- A justification of proposed technical solutions foreseen for all different locations in the targeted area.
- An estimate of the number of users served by the different systems proposed.
- A description of the implications of proposed systems and technologies on existing standards and regulations.
- An assessment of the scenario impacts on other sector's planning documents.
- Required soft measures, as awareness creation campaigns, behaviour change activities (social marketing), capacity building, etc. shall be defined and thoroughly described and costed.

2.4.2.15 The consultant will develop a multi-criteria assessment of the scenarios. The criteria will be discussed with WASAC, and will include financial, economic, and environmental or climate change related criteria. The final selection of evaluation parameters shall be made in agreement with WASAC.

2.4.2.16 The result of this step of performance evaluation will be a comparison of different scenarios in the form of a matrix, showing every scenario's performance in relation to agreed evaluation criteria. To simplify this comparison where possible, a conversion of a criterion into cost elements may be taken into consideration (e.g. electricity demand is partly reflected in cost; environmental cost of electricity generation may be included by increasing unit prices).

2.4.2.17 Based on the outcome of the scenario development and comparison steps, an informed decision for one Master Scenario will be taken by the Steering Committee, which will then be developed into a Master Plan. The consultant will facilitate this decision making process. This Master scenario may be a mix of the previous scenarios, and will therefore be assessed based on the same approach.

2.4.2.18 Due to the nature of the integrated approach, the Water Supply and Sanitation Master Plans will have an influence on, and be influenced by, plans in other sectors and this will have to be taken into account accordingly.

2.4.2.19 To enhance the flexibility of the planning approach as well as its effectiveness, the Consultant will assess the existing institutionalized monitoring system, propose adaptations and establish continuous and automatic feedback into a regular review process. It has to be noted,

as mentioned earlier, that this process may require iteration depending on the acceptance of the developed scenarios.

Phase 3 – Master Plans Preparation

2.4.2.20 Based on the "Master Scenario" developed and agreed upon in phase 2 the Consultant will prepare Integrated Water Supply and Sanitation Master Investment plans for a 10 year planning period.

Recognising the strong dependencies between water supply and sanitation, the master plans will focus on the development of integrated projects, which utilise synergies between water supply and sanitation as well as other concerned sectors.

2.4.2.21 Justified by problem analyses and based on the state of existing infrastructure, environmental conditions, water resources quality, etc., investments in hardware and software activities shall be prioritised for a 10-year planning period.

2.4.2.22 For these prioritised investments, preliminary design documents will be prepared to form the basis for cost estimation. The preliminary design is meant to bridge the gap between the design concept (Master Scenario) and the detailed design phase. In this task, the overall system configuration will be defined, and schematics, diagrams, and layouts of the project prepared to provide early project configuration. During detailed design and optimization, the parameters of the parts being designed will change, but the preliminary design focuses on creating the general project framework.

2.4.2.23 The preliminary design will at least comprise:

(a) Summary of existing baseline data, inclusive of additionally generated baseline data where required:
    - topographical survey
    - soil and geotechnical survey
    - specific cost information (investment, O&M)

(b) Description of design assumptions, design parameters

(c) Development of a graphical solution (maps, plans, etc.) of the concept, considering technical, environmental, social, economic, functional, energy reuse specific requirements and including the integration of all relevant sectors and stakeholders

(d) Integration of existing designs

(e) Description of planned facilities and infrastructure

(f) Graphical presentation of the entire draft master plan design (site plans 1:5000, facilities 1:500 – 100)

2.4.2.24 Cost calculations for investment, operation, and maintenance, broken down into appropriate units (to be defined jointly with the client).

2.4.2.25 The 10-year investment plan may be based on a number of conditions and assumptions, which have to be realised in order to guarantee its successful implementation. Therefore a number of accompanying measures, ranging from development of additionally required capacities of relevant stakeholders (e.g. WASAC, districts, private operators), to awareness creation or behaviour change activities (e.g. policy awareness, demand side measures, reuse) may be required and shall be planned for. This plan of "soft" activities shall

clearly show the perceived deficit, target group, activities, costs and timing within the 10-year plan.

2.4.2.26 An economic analysis of the entire water supply and sanitation service system under WASAC shall be prepared, including newly planned facilities. The consultant will refine the economic analysis undertaken in phase 2.

2.4.2.27 The consultant shall also undertake a financial analysis for WASAC considering WASAC's financial model, which covers water supply and sanitation. Currently town water supply is subsidising rural water supply, and the financial impact of the masterplans on WASAC should be considered comprehensively. The analyses should include 2 or 3 scenarios, based on tariff assumptions. These tariff assumptions should be based on a comprehensive tariff analysis supported by the results of the socio-economic survey and propose alternative structured tariff options for O&M cost recovery / full cost recovery including incentives for demand side management. Each scenario should assess the external financing needs for WASAC based on a ten-year implementation plan of the investments. The financial analysis will also address the impact of measures proposed at the household level, e.g. rainwater harvesting, etc. The financial impacts on agriculture and main industries will also be evaluated.

2.4.2.28 A Strategic Environmental and Social Impact Assessment (SESIA) will be prepared for the proposed 10 year investments following the principles of the Environmental Impact Assessment Guidelines, 2006. In addition the proposed Master Plans' interventions shall subsequently undergo an ESIA following AfDB's Environmental and Social Assessment Procedures (ESAP).

2.4.2.29 Based on the needs of the Master Plan and an assessment of donors' interest, PPP potential, and Government capabilities, a financing strategy shall be developed that summarizes the targets along with the actions to be taken to achieve the targets. The financing strategy shall focus on investments (including accompanying measures) but also make proposals on financing of O&M costs. The consultant shall participate in a final donor's conference, and assess the potential for mobilizing climate finance for the implementation of the Masterplan.

2.4.2.30 Prioritised activities will then be arranged in logical sequences (projects), optimising the utilisation of available (financial) resources and utilising synergies (e.g. with other sectors' activities) as much as possible. The result will be an investment plan for a 10-year period, which is, on the one hand, based on an integrated comprehensive approach and, on the other, takes priorities and actual capacities for implementation into account. The sequencing will be mapped in a simplified scheme to facilitate the understanding of the phasing.

Phase 4 – Feasibility Studies and Detailed Design Preparation

2.4.2.31 This would involve the preparation of feasibility studies and detailed designs for a few selected prioritised projects. The number and size of the project will be dictated by the available budget but it is anticipated that at least 3 small rural investment project feasibility studies will be undertaken.

2.4.3 **Component 2: Capacity Building**

The lack of capacity amongst stakeholders relevant to the implementation of water supply and sanitation projects as well as for operation and maintenance of water supply and sanitation systems has been identified as one of the main obstacles to achieving water supply and

sanitation targets. Project component 2 addresses this issue by providing capacity building for different stakeholders for the following topics:

2.4.3.1 Capacity Building for WASAC

WASAC is the entity mandated with water and sanitation services in the country focusing both on Urban and Rural Water supply and sanitation and is required to provide oversight, plan, and pilot, build capacity, sensitize the populace and also manage infrastructure. WASAC staff therefore have to be adequately trained to execute these various roles and responsibilities. The project will therefore undertake capacity building as follows:

2.4.3.1.1 *Master Plan Development and Maintenance*

While the Master Plans to be developed under project component 1 will be static documents, the planning process will have to be institutionalised to allow flexible and fast reaction to changing circumstances. For this purpose, selected WASAC staff will have to be trained in masterplan development and on how to keep the Master Plans up to date.

2.4.3.1.2 *Water and Sanitation System Management (Geographic Information Systems/Management Information Systems GIS/MIS)*

One important tool to keep plans up to date is an adequate tool to collect and manage relevant information. Currently WASAC is using an MIS/GIS for this purpose, however there is need for analysing the existing system, expanding it if and where required and training WASAC staff on information management and aggregation respectively for decision making purposes. Furthermore, RNRA has developed an own MIS in the course of drawing up the National Water Resources Master Plan. This MIS is not yet fully functional and there is no integration of data between the two MIS. The training on water and sanitation system management will therefore include training on exchange of relevant data as far as possible with the two MIS.

2.4.3.2 Capacity Building for District Staff

2.4.3.2.1 *Project Implementation Management*

The ongoing process of decentralisation requires the 30 districts to take more responsibility in planning, designing, implementing and managing water and sanitation projects and infrastructure. However district staff are considered to have insufficient knowledge and experience in at least the following areas:

(1) procurement and contracting
(2) construction supervision
(3) construction coordination
(4) general contractor management
(5) Project identification and design
(6) monitoring and evaluation

Therefore training of two staff per district on the above mentioned topics is planned to enable them better deliver on their respective roles in the provision of water supply and sanitation services.

2.4.3.3 Capacity Building for the Private Sector

Currently 83 private operators manage approximately 800 water supply schemes on behalf of the district councils. These private operators is responsible vital for the quality of water supply and sanitation services but lack knowledge and experience in, amongst others, accounting and system maintenance. The project will provide training to two (2) staff for every Private Operator

(PO) to help them improve their quality of service provision. The above topics are not likely to cover all capacity needs of all stakeholders but will serve as a starting point.

2.4.4 **Additional capacity building needs will also be assessed under component 1.** Appropriate accompanying measures will be designed and included in the water supply and sanitation master plans. Undertaking capacity building activities in component 1 will help the consultant identify additional capacity building needs.

2.5 Component 3: Consultation and Project Management

Project Component 3 comprises project management and consultation activities and aims at effective and efficient implementation of the project and the achievement of the project outputs within the planned resources.

2.5.1.1 Project Management

WASAC will establish a Project Implementation Unit (PIU). The proposed (PIU) team comprises: (i) project coordinator, (ii) water engineer, (iii) sanitation engineer, (iv) finance/accountant (v) Secretary and (vi) two engineers seconded from WASAC. The PIU will be supported by in-house procurement and communication units for procurement and communication related support respectively. The project coordinator will coordinate the project, manage the internal and external communication flow, and prepare reporting documents for the Steering Committee and AWF.

2.5.1.2 Stakeholder Consultation, Community Participation

A sound, gender-sensitive consultation process will be implemented to support the planning process. This consultation process will be organized at different levels, and includes:

- A consultative committee formed from the main stakeholders will be the main forum for discussing (interim) results of the master planning process in order to inform the steering committee decisions. It will be organised at key milestones of the projects.
- Two public meetings shall be organized to get direct feedback from the population.
- A simple website will also be established to provide information on the project

2.5.1.3 Donor Mobilisation

In order to achieve outcome 3, potential donors will be involved in the project as early as possible by sharing project progress and interim results. A final donors' conference will be organised at the end of the project.

2.6 Costs and Financing Plan

2.6.1 The total project cost (excluding taxes) is estimated at Euro 2,250,614. This amount will be financed through a Euro 1,950,894 grant from the African Water Facility representing 87% of the total amount. The Government of Rwanda will make a contribution of Euro 299,720 towards the project which representing 13% of the total project cost.

2.6.2 The main project cost consists of payment for the consultancy services for capacity building and for the preparation of masterplans. A summary of costs per category of expenditure is presented in Table 1 below:

Table 1: Estimated Project Cost by Category of Expenditures (in Euro with 5% cont.)

Item	Category	Amount and Sources		Total
		AWF	Gov. of Rwanda	
A	Goods	60,000	20,000	80,000
B	Services	1,492,300		1,492,300
C	Project Management	101,000	234,000	335,000
	Total	1,653,300	254,000	1,907,300
	Contingency (18%)	297,594	45,720	343,314
	Grand Total	1,950,894	299,720	2,250,614
	Percentage	87%	13%	100%

2.7 Project Risks and Mitigation Measures

Table 2 below presents the main risks and mitigation measures.

Table 2: Main Risks and Mitigation Measures

Risk Type	Mitigation	Risk after Mitigation
Insufficient financial means for implementation	Involvement of relevant government entities and donors as early as possible in the planning process	M
Training of stakeholders insufficient	Master Plan consultant will assess stakeholders capacities and include necessary capacity building activities in the Master Plans	L
Failure to agree on the Master Plans / prioritised list of projects	Early involvement of all relevant stakeholders	L
Trained district and private operator staff move on	WASAC staff will provide the necessary backup should such situations arise	L

2.7.1 As a contribution to the project budget, the Government of Rwanda will contribute to: PIU staff salaries, and running costs (water, electricity, telephone, and internet) and office space including office furniture.

2.7.2 Table 1 shows the distribution of costs per component. A detailed cost table is presented in Annex 1.

Table 1: Distribution of Costs per Component (Euro) – Without Taxes

Component		Total Amount	AWF	GoR
Component 1	Master Plan	1,325,800	1,289,800	36,000
Component 2	Capacity Building	188,000	182,000	6,000
Component 3	Consult. Comm. and PM	393,500	181,500	212,000
Contingency (18%)		343,314	297,594	45,720
		2,250,614	1,950,894	299,720
			87%	13%

3 PROJECT IMPLEMENTATION

3.1 Recipient and Implementing Agency

3.1.1 The Recipient of the AWF grant will be the Government of Rwanda and the Water Supply and Sanitation Corporation (WASAC) will be the Implementing Agency.

3.1.2 Established in 2014 by dividing the Energy, Water and Sanitation Authority (EWSA), hence making WASAC and Rwanda Energy Group (REG) two independent separate companies, WASAC is the national company under the Ministry of Infrastructure responsible for water supply and sanitation in Rwanda on many levels - from planning, piloting, capacity building, sensitizing to management of infrastructure.

3.2 Implementation Arrangements

3.2.1 The project will be implemented by WASAC with the support of a consultancy firm. The consultant will support WASAC in the development of the national comprehensive and integrated water supply and sanitation masterplans, and deliver the capacity building component.

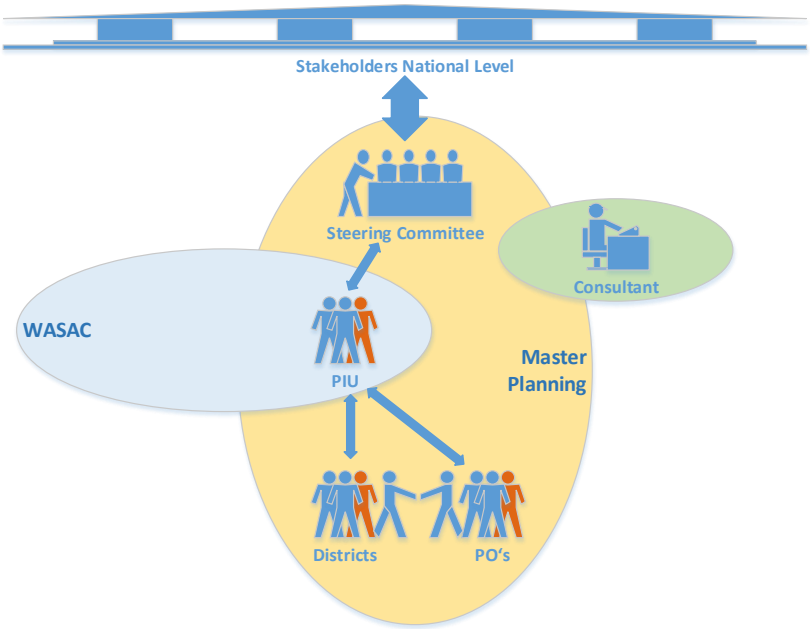


Figure 3: Proposed Implementation Arrangements

3.2.1 To ensure that the master planning knowledge is maintained within WASAC, and that capacity is built within WASAC, the Corporation will also second two water and sanitation engineers to work alongside the Consultants during the Master Plans development process. These engineers will also form part of the PIU.

3.3 Project Steering and Monitoring Arrangements

3.3.1 A Project Steering Committee will be constituted to guide the development of the master plans. The committee members will be drawn from the following Ministries/entities which are directly concerned with Water Supply and Sanitation in the country: Ministry of Infrastructure,

Ministry of Natural Resources, Ministry of Health, Ministry of Education, Rwanda Natural Resources Agency, Rwanda Environmental Management Agency, City of Kigali, Private Water Operators Association, Ministry of Local Government, Water and Sanitation Corporation and Rwanda Utility Regulatory Authority.

3.3.2 The committee will comprise four members who will hold permanent membership. The Ministry of Infrastructure will be responsible for establishing the permanent Project Steering Committee. The consultant will participate in the Steering Committees and prepare PowerPoint presentations for the meetings. Steering committee meetings will be held at least every 6 months, or more frequently depending on the needs.

3.3.3 Project progress monitoring will be based on a continuous informal/formal information flow between the consultant and WASAC but also on formal regular monthly project meetings, which will be called and organised by WASAC. Deliverables shall be submitted according to the agreed schedule to WASAC for review and approval.

3.3.4 Water Supply and, even more so, sanitation are sensitive issues, and a sound consultative process will be instituted to support the development of a Master Plan. This consultation process will involve the consultant and will be organized at two levels:

(i) A consultative committee involving all stakeholders will be the main forum for discussing the results of the study, in order to inform and guide the steering committee's decisions.

(ii) Public meetings will be organized to obtain a direct feedback from the population.

3.4 Financial Management and Auditing

3.4.1 The Financial Management assessment revealed that the FM responsibility for the project will be handled by the Projects' Development Section Project Financial Management Unit which has an adequate financial management team led by the Head of the of the PFMU assisted by two (2) Finance Managers and a team of four (4) Financial Management Officers managing several Donor and Domestic funded projects. WASAC also has an internal audit unit that reports both to the Board and CEO. The PFMU has adequate experience and is currently managing two (PNEAR and LVWATSAN) Bank funded projects and is familiar with Bank Financial Management procedures. The internal auditor will include this project in his annual work plan, and will undertake periodic ex post review of transactions of the project.

3.4.2 WASAC has developed financial policies and procedures manuals which prescribe compliance with the existing internal control rules and regulations issued under the National PFM systems for the project. WASAC has resolved that GoR IFMIS will be used for all its financial reporting for the project, effectively complying with the national systems and effectively reducing the multiple systems that have previously been in existence in the project.

3.4.3 The PFMU prepares various financial reports that include monthly and quarterly interim financial reports and annual financial reports. These are adequate for the Bank and will include Statement of Sources/Revenue and Expenditure reports, Statement of Financial Assets and liabilities, cashflow statements, accounting principles and policies and Notes to the financial statements, Bank reconciliation statements etc. Both the interim periodic and annual financial statements will be prepared in accordance with modified cash basis IPSAS in compliance with the Ministerial Order N°002/07 of 9th February 2007 relating to Financial Regulations: The PFMU will add a Statement of Expenditure for purposes of reporting to the AWF/Bank. The

periodic (quarterly) interim financial reports will be attached to the progress reports and submitted to the Bank within 45 days following on the period being reported.

1.1.1 Annual financial reports will be prepared at a financial year end aligned to the fiscal year of 30th June of the Rwandan Government and within 3 months from the year end (30th September of each year) in line with the financial rules and policies set out by MINECOFIN. Two audits will be undertaken, one at mid-point (financial or time basis) and one at closing. The appointment of the auditors will be done by AWF. The audit report complete with a management letter will be submitted to the Bank within six (6) months of the financial year end under review. The Financial Management assessment report is presented in Annex 4.

3.5 Procurement Arrangements

3.5.1 All procurement of works, and acquisition of consulting services financed by the Bank will be in accordance with the Bank's Procurement Policy dated October, 2015, as amended from time to time, using the relevant Bank Solicitation Document, and the provisions stipulated in the Financing Agreement. The implementing agency will be responsible for all envisaged procurements in the project.

3.5.2 An assessment of WASAC's capacity to undertake procurement activities under the project was carried out and determined to be generally adequate as per the proposed implementation arrangements. The EA is also currently handling several other donor-financed projects, and as such the Project Implementation team is familiar with Bank's Policy for procurement. WASAC would therefore also manage the additional workload envisaged under this project without posing a challenge to the team over the project period. The GoR intends to request for the use of Advance Contracting to expedite the implementation of the Project. An 18 months Procurement Plan has been prepared by the Executing Agency and presented to the Bank for approval.

3.5.3 Furthermore, a Project Implementation Manual will be developed to clearly outline roles and responsibilities of the various actors and control environment. Detailed procurement arrangements are presented in Technical Annex 3.

3.6 Disbursement Arrangements

3.6.1 AWF support for consultancy services estimated at Euro 1,736,724 (including 18% contingencies), shall be disbursed through the Direct Payment Method upon verification and certification of invoices by the PIU in accordance with the Bank's disbursement rules and procedures.

3.6.2 The other AWF supported expenses related to payment for office supplies, operational costs, office equipment, steering committee meetings, PIU per diem allowances and office supplies estimated at Euro 214,170 (including 18% contingencies), will be disbursed through the Special Account method in two tranches. The Recipient will open a Special Account for the AWF grant, denominated in Euros in a bank and on terms and conditions acceptable to the AWF. The Special Account will be replenished on the condition that the first advance has been utilised and justified up to at least 50%, and that a work plan acceptable to the Bank is submitted.

The proposed disbursement arrangement for the project is indicated in the Table 2 below will be under the Special Account Method.

Table 2: Disbursement Schedule for Special Account (Euro)

Item	Disbursement Method	Disbursement Tranches	Amount	% of Total
1.	Direct Payment		1,736,724	89.02%
2.	Disbursement to Special Account	1st Tranche	107,085	5.49%
		2nd Tranche	107,085	5.49%
	Total		1,950,894	100.00%

3.7 Performance Management Plan

3.7.1 Project management is the optimum implementation of project processes with limited resources (time, budget, personnel). Project performance will be monitored based on milestones (see table 5) as well as the logical framework matrix for results based monitoring.

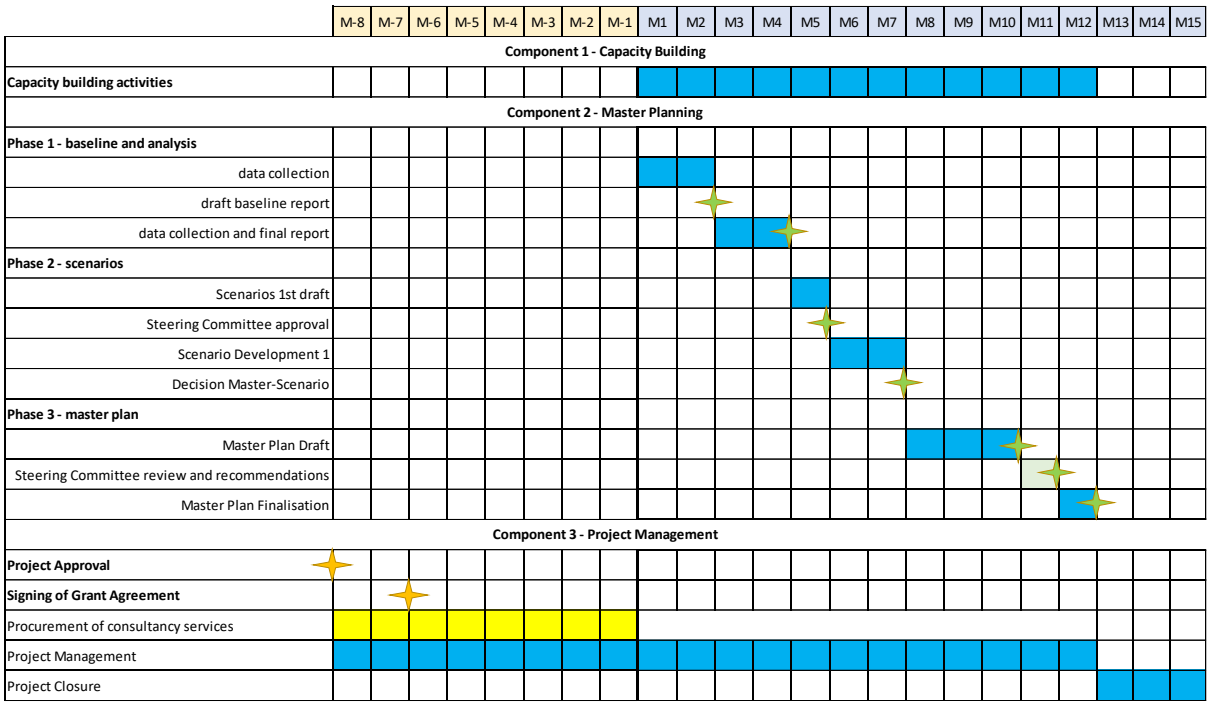
Table 5: Project Timeframe and Main Milestones

		M-8	M-7	M-6	M-5	M-4	M-3	M-2	M-1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15
	Milestones																							
Project approval	Project approval T0	✦																						
Signing of grant agreement	Signing of grant agreement T0 + 2		✦																					
Subcontracting of services	Subcontracting of services T0 + 8								✦															
Baseline data report	Baseline data report T0 + 12												✦											
Draft scenarios	Draft scenarios T0 + 13													✦										
Master Scenario	Master Scenario T0 + 15															✦								
Master Plans Draft	Master Plans Draft T0 + 18																		✦					
Master Plans	Master Plans T0 + 20																				✦			
Project completion report	Project completion report T0 + 35																							✦

3.8 Implementation Schedule

3.8.1 The duration of the project is estimated at 24 months from the date of grant effectiveness (including 8 months for the procurement of services and 12 months for the development of the Master Plan, as shown in Table 6 below.

Table 6: Indicative Implementation Schedule



3.9 Monitoring and Reporting Arrangements

3.9.1 The Implementing Agency shall be responsible for the day to day supervision of the consultancy services and for liaising with the Consultants to ensure timely production and delivery of the outputs of the project. The logical framework matrix shall serve as an overall basis for the result based assessment of the outputs of the project during implementation and after completion.

3.9.2 The Project Coordinator will collaborate with the AWF Task Manager during project implementation to discuss matters arising and ensure rapid processing of necessary formalities, e.g. issuing of non-objection, etc. The AWF will also monitor project implementation, as well as review progress reports. In addition, the AWF may undertake at least a field supervision mission per year or as the need arises.

3.9.3 The Steering Committee shall ensure that the project remains on track as far as the project outputs are concerned. It shall approve relevant reports and deliverables before proceeding with further project activities.

3.9.4 The Implementing Agency shall submit quarterly progress reports to the AWF that clearly indicates the level of attainment of results and addresses any discrepancies from set targets. The Implementing Agency shall also prepare and submit a project completion report attesting the completion of the study and showing lessons learnt from the implementation.

4 EFFECTIVENESS, EFFICIENCY, VIABILITY, & SUSTAINABILITY

4.1 Effectiveness and Efficiency

Main outputs of the project are agreed water supply and sanitation master plans. These plans will, by definition, enhance the effectiveness of interventions in water supply and sanitation by ranking and prioritising needs for both hardware investment and accompanying soft measures. Efficiency will be achieved by a) identification and utilisation of synergies with other sectors and b) by applying appropriate criteria (e.g. increase in coverage per invested resources) in the process of prioritising investments.

4.2 Viability

Project viability is potentially threatened by unrealistic political requirements, e.g. an unrealistic short time frame for achieving certain targets. It has been commonly agreed that political requirements should not find their way into the actual planning process as they might lead to plans which cannot be delivered. Financial viability of the planned sanitation interventions will be assured by appropriate financial and economic assessment of scenarios and the master plans.

4.3 Sustainability

Sustainability in water supply and sanitation service provision goes hand in hand with adequate planning and design, appropriate implementation mechanisms and sufficient resources and capacities to operate and maintain water supply and sanitation systems. The proposed master plans development will focus on all these issues and the master plan will not only come up with required hardware interventions but also accompanying measures to ensure sustainability of investments.

5 LEGAL INSTRUMENT AND AUTHORITY

5.1 Legal Instrument

5.1.1 The project will be financed by means of a Protocol of Agreement for the Grant, between the Republic of Rwanda and the African Development Bank (the "Bank"), acting as Trustee of the African Water Facility Special Fund.

5.1.2 Conditions Associated with the Bank's Intervention:

5.1.2.1 Entry into force of the Protocol of Agreement: The Protocol of Agreement will enter into force on the date of its signature by the Republic of Rwanda and the African Development Bank.

Conditions precedent to first disbursement of the grant: Conditions precedent to first disbursement of the grant: The obligation of the Bank to make the first disbursement of the grant shall be conditional upon the entry into force of the Protocol of Agreement and; (i) upon submission of evidence of the opening of a foreign currency denominated Special Account for the Project in a bank acceptable to the Bank for the deposit of part of the proceeds of the Grant

Conditions precedent to subsequent disbursement of the grant: Establishing a four member permanent Project Steering Committee (PSC) to guide project implementation.

5.2 Compliance with Bank's Policies

This project complies with the Bank's Procurement Rules and Procedures, Fiduciary Rules and Procedures, the AWF strategy and operational procedures as well as well as other applicable Bank policies.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

6.1.1 The proposed project is consistent with related national strategies in Rwanda. The project will allow WASAC to prioritize investments in water supply and sanitation to maximise effect and efficiency.

6.1.2 The proposed project's outputs will allow Government of Rwanda to attract funds for sustainable infrastructure investments, which will ultimately help to achieve the projects impact. The funding of this project is also consistent with the AWF 2012-2016 strategy whose first priority is the preparation of bankable infrastructure projects as well as with the Bank's 2013-2022 strategy which promotes green and inclusive growth.

6.1.3 The total project duration is 24 months. The project cost amounts to Euro 2,250,614 of which Euro 1,950,894 (87%) will be funded by AWF, Euro 299,720 (13%) by Government of Rwanda.

6.2 Recommendation

Based upon a critical assessment of the relevance, effectiveness, and sustainability of the Project, as well as the credibility and capacity of the Implementing Agency, it is recommended that a grant of Euro 1,950,894 (87%) out of a total cost estimate of Euro 2,250,614 from the AWF be extended to the Government of Rwanda for the implementation of the project described in this appraisal report.

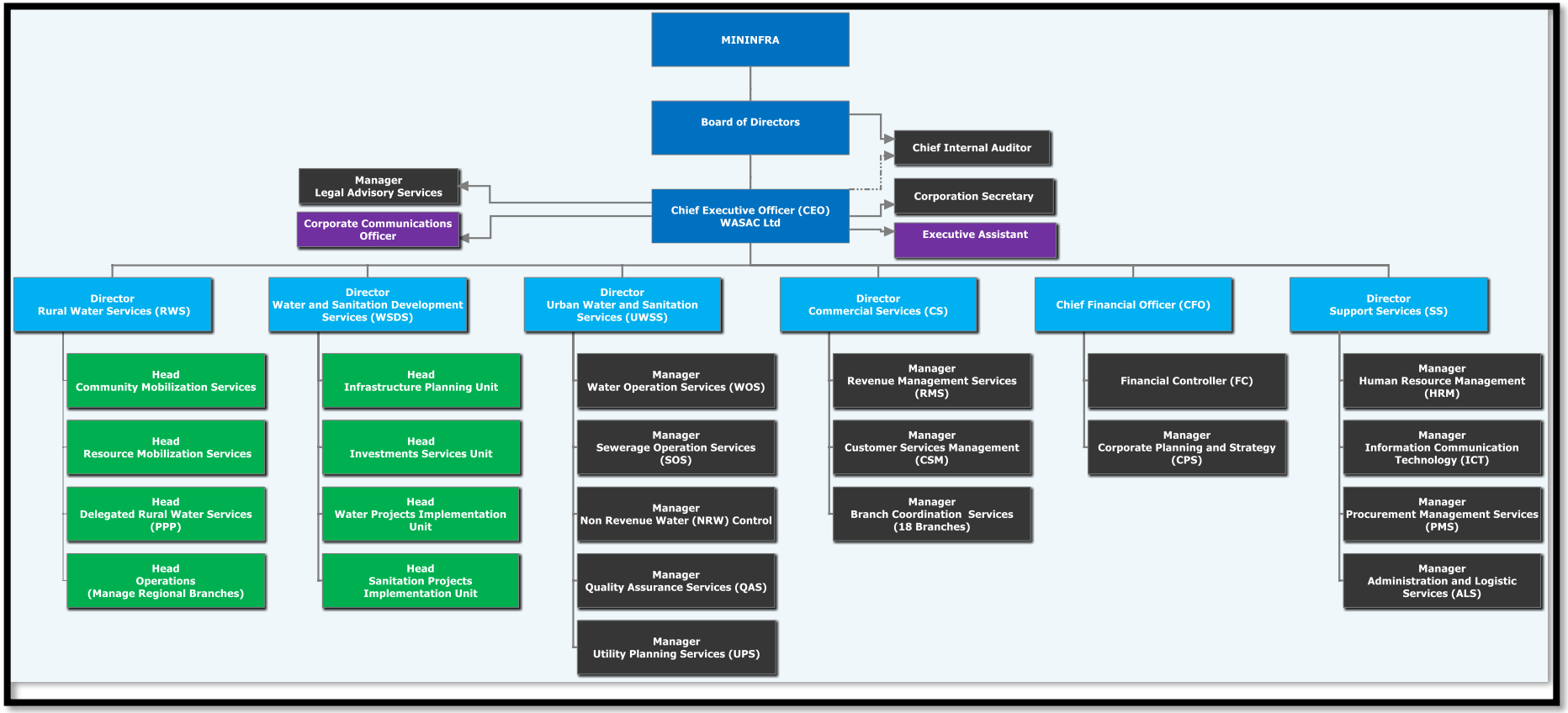
ANNEXES

ANNEX 1: DETAILED COST ESTIMATE

Item	Unit	Rate €	Quantity	Total Cost	
Component 1					
Team Leader	Month	16,500 €	12	198,000 €	
Sanitation Expert (International)	Month	14,000 €	11	154,000 €	
Local Consultants (2No.)	Month	6,000 €	24	144,000 €	
Water Supply Expert (local consultant) (2No.)	Month	6,000 €	24	144,000 €	
Hydrogeologist	Month	6,000 €	3	18,000 €	
Agronomist	Month	6,000 €	1.5	9,000 €	
Economist	Month	6,000 €	4	24,000 €	
Financial expert	Month	6,000 €	5	30,000 €	
Institutional expert	Month	6,000 €	3.5	21,000 €	
Environmentalist	Month	6,000 €	3	18,000 €	
International technician / designer	Month	13,000 €	4	52,000 €	
GIS Expert	Month	13,000 €	7	91,000 €	
Regional technician / designer	Month	6,000 €	10	60,000 €	
Social marketing expert	Month	8,500 €	2	17,000 €	
Car rental - consultant (incl. fuel)	Day	120 €	695	83,400 €	
International travels	Unit	1,800 €	30	54,000 €	
Per Diem - Consultant	Day	100 €	1224	122,400 €	
Surveys and inestigation including water quality testing	Lumpsum	50,000	1	50,000€	
Sub-total Component 1				**1,289,800**	
Component 2				**AWF**	**GoR**
Sanitation Expert (International)	Month	14,000 €	3	42,000 €	
Water Supply Expert (International)	Month	14,000 €	3	42,000 €	
Institutional expert	Month	6,000 €	3	18,000 €	
Finance Expert	Month	6,000 €	3	18,000 €	
GIS Expert	Month	13,000 €	3	39,000 €	
Car rental - consultant (incl. fuel)	Day	120 €	25	3,000 €	
Per Diem - consultant1	Day	100 €	200	20,000 €	
Sub-total Component 2				**182,000 €**	

Component 3					
Project Co-ordinator	Month	1,850 €	24		
Principal Water Engineer	Month	1,500 €	24		
Principal Sanitation Engineer	Month	1,500 €	24		36,000 €
Finance/Accountant	Month	1,500 €	24		
Secretary	Month	400 €	24		9,600 €
Office rent - PIU	Month	1,500 €	24		
Electricity - Telecommunication - Internet (PIU Office)	Month	1,500 €	24		
Office furniture	Lumpsum	20,000 €			20,000 €
Car rental - PIU	Day	100 €	368	36,800 €	-
Per Diem - PIU	Day	45 €	1000	45,000 €	-
Fuel Supply - PIU	Month	800 €	24	19,200 €	-
Office supplies - PIU	Month	250 €	24	6,000 €	-
Personal computer	U	1,000 €	3	3,000 €	-
Printer	U	1,000 €	1	1,000 €	-
Consultation committee	Unit	2,000 €	2	4,000 €	-
Steering Committee	Unit	300 €	5	1,500 €	-
Workshops	Unit	5,000 €	2	10,000 €	-
Web-site	Lumpsum	5,000 €	1	5,000 €	-
Water/SewerCad	U	10,000 €	2	20,000 €	-
GIS licence	U	15,000 €	2	30,000 €	-
Sub-total Component 3				**181,500 €**	**254,000€**
Subtotal Components				1,770,500 €	254,000€
Contingency (18%)				88,525 €	45,720 €
Total				**1,950,894 €**	**299,720 €**

ANNEX 2: WASAC ORGANISATIONAL CHART



ANNEX 3: PROCUREMENT ARRANGEMENTS

1. Introduction

1.1 The estimated cost of the project is Euro 2,125,725 funded by the African Water Facility and Government of Rwanda. Procurement of goods, works and acquisition of consulting services financed by the Bank will be in accordance with the Bank's Procurement Policy, dated October, 2015, using the relevant Bank Solicitation Documents, and the provisions stipulated in the Financing Agreement. *Procurement of goods and services financed by the Government shall be done using Government Procedures.*

1.2 The various items under different expenditure categories and related procurement arrangements are summarized in Table 1 below. Each contract to be financed under the Project, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior-review requirements, and time frame are agreed between the Borrower and the Bank project team and are provided in the Procurement Plan (see section X.0 below).

Table 1 - Summary of Procurement Arrangements

No	Project Categories	EURO '000					
		OCB (international)	OCB (National)	Shortlist (QCBS)	Other*	Non-Bank Funded	Total
1	**Goods**						
1.1	Office furniture					20,000	20,000
1.2	Personal computer				3,000		3,000
1.3	Printer				1000		1,000
1.4	Water/Sewer Cad				20,000		20,000
1.5	Office Supplies				6,000		6,000
1.6	GIS license				30,000		30,000
2	**Consultancy Services**						
2.1	Consultancy			1,471,800			1,471,800
2.2	Web-site				5,000		5,000
2.3	Consultation committee				4,000		4,000
2.4	Steering Committee				1,500		1,500
2.5	Workshops				10,000		10,000
3	Other Expenditures						
3.1	Operating Expenditures (Project Office Support)				101,000	234,000	335,000
	Contingencies			264,924	32,670	45,720	343,314
TOTAL				**1,736,724**	**214,170**	**299,720**	**2,250,614**

***** Others refers to shopping or Government of Rwanda Procurement Procedures acceptable to the Bank.

2. Goods

2.1 Contracts for goods valued below 0.1 million shall be procured using shopping. *These would include office furniture and equipment packages.*

2.4 Other expenditures related to workshops, meeting and seminars and operating expenses valued (including vehicle maintenance, insurance, shall be procured using the Governments procedures, acceptable to the Bank.

3. Works

3.1 There are no works identified in this project

4. Consulting Services

4.1 Acquisition of consultancy services related to the Development of an Integrated Urban Water Management Masterplans (including capacity building), shall be done through shortlisting of firms, using Quality and Cost Based Selection (QCBS).

4.2 When the amount of the contract is less than UA 200,000, the Borrower may limit the Publication of a Specific Procurement Notice (SPN) requesting for expressions of interest to national or regional newspapers. However, if foreign firms express interest they shall be considered.

5. Other Expenditures

5.1 Incremental recurrent expenditures during project implementation, including Project Staff, maintenance of vehicles, fuel, office supplies, , consumables, , advertising expenses, internet service, car insurance, travel, per diems, and accommodations, but excluding salaries of civil and public servants, will be procured using the Government of Rwanda procurement procedures acceptable to the Bank.

6. Executing Agency Assessment

6.1 An assessment of the capacity of the Executing Agency to implement procurement actions for the project was carried out by the Bank. The objective of the assessment was to: (a) evaluate the capability of the implementing agency and the adequacy of procurement and related systems in place; (b) assess the institutional and procedural risks that may negatively affect the ability of the agency to carry out the procurement process; (c) identify risks, develop and incorporate mitigation measures to address the identified deficiencies to minimize the identified risks.

6.2 The assessment reviewed the organizational structure and resource capacity of WASAC. The assessment revealed that WASAC has a procurement unit and staff dedicated for procurement activities. The WASAC has adequate capacity to carry out procurement activities such as those envisaged under this Project. In addition, the WASAC has good experience in handling procurement activities under Bank (or similar MDB) funded projects.

7. General Procurement Notice

7.1 The GPN text will be discussed and agreed with the WASAC upon approval of the Financing by the Bank's President, and will be issued for publication[7] in UNDB online and in the Bank's Internet Website.

8. Procurement Plan

The Borrower will prepare a Procurement Plan which will also be available in the Project's database and in the Bank's external website. This Procurement Plan will be updated by the Borrower's Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Any revisions proposed to the Procurement Plan shall be submitted to the Bank prior no objection. The Borrower shall implement the Procurement Plan in the manner in which it has been agreed with the Bank.

9. Review Procedures

9.1 For packages subject to prior review, the following documents are subject to review and approval before promulgation:

- Specific Procurement Notices;
- Tender Documents;
- Requests for Proposals;
- Tender Evaluation Reports;
- Reports on Evaluation of Consultants' Proposals, including recommendations for Contract Award;
- Draft Contracts will also be subject to the Bank's approval if they have been amended from the original drafts included in the tender documents;
- The Bank's no-objection for consultancy technical proposals' evaluation report will be required before the financial evaluation is carried out.

10. Review Thresholds

10.1 Goods and Works

Prior Review Threshold: Procurement Decisions exceeding UA 100,000 for goods shall be subject to Prior Review by the Bank.

10.2 Selection of Consultants

Prior Review Threshold: Prior review shall be required for all selection decisions related to consulting firms and for individual consultants.

11. Frequency of Procurement Post Review Mission

11.1 Due to the risks identified, the Project will require close supervision to ensure that the identified fiduciary safeguards are effective. Further, in addition to the prior review,

[7] *The General Procurement Notice is prepared by the Borrower and submitted to the Bank, which will arrange for its publication in the United Nations Development Business (UNDB online) and in Bank's Internet Website.*

supervision missions, bi-annual procurement post review missions will be conducted by the Bank Group. However, the Bank Group reserves the right to conduct its procurement audit at any time during the project implementation.

11.2 The Executing Agency will maintain all relevant procurement records in accordance with Bank requirements for all procurements subject to post review. Information on procurement processing will be collected by the Executing Agency quarterly and shall be included in detail in the Project Quarterly Progress Report to be submitted to the Bank.

ANNEX 4: FINANCIAL MANAGEMENT ASSESSMENT REPORT

1. Background

1.1 A Financial Management (FM) assessment of the project financial management unit (PFMU) of development projects section under the Directorate of Water and Sanitation Development Services of Water and Sanitation Corporation (WASAC) under the Ministry of Infrastructure (MINIFRA) in accordance with the Financial Management Policy in African Development Group financed operations (2014), the Financial Management manual for Bank Group Public Sector Operations (2014), the and Financial Management Implementation Guidelines for Bank Group Operations (2014) to determine whether WASAC as the designated Implementing Agency, has acceptable FM systems capable of; (i) correctly and completely recording all transactions relating to the project; (ii) facilitating the preparation of regular, timely and reliable financial reports; (iii) safeguarding project assets; and (iv) can be subjected to auditing arrangements acceptable to the Bank.

1.2 This FM assessment was conducted in October 2015 as part of the project appraisal mission. The overall conclusion of the assessment is that, FM systems within WASAC meet the Bank's minimum requirements. They are documented below.

2. Summary

The assessment revealed that the FM responsibility for the project will be with the Project Financial Management Unit of development projects section has an adequate financial management team led by the Head of the of the PFMU assisted by two (2) Finance Managers and a team of four (4) Financial Management Officers managing several Donor and Domestic funded projects. WASAC has also an internal audit unit that reports both to the Board and CEO. The PFMU has adequate experience and currently managing times two (PNEAR and LVWATSAN) Bank funded projects and are familiar with Bank procedures that will come handy in managing the AWF funding. WASAC has an internal audit unit that reports both to the Board and CEO. The internal auditor will include in his annual work plan, and undertake periodic ex post review of transactions of the project. WASAC has developed a financial policies and procedures manual which prescribes compliance with the existing internal control rules and regulations issued under the National PFM systems for the project. Its approval by the Board is scheduled for end of October 2015. WASAC has resolved that GoR IFMIS will be used for all its financial reporting for the project effectively complying with the national systems and effectively reducing the multiple systems that have been in existence in the project. The PFMU prepares various financial reports that include monthly and quarterly interim financial reports and annual financial reports. These are adequate for the Bank and will include Statement of Sources/Revenue and Expenditure reports, Statement of Financial Assets and liabilities, cashflow statements, accounting principles and policies and notes to the financial statements, Bank reconciliation statements etc. Both the interim periodic and annual financial statements will be prepared in accordance with modified cash basis IPSAS in compliance with the Ministerial Order N°002/07 of 9 February 2007 relating to Financial Regulations: The PFMU will add a Statement of Expenditure for purposes of reporting to the AWF/Bank. The periodic (quarterly) interim financial reports will be attached to the progress reports and submitted to the Bank within 45 days following on the period being reported. Annual financial reports will be prepared at a financial year end aligned to the fiscal year of 30 June of the

Rwandan Government and within 3 months from the year end (30th September of each year) in line with the financial rules and policies set out by MINECOFIN. The appointment of the auditors will be done by AWF based on Terms of Reference agreed with WASAC during project negotiations. The audit report complete with a management letter will be submitted to the Bank within six (6) months of the financial year end under review.

2.1 For disbursement of the funds,

Both the Special Account and Direct payment disbursement methods will available for the project. For disbursement of the funds, WASAC will open a Special Account in a bank acceptable to the Bank/AWF to support the component three (3) of the project which involves the project operations and the PFMU will prepare Withdrawal Application to receive the funding advance and subsequent reimbursements of eligible expenditure. Direct Payment method will also be used mainly for the disbursements for the activities of component one (1), and two (2). All disbursements will be carried out in accordance with the provisions of the Bank's disbursement Handbook. The Bank will issue a Disbursement Letter providing further details on disbursement methods and all other relevant guidelines

Counterpart contribution: GoR contributions will be obtained by following the National Budget Cycle. A project account will be opened to receive the counterpart funding for eligible project expenditures in proportions agreed with AWF.

2.2 Based on the assessment, the overall FM fiduciary risk is rated as Low. The Bank's fiduciary team will work with WASAC to ensure that the FM arrangement process that are ongoing such us harmonization of the accounting software and the draft procedures manual are conclude.

2.3 Given the identified risk rating, one (1) supervision per year will be undertaken. Supervision in the field with adopt a risk based approach while regular desk reviews will be undertaken for the periodic interim financial statements and audit reports with management letters as and when due. Continued support will be provided through discussions and conversations with the head of the PFMU.

2.4 Local Taxes: Bank's project financing modalities prohibits the use of project financial resources in paying all forms of local taxes.

3. Summary Project Description

The purpose of the project is to provide the Government of Rwanda with a tool that will allow the identification and implementation of effective water supply and sanitation projects. The project's immediate outcomes will be twofold: 1. Improved capacities of WASAC and the 30 districts in planning, designing, financing, implementation and management of water and sanitation projects and infrastructure, and 2.A Master Plan which allows to maximise effectiveness and efficiency of future investments in water supply and sanitation and to attract additional funds for these investments. This will result in the following main long-term impacts:

Water supply coverage is increased (as required by Vision 2020 and WatSan Strategy Objective 1),

Sustainability of water supply and sanitation services is assured (as required by WatSan Strategy Objectives 2+3),

Rural and urban areas have sufficient sewerage and waste disposal systems (as required by Vision 2020).

4. Use of Country Systems

4.1 The revised Organic Law 12/2013/OL provides the legal framework for Public financial management. With effect from fiscal year 2012/13, GoR budgets have been prepared in accordance with the IMF's 2001 Government Finance Statistics Manual and the Chart of Accounts is consistent with the IPSAS.

4.2 The Organic Law 12/2013/OL also enshrines budget comprehensiveness requiring MINECOFIN to increasing take measures to ensure that all external support is reflected in budget. It provides guidelines for accurate and timely fiscal reporting as outlined in its article 66 prescribing timelines for monthly and annual reporting. The timeliness of fiscal reports has further been enhanced by the IFMIS system whose coverage has also expanded to 216 cost centers.

4.3 The Government has also rolled out a simplified software known as Subsidiary Entities Accounting and Reporting System (SEAS) to primary service delivery units such as schools, health centers and pharmacies to 300/416 sectors in the country to improve PFM and timelines in fiscal reporting from subnational entities.

4.4 External Oversight and Audit has continued to improve tremendously with the OAG, complying with International Standards on Auditing for INTOSAI standards reported 81% audit expenditure coverage for MDAs in 2014/15, 2 percentage point higher than the2013/14 PFM coverage target. The number of unqualified audit opinion increased from 47(34%) in 2013 to 57(36%) in 2014 reflecting continuous improvements in the quality of fiscal reporting. The OAG also audited conducted 3 performance audits in the mining sector, agricultural mechanization equipment and decentralized tax administrative in 2014/15.system on budget reports and audit findings: The presentation OAG report to Parliament triggers a series of follow-up actions including: (i) presentations to Parliament by budget managers whose entities have been flagged in the OAG report as having qualified audits; (ii) disciplinary and legal action as appropriate being pursued by the appropriate organs; and (iii) action plans to address the audit recommendations being drawn-up.

5. Harmonization with Other Donors

The current project will be funded by AWF and the GoR. However, based on the outcomes, the Master Plans will help Government of Rwanda to attract additional funding for the implementation of activities in water supply and sanitation in addition to development partners' regular involvement in the process of developing the master plans. A donors' round table meeting will be organised to mobilize funds.

6. Executing Agency

The Water and Sanitation Corporation (WASAC), the mandated institution for implementation of water and sanitation policy and strategy will be the executing agency. A Project Implementation Unit (PIU) will be set up within WASAC and will have as members: (i) Project Coordinator, (ii) Water Engineer, (iii) Sanitation Engineer, (iv) Finance/Accountant and (v) Secretary. A Project Steering Committee (PSC) whose members will be drawn from the following Ministries/entities that are directly concerned with Water Supply and Sanitation will be constituted to guide the development of the masterplans. WASAC's development section has in the past implemented Bank funded projects notably PNEAR and LVWATSAN amongst others that have included WASH funded by the Royal Kingdom of the Netherlands and

UNICEF, and Rulindo Challenge funded by Water for the People, Rulindo district and WASAC. Both PNEAR and LVWATSAN received unqualified Opinion on their financial statements, Statement of Expenditure.

7. Summary of assessed Financial Management Arrangements

Detailed outcome from analysis of the FM assessment and interviews held with key the team from the Project Financial Management Unit of WASAC regarding the various FM elements are documented below.

7.1 Planning and Budgeting:

Development projects in WASAC will use the Government of Rwanda PFM systems which prescribes budgetary preparation and control procedures over implementation of counterpart funding, as well as donor funding. The preparation of the Annual Work Plan and Budget for the project will follow the budget calendar issued by MINECOFIN which starts from September of every year and finalized by June of the following year for July June budget of the subsequent fiscal year. The head of the PFMU will coordinate the budget preparation process with the coordination team and obtain its approval from the projects governance structures and share the budget with MINECOFIN. The project budget will be translated into procurement plans to be shared with the Bank for approval. Budget execution reports will be prepared as part of the quarterly interim financial reports submitted alongside the project progress reports.

7.2 Accounting Policies, Procedures and Information Systems:

The PFMU has been using different Financial Management Information systems such as TOMPRO, GPRO and the GoR Integrated Management systems (IFMIS) all of which the accounting staff are well versed with their operations. WASAC has resolved that GoR IFMIS will be used for all its financial reporting including that of AWF funding and will make the necessary arrangements with MINECOFIN to ensure that the use of IFMIS is implemented. WASAC has developed a financial policies and procedures manual that is currently in its draft form and whose approval by the Board is scheduled for end of October 2015. WASAC will need to ensure that project management procedures are integrated and shared with the Bank for information. The Manual states that management of WASAC development program funds will be governed by Public Funds Management System (PFM) and Guidelines issued by MINECOFIN, a copy of which is annexed to this manual. WASAC has an experienced team led by the Head of the of the PFMU assisted by two (2) Finance Managers and a team of four (4) Financial Management Officers managing several Donor and Domestic funded projects.

7.3 Internal Controls and GAC:

WASAC's internal auditor was recruited in August 2015. The internal auditor will include in his annual work plan, and undertake periodic ex post review of transactions of the project. The project will comply with the existing internal control rules and regulations prescribed by MINECOFIN for all Ministries, Departments and Agencies (MDAs) under the National PFM systems. Bank rules and guidelines disbursement handbook, FM guidelines and etc.), and Bank supervision missions would provide additional FM implementation support. Monthly bank reconciliations will be undertaken for all the project funding.

7.4 Funds Flow and Disbursements Arrangements

Both the Special Account and Direct payment disbursement methods will available for the project. For disbursement of the funds and to avoid any risk of commingling of funds with additional donor participation, WASAC will open a Special Account in a bank acceptable to the Bank/AWF to support the component three (3) of the project which involves the project operations and the PFMU will prepare Withdrawal Application to receive the funding advance and subsequent reimbursements of eligible expenditure. Direct Payment method will also be used mainly for the disbursements for the activities of component one (1), and two (2). All disbursements will be carried out in accordance with the provisions of the Bank's disbursement Handbook. The Bank will issue a Disbursement Letter providing further details on disbursement methods and all other relevant guidelines

Figure 1 below summarizes funds flow arrangement for the Bank resources under the project.

7.4.1 Counterpart contribution:

GoR contributions will be obtained by following the National Budget Cycle. A project account will be opened to receive the counterpart funding for eligible project expenditures in proportions agreed with AWF.

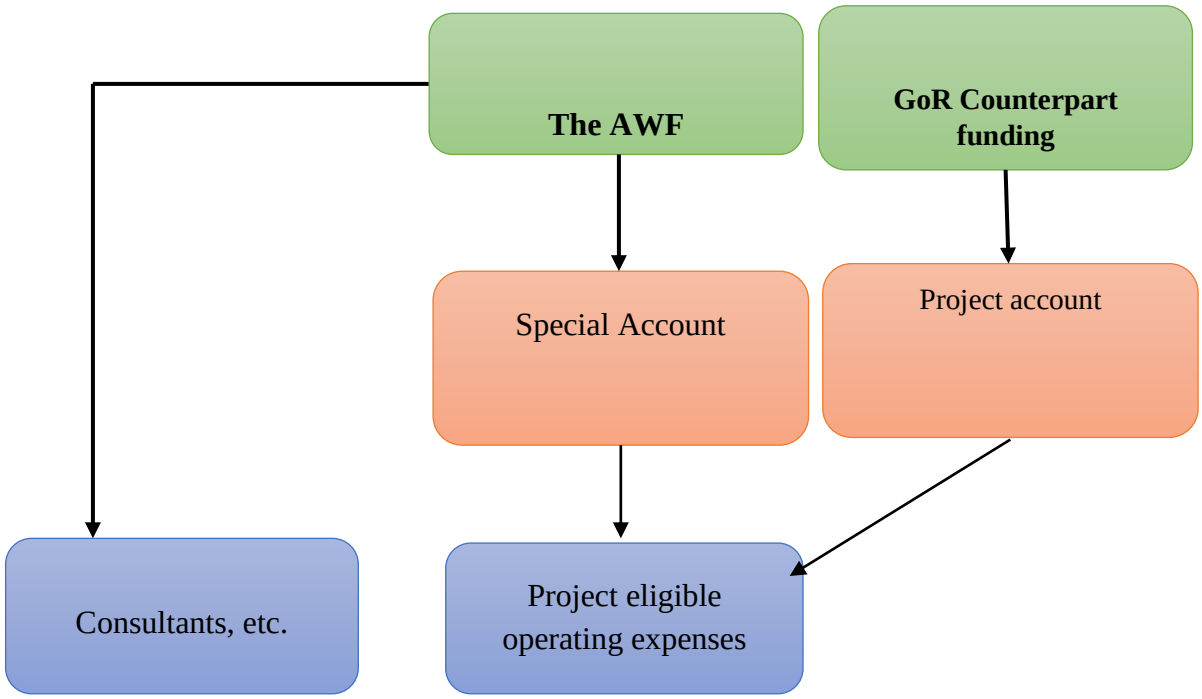


Fig 1: Funds Flow Diagram (AWF Resources)

7.4.2 Financial Reporting and Monitoring: The PFMU prepares various financial reports that include monthly and quarterly interim financial reports and annual financial reports. These are adequate for the Bank and include Statement of Sources/Revenue and Expenditure reports, Statement of Financial Assets and liabilities, cashflow statements, accounting principles and policies and Notes to the financial statements, Bank reconciliation statements etc. The financial statements are been prepared in accordance with modified cash basis IPSAS in the context of Ministerial Order N°002/07 of 9 February 2007 relating to Financial Regulations: The PFMU

will add a Statement of Expenditure for purposes of reporting to the AWF/Bank and prepare periodic (quarterly) interim financial reports to attached to the progress reports to be submitted within 45 days following on the period being reported. Annual financial reports will be prepared for the financial year end aligned to the fiscal year end of 30 June of the Rwandan Government and within 3 months from the year end (30th September of each year) in line with the financial rules and policies set out by MINECOFIN.

7.4.3 External Audit: Development projects in WASAC have in the past been audited by a mix of private auditors and the Office of the Auditor General for State Finances (OAG). Although WASAC's new procedures manual prescribes the use of Rwanda PFM systems, the appointment of the auditors will be done by AWF based on Terms of Reference agreed with WASAC. The audit Terms of Reference, will be agreed with WASAC during project negotiations. The audit report complete with a management letter will be submitted to the Bank within six months of the financial year end under review. Two audits will be undertaken during the life of the project, one at mid-point (financial or time basis which ever happens first) and one at closing.

7.4.4 FM Conditionality. **There isn't any FM conditionality**. The PFMU has adequate experience and is currently managing two (PNEAR and LVWATSAN) Bank funded projects, and are thus familiar with Bank procedures that will come handy in managing the AWF funding.

7.4.5 FM Supervision: Given the identified risk rating, one (1) supervision per year will be undertaken. Supervision in the field with adopt a risk based approach while regular desk reviews will be undertaken for the periodic interim financial statements and audit reports with management letters as and when due. Continued support will be provided through discussions and conversations with the head of the PFMU.

Table 1: Detailed FM Risk Assessment

Risk Type	Rating Risk	Risk Mitigation Measures Incorporated into the Project Design	Risk after Mitigation
Inherent Risk			
Country Level GoR has continued to make progress on the PFM reforms front to improve, budget comprehensiveness, fiscal reporting and external oversight.	**L**	▪ Significant gains have been made on the bring external finance into the budget process, timely fiscal reporting with the help of IFMIS and increased oversight and VFM audits.	**L**
Entity Level WASAC restructuring may still organizational capacity issues	**S**	▪ Staffing positions are gradually being filled with most recent recruit of the internal auditor..	**M**
Project Level Multiple DP projects in WASAC may not allow for adequate accounting for the project.	**S**	▪ The Head of the of the PFMU will lead the FM team in managing the project .	**M**
Overall Inherent Risk	**S**		**M**
Control Risk			

Risk Type	Rating Risk	Risk Mitigation Measures Incorporated into the Project Design	Risk after Mitigation
Budgeting ▪ Non adherence to budgetary calendar	**M**	▪ Preparation of the AWPB for the project will follow the budget circular MINECOFIN.	**L**
Accounting Multiple use of different accounting software in management of development projects accounts	**M**	▪ WASAC has resolved that GoR IFMIS will be used for all its financial reporting including that of AWF funding	**L**
Internal Control ▪ No material risk identified	**L**	▪ N/A	**L**
Funds Flow Risk of commingling of funds when donors participation increases.	**M**	▪ WASAC will open a Special Account in a bank acceptable to the Bank/AWF.	**L**
Reporting and Monitoring Current reports may not provide adequate information for the Bank.	**M**	▪ PFMU will add a SoE for purposes of reporting to the AWF/Bank to the interim financial reports.	**L**
External Audit and Oversight ▪ No material risk identified.	**L**	▪ N/A	**L**
Overall Control Risk	**M**		**L**
Overall Project Risk Rating			**L**

H – High S - Su

ANNEX 5: TERMS OF REFERENCE FOR THE DEVELOPMENT OF RWANDA NATIONAL INTEGRATED WATER SUPPLY AND SANITATION MASTERPLANS

1 INTRODUCTION

1.1 Project Origin

Rwanda is in the heart of the African Great Lakes Region. Between 1o00'S & 3o00'S to the South and between 28o45'E & 31o00'E to the East of the Equator. With a surface area of 26,338 km^2, a population of 11, 262, 564 and population density of 445 inhabitants per km^2, Rwanda is ranked as having one the highest population densities and as the 4th smallest country in Africa.

The Government of the Republic of 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) . However, preserving these gains and best practices from the national water and sanitation programmes, while strengthening decentralized implementation capacities, remains a challenge. Private operators working in rural areas are often not yet fully professionalised. District staff may have appropriate levels of education, but are short of specific Public Private Partnership (PPP) and Water Supply and Sanitation (WSS) field experience. This situation calls for a comprehensive capacity-building programme that targets both districts and private operators' staff. Additionally, although the Water and Sanitation Corporation (WASAC) and its predecessors have made significant efforts towards developing water supply and sanitation master plans for various parts of the country with varying degrees of detail to guide the achievement of universal access to water supply, national comprehensive water supply and sanitation plans still do not exist. It is against this background that the Government of Rwanda (GoR), through WASAC, has applied to the African Water Facility (AWF) for funding to support the development of water supply and sanitation master plans. The AWF proposes to support the GoR in developing national masterplans that will guide the development of water and sanitation projects going forward.

1.2 Background

1.2.1 The newly adopted SDGs, in particular Goal 6, set 2030 as the target timeframe to achieve universal and equitable access to safe and affordable drinking water and access to adequate and equitable sanitation and hygiene for all.

1.2.2 According to the Joint Monitoring Programme (JMP) for Water Supply and Sanitation June 2015 estimates, Rwanda's national coverage for water supply stands at 76% while the national sanitation coverage is lower at 62%. Disparities do exist between urban and rural water and sanitation coverage figures. Rural coverage figures for both water and sanitation stand at 72% and 63% for rural water and sanitation coverage respectively compared to 87% and 59% for urban water and sanitation respectively.

1.2.3 Rwanda has made significant efforts to increase water and sanitation coverage figures over the past years and remains committed to 100% coverage by 2017. EDPRS II therefore

identified and prioritised water supply and sanitation services as a critical service that will contribute significantly to the attainment of the growth needed for Rwanda.

1.2.4 Whereas access to improved water and sanitation services has constantly increased over the past years in Rwanda, the rate of increase is still insufficient to achieve both SDGs as well as the more stringent Vision 2020 targets. A more co-ordinated and concerted effort is therefore required to direct efforts towards achieving full coverage.

1.3 Sector Status, Priorities and Institutional Arrangements

1.3.1 Rwanda's overall development objectives and planning tools are driven by Vision 2020, the Economic Development and Poverty Reduction Strategy (EDPRS II; 2013-2018) as well as Rwanda Government's 7 year program (2010-2017). The EDPRS II, which runs from 2012/13 to 2017/18 has set very ambitious targets for the water supply and sanitation sector, aiming to reach 100% coverage rate by 2017. The revised Water and Sanitation Sector Strategic Plan 2013/14-2017/18 ensures that the sector strategy is aligned to the new objectives and targets of the EDPRS II.

1.3.2 The Government of Rwanda has made achieving the Sustainable Development Goals (SDG's) central to its policy framework, as defined in the long term development agenda, the Vision 2020, as well as the medium term Economic Development and Poverty Reduction Strategies, EDPRS 1 and EDPRS II. The overriding long-term national development objective is to transform Rwanda into a middle-income country by 2020.

1.3.3 The Water Supply and Sanitation Corporation (WASAC) is the company responsible for the implementation of water and sanitation related policies and strategies. It therefore undertakes planning, piloting, capacity building and sensitizing management of infrastructure functions. WASAC was established in 2014 by dividing the Energy, Water and Sanitation Authority (EWSA) hence making WASAC and Rwanda Energy Group (REG) into two independent separate companies.

1.3.4 The Rwanda Environmental Management Authority (REMA) is responsible for environmental affairs. REMA has a key role to play towards the achievement of the national sustainable development goals as set in out in the National Development Vision 2020.

1.3.5 The Rwanda Utilities Regulatory Authority (RURA) was created in 2001 with the mission to regulate certain public utilities, among others water and sanitation. Rwanda Natural Resources Authority (RNRA) is the focal point for integrated water resources management.

1.3.6 Integrated Water Resources Management begins with the development of a National Water Resources Masterplan (2014; currently under review) that includes a water management information system component, with both tools allowing a detailed overview on water resources and water demand. The National Water Resources Master Plan defines the framework for the water supply and sanitation masterplans.

1.3.7 All water supply and sanitation service responsibilities are delegated to communities and districts with the exception of planning, regulation, hygiene promotion, monitoring, and oversight. However, WASAC is the entity in charge of, among others, ensuring that planning of investment in the water and sanitation sectors meets the water and sanitation policies as adopted by Government.

1.3.8 The sector has continued to promote delegated management of water supply schemes to private operators. There are currently 83 private operators manage approximately 800 water supply schemes on behalf of the district councils. The private sector is also involved in the

implementation of the Kigali Bulk Water Project which the Bank is also finanancing through the private sector department.

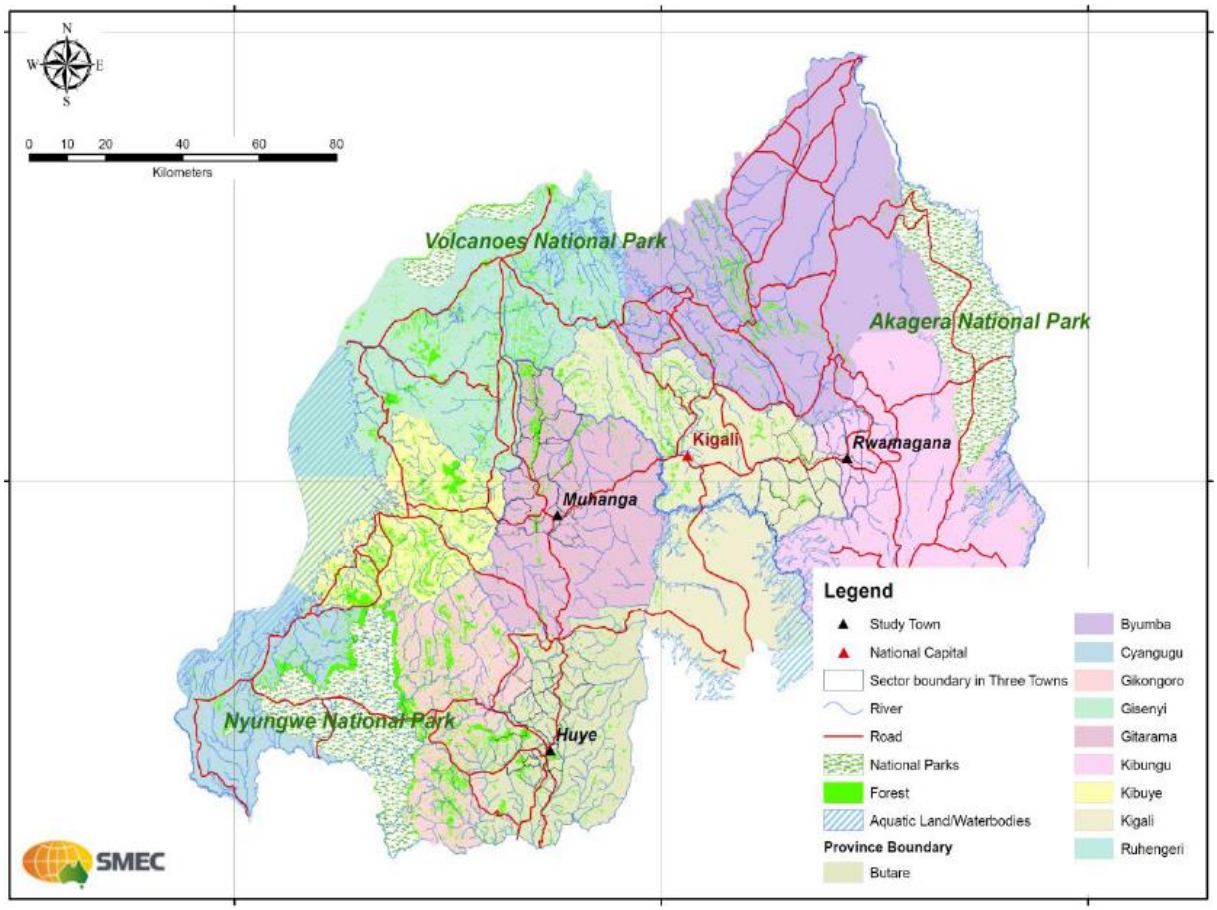
1.4 Previous Efforts towards Developing Water and Sanitation Masterplans

1.4.1 Recognising the lack of planning for water supply and sanitation, the Government of Rwanda has therefore, with support of Japan International Cooperation Agency (JICA), produced in 2010 a Water Supply Master Plan for the Eastern sub-basin which covers 9,269 km², and which is the entire Eastern Province and approximately 35 % of the country. This Master Plan study's main objectives were to formulate a plan for water resources development and water supply facilities improvement to raise the water supply coverage to 100% by 2020 in Eastern Province and from this, prepare preliminary designs for projects that have the highest priority. To formulate the master plan, field reconnaissance results and aerial photos were used to identify population distributions from house allocations. Then, from determination on the possible extents of coverage by existing water supply schemes and identification of areas not covered by water schemes, new water supply plans were formulated. As a result, 93 water supply schemes were planned in order to achieve 100% coverage of the targeted 7 districts. It has to be noted that this Master Plan is based on administrative boundaries rather than hydrological catchments. This Master Plan study comprises an extensive data source with information on water sources, water supply schemes, water quality, geophysical and socio-economic survey data.

1.4.2 The initial study for the Kigali Masterplan was funded by the Bank and considered updating the 1997 Study and Prioritizing Designs for some of the parts of Kigali. The current Project – Kigali Centralized Sewerage System – detailed studies of the Priority Area– is being carried out by the City of Kigali with funding from the European Investment Bank with the detailed design now about 80% complete.

1.4.3 Additionally, the Government is currently developing a Water Supply Master Plan for the upper Nyabarongo catchment which covers 3,348 km², equivalent to 14% of the country, which is part of WASAC's efforts at developing a water supply master plan at the national level. The objective of the master plan for water supply at the national level is to guide, harmonize and standardize the actual master plans for water supply and future ones that will be developed in the country, and established on a basis of sub-watershed. The elementary base for managing the data has been delineated to sub-watersheds of the third order. These sub-watersheds are then been grouped into watersheds of second and first orders. Watersheds of first order include: Lake Kivu, Nyabarongo upstream, Mukungwa, Nyabarongo Downstream, and Akanyaru, Akagera upstream, Akagera downstream, Muvumba and Kiruruma. Moreover, the national master plan for water supply has to be considered as an integral part of the national master plan of water resources launched by the MINIRENA. This ongoing study focuses only on the watershed of Nyabarongo Upstream. The final analyses report is available since September 2015 and contains a thorough description of the targeted basin, namely its administrative and geographic context, environmental and socio-economic information, water users including agriculture, and based on these a water demand analysis. Furthermore information on water resources and existing water supply infrastructure is presented.

1.4.4 With regards to sanitation, the development of a sanitation master plan for Huye, Muhanga and Rwamanga Districts are currently being prepared for REMA.



The planned scope of work ranges from assessing the existing situation of the water and sanitation infrastructure and the present sanitation strategy for the three districts; indicating existing locations of water supply and sanitation facilities and their adequacy and condition; through to providing details on the existing assets in terms of financial performance; estimating the future demand (20 years) for sanitation infrastructure and services; presenting various scenarios considering different likely growth patterns; preparing economic and financial analysis for the sanitation related components; and outlining and sequencing of programs and budgeting for the implementation of the preferred options in the form of District Sanitation Master Plan and developing for each district a clear description of City Sanitation Strategy's(CSS) based on clearly identified technical options and the institutional/organisational capacity building strategy. The final sanitation master plans for these districts will be available before the start of this consultancy.

1.4.5 The National Water Resources Master plan on the other hand only focused on the assessment of national water resources and national water resources needs and uses over time and does not consider sanitation services.

1.4.6 Despite all these efforts which have been partly isolated and often times driven by Donors'interests, the Government of Rwanda is yet to develop **national** water supply and sanitation master plans which are critical to sustainable water supply infrastructure development and management and also defined in the Sector Strategic Plan as a top priority. To assure efficient and effective utilisation of available resources, there is need to prepare countrywide water supply and sanitation master plans in a **standardised form**. As country wide plans, they will cover an area of 26,334 km² and a population of app. 10.7 Million (2013, Statistical Yearbook 2014).

1.5 Problem Definition

1.5.1 While access to improved water and sanitation services has constantly increased over the past years however, the rate of increase is still insufficient to achieve both SDG's as well as the more stringent Vision 2020 targets. Actual progress towards meeting the stringent water and sanitation 2020 ambitious targets is lagging with the rate of growth having been on average 0.8% per year (excluding. population growth) for access to improved water and 1.7% per year for access to improved sanitation. In order to achieve 100% coverage by 2020, the growth rates, accounting for a population growth rate of 2.7%, would have to be 8.3% and 12.7% per year respectively.

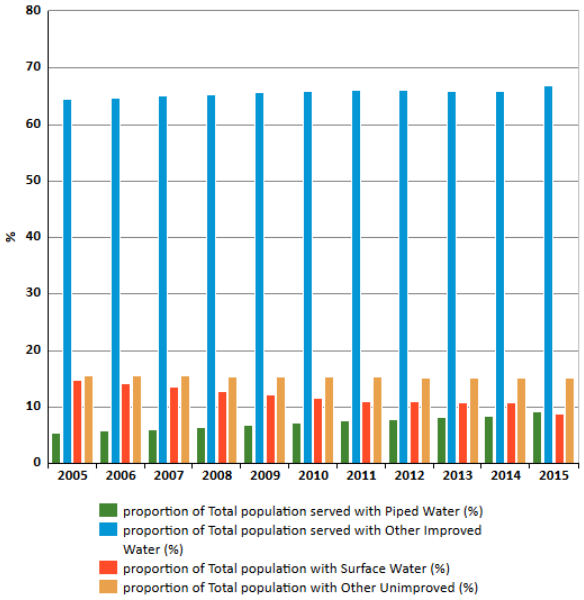


Figure 2: Water - estimated coverage 2015 update (WHO / UNICEF Joint Monitoring Program (JMP) for Water Supply and Sanitation (http://www.wssinfo.org/data-estimates/tables/)

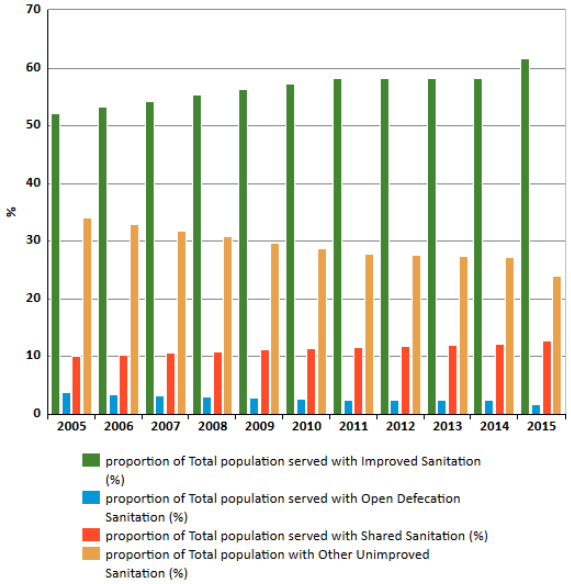


Figure 3: Sanitation - estimated coverage 2015 update (WHO / UNICEF Joint Monitoring Program (JMP) for Water Supply and Sanitation (http://www.wssinfo.org/data-estimates/tables/)

1.5.2 Increasing rates of access to a level which is sufficient to reach the targets for water supply and sanitation requires effective and efficient utilisation of available resources, based on overall strategic plans, and a concreted donor co-ordinated efforts guided by strategic plans. Unfortunately, existing plans only cover parts of the country and are not based on standards that allow comparability and some are partly outdated.

1.5.3 Integrated plans that consider other relevant actors in water supply and sanitation are not available, with the National Water Resources Master Plan (NWRMP) being the first attempt to integrated management of water resources. However, the NWRMP only considers water resources and not and sanitation services.

1.5.4 The national water supply and sanitation masterplans are critical to mobilizing and directing Government and the different development partners' participation in the water and sanitation sub-sector towards achieving 100% coverage in both and sanitation. The Masterplan will not only help identify development opportunities in the sector that other development partners may participate but will also facilitate government to make more informed decisions in which areas to progressively intervene in to address the national water and sanitaion sector coverage concerns.

1.5.5 The water and sanitation strategy also aims to mainstream capacity building in all programs and projects to strengthen districts' ownership and management of rural water schemes, as well as private operators' to ensure they deliver services efficiently and in an affordable manner, and for WASAC to ensure that it is able to meet the growing demand in a sustainable manner. Training needs to be offered to the private operators in rural areas who are often not yet fully professionalised. District staff may have appropriate levels of education, but are often short of specific Public Private Partnership (PPP) and WSS field experience. This situation calls for comprehensive capacity-building programmes targeting both district and private operators' staff.

1.5.6 The challenges of rapid population growth, increased urbanisation and industry, environmental degradation and pollution are leading to accelerated depletion and degradation of available water resources, while climate change is bringing uncertainty to future supply. To reverse this trend, one of the programmes of action of Rwanda's Green Growth and Climate Resilience Strategy (2011; programme 3) is integrated water resource management of which the proposed masterplans will play a critical part. A first step on this path is the development of a National Water Resources Master Plan (2014; currently under review) which comprises five components, the water resources, the master plan, a water management information system (MIS), the institutional and legal framework for IWRM compliant water management and capacity building. These five topics form the natural base for the development of the water supply and sanitation master plans.

1.5.7 The key challenge in infrastructure development is to preserve the achievements and good practices of national water and sanitation programmes while strengthening decentralized implementation capacity.

1.5.8 Private operators acting in rural areas are often not yet fully professionalised. District staff may have appropriate levels of education, but are often short of specific PPP and WSS field experience. This situation calls for a comprehensive capacity-building programme addressing both district and private operator staff. The water and sanitation strategy aims at mainstreaming capacity building in all programs and projects to strengthen districts' ownership and management of rural water schemes, as well as private operators to ensure they deliver

services efficiently and in an affordable manner, and WASAC itself to ensure it is able to meet the growing demand in a sustainable manner.

1.5.9 This Masterplan will therefore be used as a tool for planning in order to ensure that water and sanitation coverage are met according to the water and sanitation demand**.**

2 SCOPE OF CONSULTANCY SERVICES

For the sake of this project, the term "sanitation" covers sewerage, faecal sludge management, storm water management and solid waste management.

2.1 Project Outcomes and Impacts

2.1.1 The project's immediate outcomes will be twofold: 1.A tool (Master Plan) which allows maximising effectiveness and efficiency of future investments in water supply and sanitation and can attract additional funds for these investments ans 2. Improved capacities of WASAC and 30 districts to plan, design, finance, implement and manage water and sanitation projects and infrastructure.

2.1.2 This will result in the following main long-term impacts:

a) Water supply and sanitation coverage are increased (as required by Vision 2020 and WatSan Strategy Objective 1)
b) Sustainability of water supply and sanitation services is assured (as required by WatSan Strategy Objectives 2+3). Rural and urban areas have sufficient sewerage and waste disposal systems (as required by Vision 2020).

2.2 Expected Results and Deliverables of this Consultancy

2.2.1 It is expected that this consultancy will lead to the following results**:**

- The development of National Integrated Comprehensive Water Supply and Sanitation Master plans for the sustainable management of water and sanitation that includes an investment plan with an approved list of prioritised integrated WatSan project
- The improved capacity of relevant stakeholders to implement and manage WatSan Projects and Systems
- Technical design of a few selected small prioritised integrated projects
- Capacity built for the various stakeholders.

2.2.2 The Masterplan will include the following parts:

- Phase 1 – Diagnosis: The Consultant will prepare a comprehensive diagnosis of the water supply and sanitation sector and their linkages with other relevant sectors, e.g. storm water management, waste management (however included in the definition of sanitation), energy, agriculture, industry and commerce, mining and land use planning. This diagnosis should give a clear picture of the current situation and future projections, and identify strengths, weaknesses, opportunities and risks of the sectors, for each of the themes listed above
- Phase 2 – Scenarios Development and Comparison: part of the planning phase should compare scenarios for a 25 year planning horizon in a comprehensive manner. Scenarios

will be based on valid water supply and sanitation policies and strategies. Fundamental orientations for the retained choice of scenarios will be provided.

- Phase 3 – Master Plans Preparation: Based on the "Master Scenario" developed and agreed upon in phase 2, the Consultant will prepare detailed Integrated Water Supply and Sanitation Master Plans for a planning period of 10 years. These will include preliminary designs, accompanying measures, economic and financial analysis, a Strategic Environmental and Social Impact Assessment (SESIA), a financing strategy as well as Sequencing of Investments.
- Phase 4 – Feasibility studies and Detailed Designs for small investment projects will be undertaken (number will be dictated by budget availability)

On the capacity building components, the consultant will deliver the following training to various stakeholders as follows:

- WASAC Staff — Masterplan Development, Water and Sanitation MIS and GIS
- District Staff — procurement and contracting, construction supervision, construction coordination, general contractor management, monitoring and evaluation, project identification and design
- Private Operators — O&M of water and Sanitation Systems, basic accounting, financial management

Additional training need necessary to deliver on the 10 year investment plan will be identified under this consultancy

2.3 Relevant Information

2.3.1 General

The Government of Rwanda has developed a Water Supply Master Plan for the Eastern sub-basin which covers 9,269 km², which is the entire Eastern Province and approximately 35 % of the country; and is currently developing a Water Supply Master Plan for the upper Nyabarongo catchment which covers 3,348 km² equivalent to 14% of the country. Information generated by these activities shall be taken into account in the preparation of the water supply and sanitation master plans, verified and updated if and when required. The same is valid for a number of other ongoing activities, e.g. the development of sanitation master plans for Huye, Muhanga and Rwamagana districts, etc.

A significant amount of information on water resources and their utilisation is available in RNRA's MIS database. Furthermore, it is emphasised that the entire master planning process shall follow an integrated approach, considering linkages between water supply and sanitation as well as with other sectors and utilising synergies from the planning stage, via implementation to O&M as much as possible. A strict sectoral approach to master planning will not be acceptable.

In spite of the requirement for an integrated and comprehensive planning approach, the presentation of the results will be made in two separate documents for water supply and sanitation that clearly highlight the essential interdependencies.

2.3.2 Definitions

Master Planning, for the sake of this project, has a long term, strategic aspect, represented by the development of a Master Scenario for a 25 years horizon (see phase 2 below) and a medium term Master Plan which contains the planned investments for the coming 10 years (see phase 3 below). The identification of drinking water needs, water resources availability, and possible solutions will be conducted on a catchment basis and the balance must take account of all water resource users.

2.4 Methodology and Activities to be undertaken under Component 1

2.4.1 **Phase 1 – Diagnosis**

The Consultant will prepare a comprehensive diagnosis of the water supply and sanitation sector and their linkages with other relevant sectors, e.g. storm water management, waste management (however included in the definition of sanitation), energy, agriculture, industry and commerce, mining and land use planning. This diagnosis should give a clear picture of the current situation and future projections, and identify strengths, weaknesses, opportunities and risks of the sectors.

An analysis of the water supply and sanitation services demands, present and future, according to the population growth, especially in urban areas; including localisation and prioritisation of water and sanitation services demand areas, and the determination of the present coverage for each administration will be undertaken.

Due consideration of the NWRMP and plans in other sectors is mandatory in order to utilise synergies and avoid overlap.

The first phase of the assignment aims to provide comprehensive inputs for the development of water supply and sanitation scenarios in the next phase. As a first step a socio-economic and technical survey shall be carried out, which is aimed at assessing the state of existing water supply and sanitation facilities and infrastructure, their social, environmental and financial impacts, user groups capacity to pay, etc.

For the sake of an integrated approach, this analysis and diagnosis of the basic framework shall not only cover existing water supply and sanitation technologies, systems and infrastructure, but also other relevant aspects including:

<u>Water resources</u>

The Consultant shall list, describe and map existing water resources and their current use, planned and potential water resources, in terms of both quantity and quality. Current and future use shall include a description of required allocations and qualities for different purposes. This activity will utilise the existing MIS from RNRA on water resources and not provide a new and separate structure.

This will include the assessment of the interest of mobilising potential alternative sources like rainwater harvesting, use of reclaimed water directly (varying degrees of centralisation) or indirectly (by groundwater recharge) and use of storm water for groundwater recharge. For this purpose, the Consultant will, as far as possible, identify these resources, quantify the volumes

that could be used, identify the technical and legal requirements to use these resources, and finally assess the technical feasibility of their mobilisation (expert assessment).

Water quality

Review existing water quality monitoring data for different types of water resources, including potential alternative sources. This activity will make use of both existing MIS's from WASAC and RNRA and also assess requirements for harmonization of the two data bases, if and where possible.

Evaluate risks on health, environment and economic development.

Water supply and sanitation

Review existing water supply and sanitation master plans, validate existing data on water supply and sanitation facilities and generate additionally required data in line with existing MIS. Assess the potential effects of the utilisation of conservation measures and alternative sources (rainwater harvesting, use of reclaimed water, groundwater recharge) on the water supply master plan.

Climate, climate change

Assess the risk of effects of climate change on water resources, water supply and sanitation technologies, systems and infrastructure. This assessment will be quantified as much as possible, will identify vulnerabilities and risks linked to: precipitation changes and temperature increase. Map the main vulnerable infrastructure.

Public health

Review public health records and analyse for correlations with water supply and sanitation. Map the waterborne diseases occurrences.

Biosolids re-use

Assess the potential for reusing biosolids – organic solid wastes and sewage sludge – for compost production and/or generation of electricity.

Energy / electricity

Review current systems and infrastructure energy demand and assess the potential for increasing efficiency. Assess the potential impact of using alternative water sources on the system demand.

Storm water

The consultant will review existing systems for storm water management as far as they exist and analyse the impact of the current situation on water resources, water supply and sanitation infrastructures. Potentials for direct (rainwater harvesting) and indirect (groundwater recharge) utilisation shall be identified and described.

Land use and urban planning

Review approved and proposed land use plans and analyse their impact on water supply and sanitation infrastructure development, reuse potential, water supply and sanitation systems energy demand.

Legal and regulatory framework

The consultant will review the existing legal framework related to water resources quality, water supply, sanitation, building, recycling of water and solid wastes, agricultural production, etc. and analyse the effect of the legal framework on different technological options. Framework conditions which are specifically non-supportive for a particular solution shall be highlighted.

Agriculture

Describe the main farming systems, and map the main agricultural areas. Assess the current situation with regard to agricultural production (location, area, practices, etc.), focusing on actual and potential demand for water for irrigation and bio-solids for fertilisation and soil improvement. Considerations regarding water reclamation for irrigation shall include an analysis of mass flows both favourable and harmful to productivity.

Commerce and industry (including mining)

Assess the current situation of commerce and industry with regard to conservation of resources and reuse potentials. Categorise industrial water demand according to required qualities and quantities. Identify and map big water consumers that could be supplied from alternative sources. Assess their needs in terms of quality and quantity.

Environment (sensitive areas)

The Consultant shall map environmentally sensitive areas and briefly describe their characteristics.

Hydrogeology / geology / soil

Characterization of the soil/geological/hydrogeological setting with a focus on existing water resources and appropriateness of different technological options. Identify and map the main aquifers and assess their current uses. Estimate the interest of groundwater recharge, with reclaimed waste water or with storm water.

Institutional framework

The Consultant will review the existing institutional framework and assess its suitability and capacities for integrated water supply and sanitation planning. Deficits and gaps shall be identified and highlighted.

Major stakeholders in areas relevant for the development of the Master Plans are summarised in Figure 4 below:

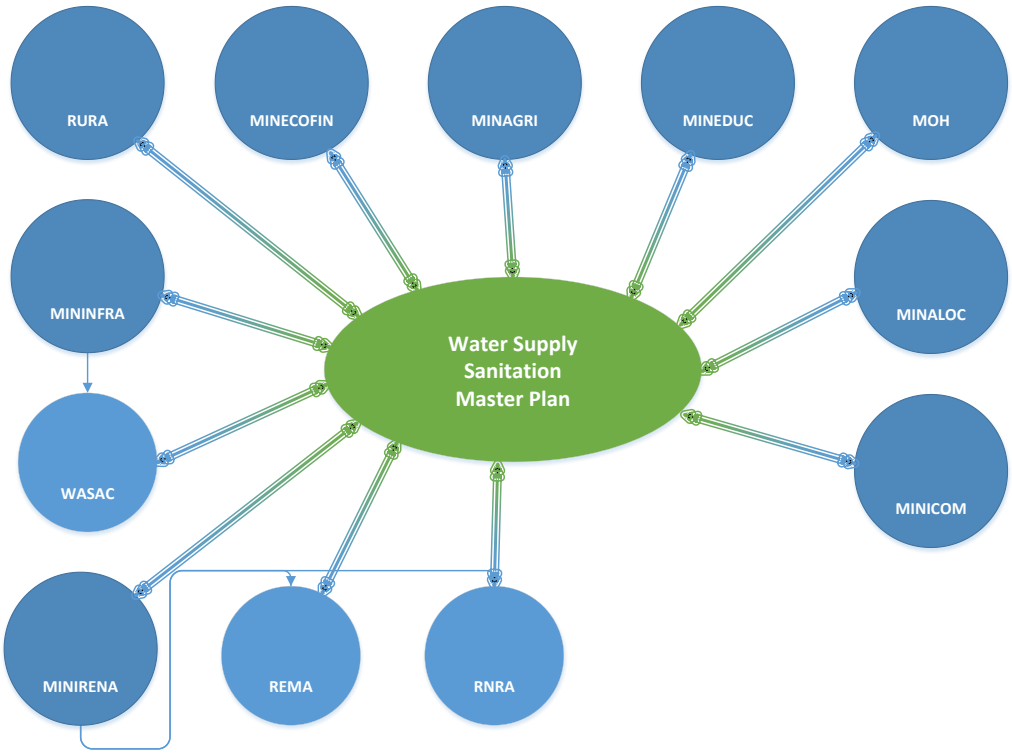


Figure 4: Stakeholders in the development of WatSan MPs

Tariffs structure

The current tariffs structure shall be critically reviewed with respect to (full) cost recovery – cost reflective pricing, inclusivity, steering effects (demand management), cross subsidisation and user's capacity to pay.

In addition to these aspects, the consultant will carry out a comprehensive technical diagnosis of existing water supply and sanitation infrastructure. The diagnosis shall assess the state of the facilities, their effectiveness, and the adequacy of O&M systems. It shall also complete the existing WASAC GIS in order to get an accurate representation of existing infrastructure.

Results of this phase shall be presented as much as possible in maps based on and integrated in existing GIS/MIS systems.

Alternative Solutions – the Consultant shall propose alternative solutions covering the identified demand in water supply and sanitation.

2.4.2 Phase 2 – Scenarios Development and Comparison

This part of the planning phase should compare scenarios for a 25 year planning horizon in a comprehensive manner. Scenarios will be based on valid water supply and sanitation policies and strategies.

2.4.2.1 Technology Options

In a first step, the range of applicable potential technical options needs to be defined. By nature of an integrated approach technology options utilising synergies between different sectors will need to be included.

2.4.2.2 Scenario Development

In the following, not more than three different scenarios will be developed.

A scenario is defined as a desired ultimate state of water supply and sanitation infrastructure and services for a given area, in this case the entire country.

Scenarios will range from traditional approaches to highly innovative approaches and technology options, considering different degrees of centralisation/decentralisation, utilisation of alternative sources, etc.

Scenario development should not be hindered by the current regulatory framework and current practices; scenarios may utilise technology options that the current regulatory framework has not considered and for which it may therefore be inhibiting. Also proposed technology options' performance may deviate from currently valid standards. In these cases, the scenarios will highlight and justify required measures to create a supportive environment for these technologies (e.g. amendment of standards). Scenarios will consider political requirements, manifested in strategic documents, and planned developments in other sectors, e.g. agriculture, land use, water supply, solid waste, as well as their impact on these sectors.

The scenarios shall be prepared for a number of logically definable areas, e.g. catchments. In the case of mass flows (of water, wastewater, waste) crossing boundaries of these areas are identified, interface conditions will have to be defined to be able to quantify their effect on criteria used for comparison of scenarios. If, for example, waste is "exported" from catchment A to catchment B, the effect of this export has to be considered for catchment A's scenario in terms of a share of criteria values (cost, benefits, energy, etc.) from catchment B's scenario.

Scenarios shall be developed including feasible combinations of new and conventional technologies as well as different degrees of centralisation.

Every scenario description shall include;

- a description of :
  - the proposed technical solutions foreseen for all different locations in the targeted area;
  - the estimated mass flows (water, sludge, COD) and energy requirements;
  - estimated infrastructure dimensions;
  - estimated cost of investment, broken down by units;
  - estimated cost of operation and maintenance (by units).
- Plans/maps indicating essential units based on approved resp. proposed land use plans.
- a justification of proposed technical solutions foreseen for all different locations in the targeted area
- An estimate of the number of users served by the different systems proposed.
- A description of the implications of proposed systems and technologies on existing standards and regulations.

- An assessment of the scenario impacts on other sector's planning documents.
- Required soft measures, as awareness creation campaigns, behaviour change activities (social marketing), capacity building, etc. shall be defined and thoroughly described and costed.

2.4.2.3 Scenario Evaluation

The Consultant will develop a multi-criteria assessment of the scenarios. The criteria will be discussed with WASAC, and could include:

Financial assessment

- costs (actual cash value method; parameters (interest rate, lifespan of investment, O&M cost, reuse profit, period of consideration, etc.) to be agreed with WASAC; in case of differing lifespans residual values at the end of the period of consideration will be included).
- minimum tariffs to cover O&M cost, to cover full system cost
- energy/electricity demand

Economic assessment

The Consultant shall specifically propose a method for the economic assessment of the scenarios. They should assess all secondary benefits linked to the protection of environment, improved health and living conditions, improved agricultural and industrial development potential, etc. All cost and benefits shall be assessed in economic prices.

Environmental assessment

The environmental impacts of each scenario shall be broadly assessed. The assessment criteria will include:

- Impact on ecosystems and water quality;
- Socio economic impacts, including possible house hold relocation and financial impacts on households' budgets.

Climate Change assessment

The consultant shall estimate the carbon footprint of each scenario (construction and operation and maintenance) and compare their degree of resilience to climate change effects.

The final selection of appropriate evaluation parameters for these various assessments shall be made in agreement with the client.

The result of this step of performance evaluation will be a comparison of different scenarios in the form of a matrix that shows every scenario's performance in relation to previously agreed evaluation criteria. To simplify this comparison where possible, a conversion of a criterion into cost may be taken into consideration (e.g. electricity demand is partly reflected in cost; environmental cost of electricity generation may be included by increasing unit prices).

Based on the outcome of the scenario development and comparison step, an informed decision for one Master-Scenario will be taken by the Steering Committee, which will then be developed into a Master Plan. The consultant will facilitate this decision making process. This Master Scenario may be a mix of the previous scenarios, and will therefore be assessed based on the same approach.

Due to the nature of the integrated approach, the Water Supply and Sanitation Master Plans will have an influence on, and be influenced by, plans in other sectors and this will need to be taken into account accordingly.

To enhance the flexibility of the planning approach, as well as its effectiveness, the Consultant will assess the existing institutionalized monitoring system, propose adaptations and establish continuous and automatic feedback into a regular review process. It has to be noted that this process may require iteration depending on the acceptance of developed scenarios. However, in order to limit the required expenditures for this project, only one iteration may be requested.

2.4.3 **Phase 3 – Master Plans Preparation**

Based on the "Master Scenario" developed and agreed upon in phase 2, the Consultant will prepare Integrated Water Supply and Sanitation Master Investment Plans for a planning period of 10 years.

2.4.3.1 Integration

Recognising the strong dependencies between water supply and sanitation, the master plans will focus on the development of integrated projects that utilise synergies between water supply and sanitation as well as other connected sectors.

2.4.3.2 Prioritisation

Justified by a problem analyses, based on the state of existing infrastructure, environmental conditions, and water resources quality, etc., investments in hardware and software activities shall be prioritised for a 10-year planning period.

2.4.3.3 Preliminary Design

For prioritised investments, preliminary design documents will be prepared and form the base for a cost estimation.

The preliminary design is meant to bridge the gap between design concept (Master Scenario) and the detailed design phases. In this task, the overall system configuration will be defined, and schematics, diagrams, and layouts of the project prepared to provide early project configuration. During detailed design and optimization, the parameters of the components being designed may change, but the preliminary design focuses on creating the general project framework.

The preliminary design will at least comprise the following:

(a) summary of baseline data, inclusive of additionally collected baseline data where required:
- topographical survey;
- soil and geotechnical survey;

- Specific cost information (investment, O&M).

(b) A description of design assumptions, design parameters.

(c) development of a graphical solution of the concept, considering technical, environmental, social, economic, functional, energy and reuse specific requirements and including the integration of all relevant sectors and stakeholders.

(d) Integration of existing designs.

(e) Description of planned facilities and infrastructure.

(f) Graphical presentation of the entire draft design (site plans 1:5000, facilities 1:500-100).

(g) Cost calculations for both investment and operation and maintenance, broken down by units (to be defined jointly with the client).

The Consultant shall specify in their technical offer the scope of the topographical and geotechnical investigations that will be undertaken in phase 3.

2.4.3.4 Accompanying measures – awareness, behaviour change, capacities

This 10-year Master Plan may be based on a number of conditions and assumptions, which have to be realised in order to guarantee successful implementation. Therefore a number of accompanying measures, ranging from development of additionally required capacities of relevant stakeholders (e.g. WASAC, districts, private operators), to awareness creation, respectively behaviour change activities (e.g. policy awareness, demand side measures, reuse) may be required and shall be planned for. A plan of "soft" activities shall clearly show the perceived deficit, target group, activities, costs and timing within the 10-year plan. Each measure will be described in terms of objective, content, cost, schedule, priority in a separate sheet.

2.4.3.5 Economic and Financial analysis

Additionally an economic analysis of the entire water supply and sanitation service system under WASAC shall be prepared including newly planned facilities. The Consultant will refine the economic analysis undertaken in phase 2.

The Consultant shall also undertake a financial analysis for WASAC. This analysis should take into account the existing financial model of WASAC, which covers water supply and sanitation. Currently town water supply is subsidising rural water supply, and the financial impact of the master plans on WASAC should be looked at comprehensively. The analyses should include 2 or 3 scenarios, based on tariff assumptions. These tariff assumptions should be based on a comprehensive tariff analysis supported by the results of the socio-economic survey and proposing alternative structured tariff options for O&M cost recovery / full cost recovery including incentives for demand side management. Each scenario should assess the external financing needs for WASAC, based on a ten-year implementation plan of the investments.

The financial analysis will also address the impact of measures proposed at the household level, e.g. rainwater harvesting, etc. The Consultant shall, in particular, assess whether the promotion of these measures requires subsidies and propose a financing channel.

The financial impacts on agriculture and main industries will also be evaluated.

2.4.3.6 Environmental Assessment

A Strategic Environmental and Social Impact Assessment (SESIA) will be prepared following the principals of the Environmental Impact Assessment Guidelines, 2006. In addition the proposed Master Plans' interventions shall undergo an ESIA following AfDB's Environmental and Social Assessment Procedures (ESAP).

2.4.3.7 Financing Strategy

Based on the needs of the Master Plan and an assessment of donors' interest, PPP potential, and Government capabilities a financing strategy shall be developed that summarises targets and the actions to be taken to achieve the targets. The financing strategy shall focus on investments (including accompanying measures) but also make proposals on financing of O&M costs. The Consultant shall participate in a final donors' conference. The Consultant shall assess the potential for mobilizing climate finance of the Master Plan.

2.4.3.8 Sequencing

Prioritised activities will then be arranged in logical sequences (projects), optimising the utilisation of available (financial) resources and utilising synergies (e.g. with other sector's activities) as much as possible. The result will be an investment plan for a 10-year period, which is on the one hand based on an integrated comprehensive approach and, on the other, takes priorities and actual capacities for implementation into account. The sequencing will be mapped in a simplified scheme to facilitate understanding of the phasing.

2.4.4 **Phase 4 - Feasibility Studies and Detailed Design Preparation**

This would involve the preparation of feasibility studies and detailed designs for a few selected prioritised projects. The number and size of the project will be dictated by the available budget but it is anticipated that at least 3 small rural investment project feasibility studies will be undertaken.

2.5 Activities to be undertaken under Component 2 - Capacity Building

Capacity is lacking in stakeholders who are relevant for implementation of water supply and sanitation projects as well as for operation and maintenance of water supply and sanitation systems, and this has been identified as being one of the main obstacles to achieving the water and sanitation targets. For this reason project component 2 addresses this issue by building capacity for different stakeholders in various topics. It should be noted that the topics are not likely to cover all capacity needs of all stakeholders but will serve as a starting point. The consultant will, under component 1 also assess additional capacity building needs and design adequate accompanying measures to be included in the water supply and sanitation master plans. Capacity Building for WASAC

WASAC staff has to fulfil a number of roles. Capacity building for the following topics will be required:

2.5.1.1 Master Plan Development and Maintenance

While the Master Plans themselves, developed under component 2 of this assignment, will be static documents, the planning process will need to be institutionalised to allow flexible and

fast reaction to changing circumstances. For this purpose, selected WASAC staff will have to be trained on how to develop and keep the Master Plans up to date. This will be addressed by dedicated training sessions but by also including two WASAC engineers, which will be seconded for this purpose, in all relevant master plan development activities.

2.5.1.2 Water and Sanitation Management Information System (GIS/MIS)

One important tool to keep plans up to date is an adequate tool to collect and manage relevant information. Currently WASAC is using MIS/GIS (More details can be found in Annex 8) for this purpose, however there is need for analysing the existing system, extending if and were required and training WASAC staff on aggregating information for management, respectively decision-making purposes. Furthermore, RNRA has developed an internal MIS in the process of preparing the National Water Resources Master Plan. This MIS is not yet fully functional and there is no integration of data between the two MIS. The training on water and sanitation system management will therefore include training on exchange of relevant data as far as possible with the two MIS systems. Should there be need for additional integration of the two MIS, the Consultant may propose relevant measures in the master plans.

2.5.2 **Capacity building for District Staff**

2.5.2.1 Project implementation management

The ongoing process of decentralisation requires the 30 districts to take more responsibility in planning, designing, implementing and managing water and sanitation projects and infrastructure. However district staff is considered to have insufficient knowledge and experience in at least the following areas:

1) *procurement and contracting*
2) *construction supervision*
3) *construction coordination*
4) *general contractor management*
5) *monitoring and evaluation*
6) *Project identification and design*

Therefore, the Consultant will plan for the training of two (2) staff per district on the above-mentioned topics, enabling them to perceive the role in the provision of water supply and sanitation services.

2.5.3 **Capacity Building for Private Sector**

Currently 83 private operators manage app. 800 water supply schemes on behalf of the districts. These private operators are vital for the quality of water supply and sanitation services but lack knowledge and experience in, amongst others, accounting and system maintenance. The consultant will provide adequate training for two (2) staff of every FEPEAR registered PO to improve the quality of service provision. Sanitation service provision and systems training will also be offered to the POs.

3 Assignment Implementation and Oversight Arrangements

3.1 Implementation Arrangements

3.1.1 Structure

The project will be implemented by WASAC with the support of a consultancy firm. The Consultant will support WASAC in the development of national comprehensive and integrated water supply and sanitation master plans.

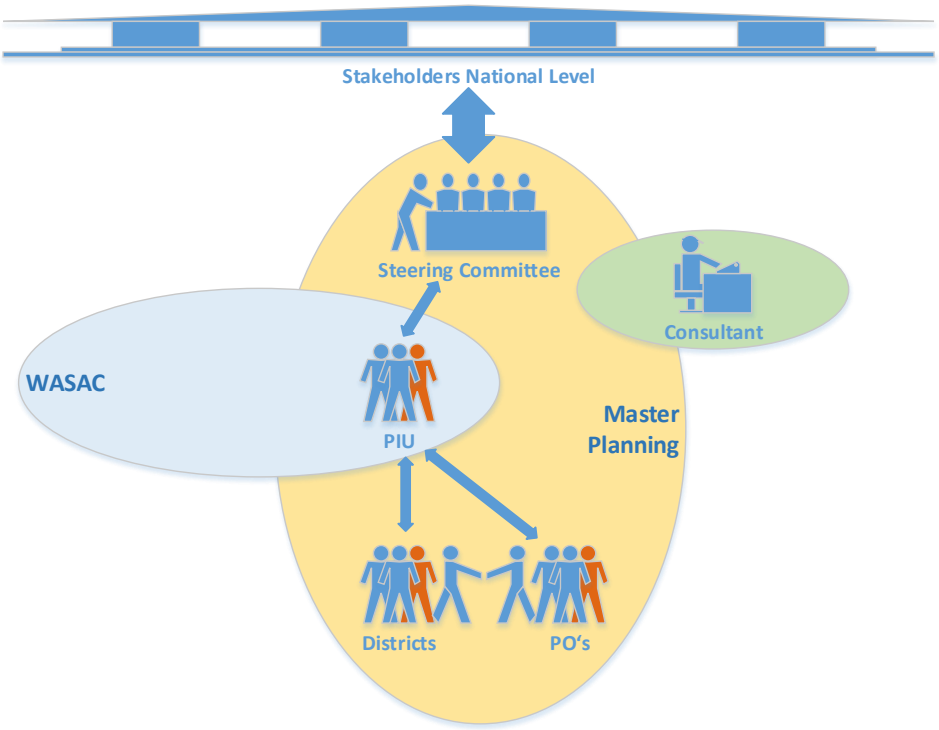


Figure 5: Project Implementation Structure

3.1.2 Facilities, Equipment and Data Provided by the Consultant

The Consultant shall provide his own facilities, tools, consumables, etc. to enable him to carry out all required activities in a timely, effective and efficient manner.

3.1.3 Inputs Provided by the Client

The client will (within his capacities) facilitate

- access to existing information, documentation
- meetings with relevant stakeholders
- consultative meetings and workshops (logistic to be covered by the client)

3.2 Project Steering and Monitoring Arrangements

3.2.1 Project Implementation Unit

A Project Implementation Unit (PIU) will be established within WASAC. The proposed team includes (i) Project Coordinator, (ii) Water Engineer, (iii) Sanitation Engineer, (iv)

Finance/Accountant and (v) Secretary. The PIU will be supported by the in-house procurement and communication units for procurement and communication related support respectively.

To ensure that the master planning knowledge is maintained within WASAC, and to ensure capacity building, WASAC seconds two engineers to work alongside the Consultants during the drawing of the Master Plans. These two engineers will be part of the PIU.

3.2.2 Steering Committee

A Project Steering Committee will be constituted to guide the development of the master plans. The committee members will be drawn from the following Ministries/entities that are directly concerned with Water Supply and Sanitation in the country:

- Ministry of Infrastructure
- Ministry of Natural Resources
- Ministry of Health
- Ministry of Education
- Rwanda Natural Resources Agency
- Rwanda Environmental Management Agency
- City of Kigali
- Private Water Operators Association
- Ministry of Local Government
- Water and Sanitation Corporation
- Rwanda Utility Regulatory Authority.

The steering committee will comprise four members who will hold permanent membership. The Ministry of Infrastructure will be responsible for establishing the permanent Project Steering Committee.

The Consultant will participate in the Steering Committees and prepare PowerPoint presentations for the meetings.

Steering committee meetings will take place on average every 6 months.

3.2.3 Project monitoring process

Project progress monitoring will be based on a continuous informal information flow between the consultant and WASAC, but also on formal regular monthly project meetings, which will be called and organised by WASAC.

Deliverables shall be submitted according to the agreed schedule to WASAC for review and approval.

3.3 Consultative Meetings and Workshops

Water Supply and, even more so, sanitation are sensitive issues, and a sound consultation process will be implemented to support the development of a Master Plan. This consultation process will involve the Consultant and be organized at two levels:

3.3.1 Consultative committee

A consultative committee comprising of the main stakeholders will be the main forum for discussing the results of the study, in order to inform and guide steering committee decisions.

The Consultant will prepare in total two meetings jointly with WASAC, participate at the meetings, present (interim) results and points for discussion and prepare minutes.

3.3.2 Public meetings

Furthermore, public meetings will be organized to obtain direct feedback from the population. The consultant will prepare two public meetings jointly with WASAC, participate in the meetings, and prepare minutes that include implications from discussions on scenarios and the master plan.

All costs related to the logistic organisation of the meeting will be borne by the Client.

4 Deliverables

4.1 General Project Reporting

Quarterly progress notes (5 pages maximum) will be submitted to inform on the project's implementation process with regard to time, milestones and deliverables.

At the end of the project a final report will be prepared summarising the project's implementation process and all deliverables as required below.

Every report shall be submitted as a draft for review and comments (soft copy and 2 hardcopies). In case of comments, the report shall be revised accordingly and a final report submitted within 2 weeks of receiving comments first in soft copy, and after approval, in 4 hard copies.

4.2 Diagnosis Report

A draft report on phase 1 will be submitted within 4 months from the commencement date.

4.3 Master Plans

4.3.1 Proposed Scenarios

5 months after commencement date, a report with a comprehensive description of scenarios proposed for evaluation and comparison shall be submitted for approval before proceeding with further work on scenario development.

This report shall be submitted in original electronic form and 2 hardcopies.

4.3.2 Final scenario evaluation and comparison

7 months after commencement date, a report on comprehensive evaluation and comparison of scenarios shall be submitted for approval.

4.3.3 Master Plans

10 months after the commencement of the project the draft Master Plans shall be presented, including at least:

- Master-Scenario's prioritised activities for the 10 year period including justification;
- Master plan description (text and plan);
- Preliminary design (schemes, drawings, calculations);
- Cost calculation (investment, operation and maintenance);
- Economic analyses (cost of service, cash flow forecast, etc.);
- Tariff systems' options;
- Accompanying measures (type, scope, timing, and cost).

Based on comments received from the client final 10-year plans shall be submitted 12 months after commencement of the project.

4.4 Schedule of Deliverables

Table 3: Schedule of Deliverables

	due date	softcopy	hardcopies
Baseline data report	T0 + 4	1	3
Draft scenarios	T0 + 5	1	
Master Scenario	T0 + 7	1	3
Master Plans Draft	T0 + 10	1	
Master Plans	T0 + 12	1	3

5 Duration

The project shall be implemented within a period of 12 months as shown in Table 4.

Table 4: Indicative Timetable

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Component 1 - Capacity Building												
Capacity building activities	■	■	■	■	■	■	■	■	■	■	■	■
Component 2 - Master Planning												
Phase 1 - baseline and analysis												
data collection	■	■										
draft baseline report		✦										
data collection and final report			■	■	✦							
Phase 2 - scenarios												
Scenarios 1st draft					■							
Steering Committee approval					✦							
Scenario Development 1						■	■					
Decision Master-Scenario							✦					
Phase 3 - master plan												
Master Plan Draft								■	■	■✦		
Steering Committee review and recommendations											✦	
Master Plan Finalisation												■✦

6 Required Expertise

6.1 Team of Experts

The services will be provided by a team of suitably qualified experts, an appropriate mix of local, regional and international experts will be required. The total estimated man months input is 43 for components 1 and 2 and 30 for component 3.

6.2 Qualifications and Responsibilities of Team Members

6.2.1 Team Leader/Water Supply Expert

Experience:	Minimum of 15 years of working experience in a similar role of comparable size and complexity. Experience in Infrastructure planning particularly in experience in water supply planning and projects in developing countries minimum of 5 years as project manager, prior working experience in Rwanda would be an asset. Experience with integrated water supply and sanitation planning approaches required.
Education:	At least MSc degree or equivalent in civil engineering, Water Supply specialisation
Proven working experience in the following fields:	Project Management Water Supply in general Training and capacity building Monitoring and evaluation reuse (industry, household, etc.), dual systems groundwater recharge (quality aspects) demand management rainwater harvesting

6.2.2 Sanitation Expert

Experience:	Minimum of 10 years of working experience in sanitation planning and projects in developing countries, minimum of 5 years as sanitation expert on projects of comparable size and complexity.
Education:	At least MSc degree or equivalent in civil engineering, sanitary engineering
Proven working experience in the following fields:	master plan development alternative sanitation technologies and systems reuse of water and bio solids cash value analyses hydrology

6.2.3 Agronomist reuse

Experience:	Minimum of 10 years of working experience in agricultural reuse of wastewater and bio solids. A minimum of 5 years

	in a similar role working on projects of comparable size and complexity.
Education:	At least MSc degree or equivalent in agriculture
Proven working experience in the following fields:	irrigation composting quality assurance related to reuse

6.2.4 Financial expert

Experience:	Minimum of 10 years of working experience as financial specialist (expertise in preparing, auditing, analysing or evaluating financial statements) in particular for utilities. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Education:	BSc in business sciences or equivalent
Proven working experience in the following fields:	Preparing, auditing, analysing or evaluating financial statements financial analyses of utilities tariffs

6.2.5 Project Economist

Experience:	Minimum of 10 years of working experience as an economist with infrastructure and environment projects. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Education:	MSc in Economics
Proven working experience in the following fields:	costs and benefits analyses of infrastructure investments environmental economics

6.2.6 Environmental Expert

Experience:	Minimum of 10 years of working experience in developing countries. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Education:	MSc degree or equivalent in environment or related field (water, biology, etc.)
Proven working experience in the following fields:	EIA of infrastructure projects in the water sector water resources quality, climate change energy, reuse

6.2.7 Hydrogeologist

Experience:	Minimum of 10 years of working experience in developing countries. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Education:	MSc degree or equivalent in related field (geology, hydrogeology, etc.)
Proven working experience in the following fields:	groundwater, groundwater recharge

6.2.8 Solid Waste Expert

Experience:	Minimum of 10 years of working experience in developing countries. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Education:	MSc degree or equivalent in civil engineering, waste management, or comparable
Proven working experience in the following fields:	digestion, incineration, treatment of sewage sludge, reuse

6.2.9 Socio-economist

Experience:	Minimum of 10 years of working experience in developing countries. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Education:	MSc degree or equivalent in Economy, Anthropology, Social Sciences, etc.
Proven working experience in the following fields:	social impact of (sanitation) infrastructure development capacity needs assessment, awareness creation, behaviour change

6.2.10 Marketing Expert

Experience:	Minimum of 10 years of working experience. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Education:	MSc degree or equivalent in area of specialty (market research or a similar field) and 5 years of experience in the field
Proven working experience in the following fields:	designing, creating, and delivering marketing programs social marketing

6.2.11 Climate Change Expert

Experience:	Minimum of 7 years of working experience
Education:	Postgraduate degree in Environmental Management or related fields and/or equivalent work experience. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Proven working experience in the following fields:	climate change, climate change adaptation and mitigation

6.2.12 GIS Expert

Experience:	Minimum of 5 years of working experience
Education:	Bachelor of Science degree in geography, computer science or engineering. A minimum of 5 years in a similar role working on projects of comparable size and complexity.
Proven working experience in the following fields:	GIS skills with two or more GIS packages Knowledge of cartography GIS data collection, entry, and presentation

7 Available Information

7.1 Relevant laws, strategies

- Government Programme 2010-2017
- Green Growth and Climate Resilience, National Strategy for Climate Change and Low Carbon Development
- Decentralization Implementation Plan (DIP)2011-2015
- Economic Development and Poverty Reduction Strategy II, 2013-2018
- Organic Law determining the modalities of protection, conservation and promotion of environment in Rwanda
- National Environment Policy
- National Strategy on Climate Change and Low Carbon Development for Rwanda, Baseline Report 2009
- Rwanda Environment and climate change policy brief 2013
- National Policy & Strategy for Water Supply and Sanitation Services 2010
- Gazette Nº 87/2013 of 11/09/2013, Law determining the organisation and functioning of decentralized administrative entities
- Gazette Nº09/2013 of 01/03/2013, Law establishing Rwanda Utilities Regulatory Authority (RURA) and determining its mission, powers, organisation and functioning
- Rwanda Policy on "Brown" Water due to Environmental Degradation and/the Sustainable Resource use in the Nile Basin Countries, 2009
- National Decentralisation Policy 2012
- Rwanda National Policy for Water Resources Management 2011
- Rwanda Vision 2020
- Water and Sanitation Sector Strategic Plan 2013/14 - 2017/18
- Law N°62/2008 putting in place the use, conservation, protection and management of water resources regulation, 2008

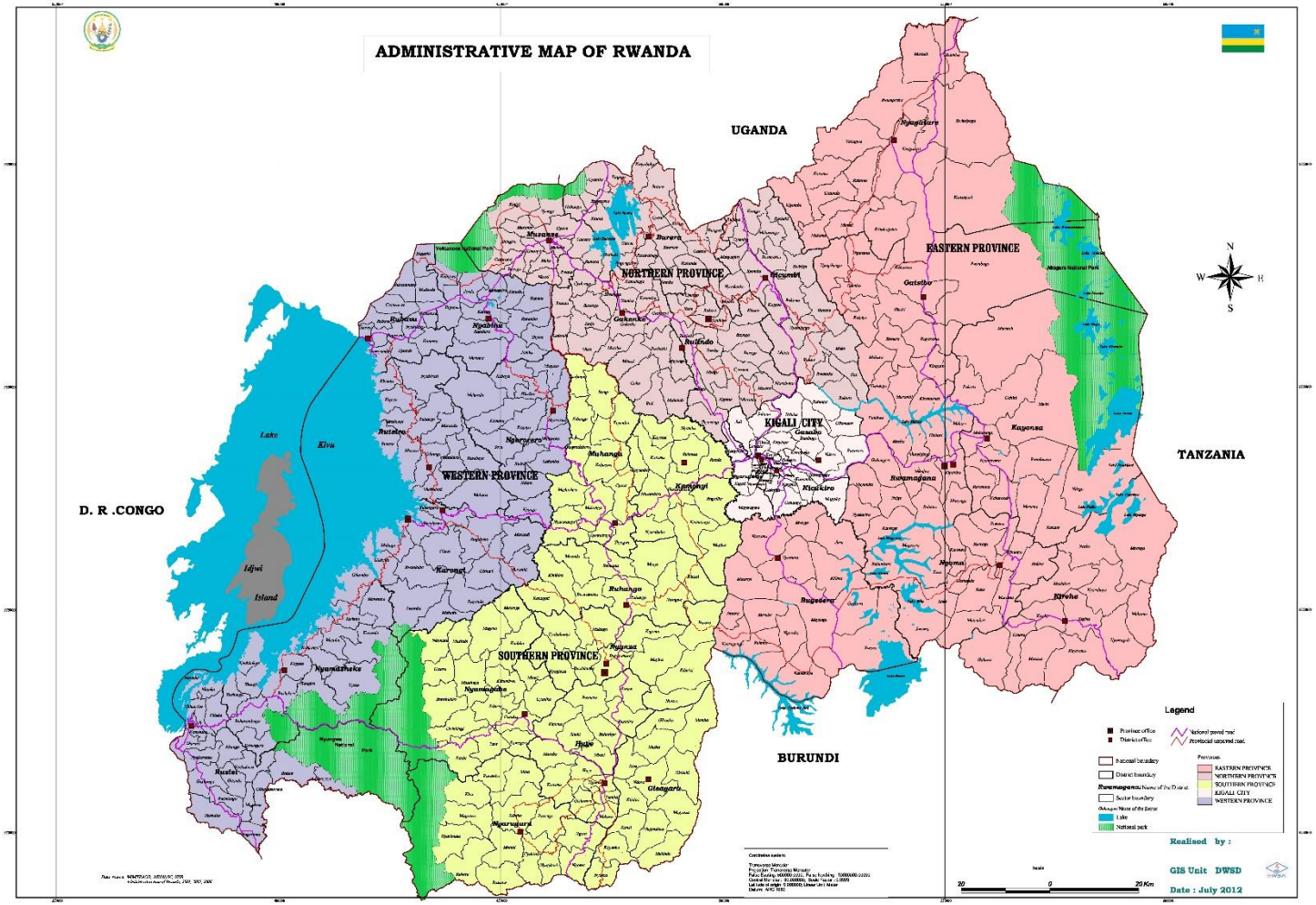
7.2 Existing and Ongoing Plans

- Rwanda National Water Resources Master Plan 2012
- The study on improvement of rural water supply in the Eastern Province in the Republic of Rwanda, 2010
- Terms of reference for call for proposals Nyabarongo up stream master plan
- Study for elaboration of National Water Supply Master Plan of Nyabarongo upstream basin, final analyses report phase 1, 2015
- Kigali conceptual Master plan 2008
- City of Kigali Master plan (http://www.masterplan2013.kigalicity.gov.rw/)
- Kigali City Master Plan report 2013
- ToR to conduct a Sanitation Master Plan and detailed design for identified key projects for the Districts of Musanze, Nyagatare, Rubavu, Rusizi and Karongi

7.3 Background information

- General guidelines and procedure for environmental impact assessment
- National Land Use Planning Portal
- Existing WASAC GIS / MIS – Etablissement d'Un System de Suivi et Evaluation de d'Eau et Secteur Sanitaires et Inventaire National d'Infrastructures Pour l'alimentation d'Eau Potable (Rapport Final Octobre 2009)

ANNEX 6: MAP OF RWANDA



ANNEX 7: GUIDELINES ON AWF COMMUNICATION AND VISIBILITY

1. Background

1.1 Communication and branding are very important to the AWF. Indeed, the AWF considers communication as a strategic function firmly linked to its business strategies and objectives. Regular communication with stakeholders helps strengthen the credibility of FEF and ensuring their confidence and esteem, which in turn help to strengthen and protect the reputation of the AWF. Communication is also an activity related to access to information. The AWF is a multilateral fund that is accountable to a board of directors who expects FEF complies with the highest standards of accountability and transparency. Thus, the AWF has committed to make every effort to communicate, share and report to its stakeholders and the general public all the information that will be useful and relevant. This commitment requires effective and regular communication on achievements, progress and results of the AWF using all available means, in a timely manner. All these are part of good business conduct AWF, and are essential to attract and retain donors, and maintain its "social license" of operation.

1.2 The branding is to ensure that the public knows the existence of the AWF and can distinguish it from other funds or organizations in the field of water. Branding is the use of a recognizable visual marker, logo, which embodies the AWF and carries his identity. The brand recognition is achieved over time, through activities designed to increase brand visibility, for repeated use and exposure logo at strategic locations and times. The AWF logo is used as a seal or a signature to indicate the financial support of AWF or a special collaboration.

1.3 The AWF has prepared guidelines on communication and visibility to the attention of partners, AfDB Regional Offices and grantees to help FEF more effectively achieve its goals of communication and visibility, as provided in the long-term communication strategy of the AWF in 2006 voted by its Board of Directors in 2006.

2. General Conditions

2.1 Before embarking on any process for the preparation of communication activities on the project funded by AWF, it is strongly recommended to contact the communications officer to the secretariat of the AWF, taking also informed the project manager of the AWF.

2.2 As a minimum, and to the extent possible, the logo of the AWF is to be applied to all communication documents regarding the project funded by the AWF. The proper use of the logo must be discussed with the head of communications of the AWF.

2.3 The AWF should be mentioned orally as a donor of the project it funds at public events in which the project is involved, and should also be mentioned as a donor in all PowerPoint presentations on projects funded by the AWF, using the name and logo of the AWF appropriately.

2.4 The logo should be obtained on request from the head of communications of the AWF.

2.5 The relevant documents and publications of the project must contain the logo of the AWF, and this sentence on the cover page: "This project / program / study is funded (e) by the African Water Facility."

2.6 Implementing agencies and implementation must always have a link to the AWF website on the page of their website on the project / activity funded by the AWF. The website is: www.africanwaterfacility.org.

3. Validation Process

The management of the AWF is responsible for the final validation of any communication product of the AWF.

4. Press Releases Media and Advisory

A press release of the AWF is broadcast at launch (approval or signature) and completion of the project.

4.1 Press releases AWF should always include a quote from the Coordinator of the AWF, which must also be validated.

4.2 The AWF appreciates and encourages any initiative to produce joint press releases with its partners (between the start and end of the project).

4.3 Where the gift recipient wants to produce a press release, it is necessary to coordinate this activity with the head of communications of the AWF in order to receive a quote from the Coordinator of the AWF, as appropriate, and obtain approval.

4.4 The AWF should be included in the title and / or the first paragraph of the press release, if any.

4.5 The press release should include the logo of the AWF, in addition to mention that funding was provided by the AWF and the amount of such financing.

4.6 If a press conference is planned, the press release should include the name of a high-level representative of the AWF will be present at the press conference, if appropriate.

4.7 All press releases must bear the name and contact information for the communications of the AWF and the head of communications / media relations of the gift recipient.

4.8 The text description of the AWF ("About FEF") must be added to the text, including the address of the AWF website. Please contact responsible for communications AWF to get the latest version, if needed.

4.9 The MEF is responsible for the final validation of all press releases following an editorial process involving publishers.

4.10 The above rules also apply to media advisories

5. Press Conferences

4.1 The press conference to launch the projects funded by the AWF to be organized in cooperation with the AWF, as far as possible.

4.2 The invitations should bear the logo of the AWF.

4.3 The AWF logo must appear conspicuously with any banner or poster used during the conference.

4.4 Press kits should include a press release with the logo of the AWF.

4.5 If possible, a banner AWF must be available and implemented to serve as a backdrop for meetings television and photography.

6. Press Visits

Journalists are invited to visit the project funded by the AWF, accompanied by representatives of the AWF or focal point FEF housed within the authority / government of the gift recipient.

7. Visits by Representatives of Governments, Donors of AWF

7.1 The project visits by government officials and AWF donors are encouraged. These should be prepared in coordination with the AWF and focal points of the AWF host government. This may also include meetings with local beneficiaries.

7.2 These visits may also include the participation of government representatives and donors AWF in roundtables and other events.

8. Cards, Brochures and Newsletters

8.1 All relevant pamphlets and brochures of the project / program financed by the AWF should incorporate the basic elements of the visual identity of the AWF, i.e. the logo of the AWF with or without its slogan.

8.2 Leaflets and brochures produced by the gift recipient must also incorporate a definition of the AWF, or descriptive text, see section "Press releases and media advisories."

8.3 The cover page of all documents relating to the project financed by the AWF must clearly identify the activity as part of an activity funded by the AWF.

8.4 Copies of publications including electronic copies should be made available to the AWF.

9. Electronic Communication

Any electronic communication disseminating information on projects funded by the AWF, including websites, newsletters and social media must include a link to the website of the AWF.

10. Safety

The executing agency must produce billboards, posters or banners to promote their activities funded by the AWF or related to the AWF at exhibitions and other events, which will be placed at strategic locations visible to all.

11. Vehicles, Supplies and Equipment

11.1 The AWF generally requires that vehicles, supplies and equipment financed by the AWF are clearly identified, and visibly carry the logo of the AWF and the phrase

"Provided with the support of the African Water Facility" in English, French or Portuguese, or any official language of the country or institution, if applicable.

11.2 This condition can be the subject of negotiations between AWF and the gift recipient since some supplies and equipment may be exempted.

11.3 The gift recipient must provide proof of compliance with this rule (emailing digital photos is recommended).

12. Photographs and Audio-visual Productions

12.1 High-resolution professional digital photographs (300 dpi) project funded by AWF must be provided to the AWF throughout the different phases of the project to document the progress of actions and events related to the project, which will be used in print or electronic publications.

12.2 All photos must be submitted with a complete legend, and the information needed to assign ownership.

12.3 The AWF will be permitted to use or reproduce photos submitted to it without payment of royalties.

12.4 Whenever required, audio-visual materials must acknowledge the support of the AWF, highlighting the AWF logo at the beginning and / or end of the movie / documentary.

12.5 Copies of the film (s) / document (s) must be provided to the AWF.

13. Commemorative Plates or Safety

13.1 If relevant, the gift recipient must place a permanent plaque or other type of commemorative signs in the most visible part of the building, infrastructure or near the project site has been funded by AWF, next to the name the implementing agency and / or the name of the project visible to visitors.

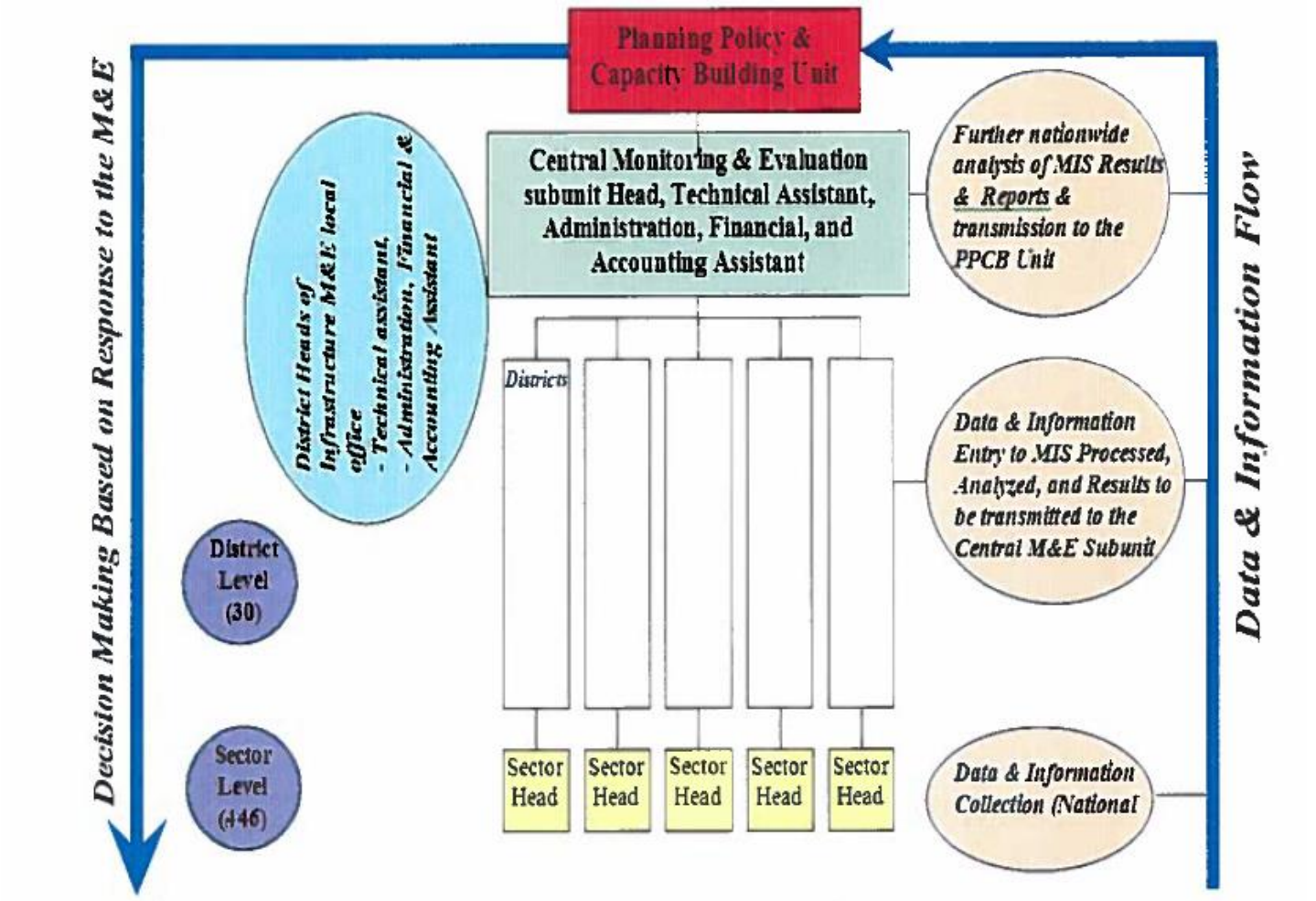
13.2 If necessary, the plate or signalling may contain the following sentence: "This [Infrastructure's name] was funded by the African Water Facility" next to the logo of the AWF.

14. Promotional Items

14.1 Before taking any decision on the production of these items, it is necessary to consult the Communications Officer of the AWF.

13.1 Promotional items bearing the logo of the AWF can be distributed in support of communication activities for the project financed by the AWF. It may be T-shirts, caps, pens, notebooks, USB sticks, etc.

ANNEX 8: WASAC MIS/GIS



Source : *Etablissement d'Un System de Suivi et Evaluation de d'Eau et Secteur Sanitaires et Inventaire National d'Infrastructures Pour l'alimentation d'Eau Potable (Rapport Final ; Octobre 2009)*