REPUBLIC OF RWANDA

MINISTRY OF INFRASTRUCTURE

# National Sanitation Poli

Kiga

# FOREWORD

Sanitation plays a vital role in preventive healthcare and quality of life. For that reason, the Government of Rwanda has made the provision of sustainable sanitation services one of the p of the National Development Agenda and is establishing supportive policies and legislation.

The Ministry of Infrastructure has developed the National Sanitation Policy to ensure th implementation of activities in the sanitation sub-sector. The Policy outlines initiatives challenges and exploit existing opportunities in an integrated manner, and will effectively co towards achieving the goals of the National Development Agenda.

The Government of Rwanda will ensure expanded access to safe and sustainable sanit through a number of means including: establishing District sanitation centres providing a wid sanitation technologies; improving operation and maintenance of sanitation facilities; ar Districts and the City of Kigali to plan and design projects to mitigate urban storm water issue

The Government of Rwanda is also encouraging active participation of local private service pr and operators in the sanitation sub-sector and will ensure that the principles advocated by thi are adhered to in the whole process of sanitation services provision.

The Government further strongly recognizes the initiatives of the international and regional communities and will continue to cooperate in order to achieve the 2030 Sustainable Goals.

**Germaine KAMAYIRESE**
Minister of State in charge of Energy and Water

# Contents

## List of Figures



## List of Tables

## Acronyms

| | |
|---|---|
| CBEHPP | Community-Based Environmental Health Promotion Programme |
| EDPRS | Economic Development and Poverty Reduction Strategy |
| EICV | Integrated Household Living Conditions Survey |
| M&E | monitoring and evaluation |
| MDG | Millennium Development Goals |
| MINALOC | Ministry of Local Government |
| MINECOFIN | Ministry of Finance and Economic Planning |
| MINEACOM | Ministry of Trade, Industry and East African Community Affairs |
| MINEDUC | Ministry of Education |
| MINIRENA | Ministry of Natural Resources |
| MININFRA | Ministry of Infrastructure |
| MYICT | Ministry of Youth and ICT |
| MoH | Ministry of Health |
| MIS | Management Information System |
| NGO | non-governmental organization |
| O&M | operation and maintenance |
| PPP | public-private partnership |
| REMA | Rwanda Environment Management Authority |
| RNRA | Rwanda Natural Resources Authority |
| RURA | Rwanda Utilities Regulatory Authority |
| SDGs | Sustainable Development Goals |
| SWAp | sector-wide approach |
| UNICEF | United Nations Children's Fund |
| WASAC Ltd | Water and Sanitation Corporation Limited |
| WATSAN | Water and Sanitation (equivalent to WSS) |
| WHO | World Health Organization |
| WSS | water supply and sanitation (equivalent to WATSAN) |

# 1. INTRODUCTION

## 1.1 RATIONALE FOR AN UPDATED POLICY DOCUMENT

In the Economic Development and Poverty Reduction Strategy (EDPRS) 2, Rwanda has itself to reaching very ambitious targets in sanitation, among them the vision to attain 100 per sanitation service coverage by 2017/18. The importance of adequate access to sanitation as a for social and economic development, poverty reduction and public health is fully acknowledge Rwanda's flagship policy documents and national goals.

The need to update the relatively recent sanitation policy of 2010 and the strategy of 2013 arc from the fact that significant institutional reforms have substantially changed the sector contex decentralization of responsibilities for rural sanitation, private-sector participation in sanitation solid waste management, the emerging sector-wide approach (SWAp) had all been envi 2010/13, but has gained decisive momentum since. The ambitious development objectiv require a revision of the institutional responsibilities and coordination mechanisms.

There is a broad consensus among key sector stakeholders on the need for a stronger emphas sanitation (including urban drainage and solid waste management) in any revised policy supply and sanitation (WSS) in order to meet the revised national objectives as outlined in cha For that reason, it was decided to develop two dedicated distinct policy documents – one for w supply and one for sanitation only – to avoid a situation that sanitation gets neglected or is just as an add-on to water supply.

The National Sanitation Policy has been developed as an Umbrella Policy that provides principles for all aspects of sanitation, including liquid and solid waste, industrial waste waste, e-waste, health-care waste and hygiene.

Finally, it is also worthwhile to mention that the new 2030 Agenda has water and sanitation at core, with a dedicated Sustainable Development Goal (SDG) 6 on water and sanitation linkages to goals relating to health, food security, climate change, resiliency to disasters and ecosystems, among many others. In particular, the sub-targets on sanitation are based on a m comprehensive concept of moving beyond basic services delivery and therefore also include environmental protection and faecal sludge management. These additional challenges require new set of policy direction and related implementation strategies.

## 1.2 THE UPDATING PROCESS

The present policy document is the result of a comprehensive sector analysis combined discussion and stakeholder consultation process led by a dedicated task force. Four pro workshops, including the consultation with the City of Kigali and a national validation worksho held to ensure the adequate participation of all sector stakeholders, including those external to sector.

At the national level, the following government institutions were consulted and participated in preparation of this policy: Ministry of Finance and Economic Planning (MINECOFIN); Mini Health (MoH); Ministry of Natural Resources (MINIRENA); Ministry of Education (MINEDUC); Min of Local Government (MINALOC); Ministry of Disaster and Risk Management (MIDIMAR); Minist Youth and Information and Communication Technology (MYICT); Ministry of Trade, Industry and East African Community Affairs (MINEACOM); Provinces, Districts and the City of Kigali; Rwanda Utilities Regulatory Authority (RURA); Environment Management Authority (REMA); Rwanda Natural Resources Authority (RNRA); Rwanda Energy Group (REG); Water and Sanitation Corpo Limited (WASAC Ltd); private sector and other public institutions and development partn revised policy document is also the result of a comprehensive desk review of key sector docum (*refer to the bibliography in the Annex*).

## 1.3 SCOPE OF THE POLICY AND DEFINITIONS

According to the 1997 Kampala Declaration on Sanitation, sanitation encompasses the management of excreta from the environment, maintenance of personal, domestic and food hygiene, safe disposal of solid and liquid wastes, maintaining a safe drinking water chain and v control'.

For the purpose of this policy, "Sanitation" as a whole is a "big concept" which is understood as collection, transport, treatment and disposal or reuse of human excreta and domestic and indu waste (liquid, solid and gaseous) as well urban storm water management. It also inclu management of electrical and electronic waste (e-waste), hazardous waste, health-care waste, radioactive and other dangerous substances.

Ten concepts impact the formulation of the Policy and Strategy, and their definitions are of significant importance:

- Urban storm water management;
- Faecal sludge management along the entire value chain (new definition);
- Difference between individual and collective sanitation;
- Coverage and access to safe sanitation;
- Definition of safe latrines/toilets;
- Electric and electronic waste;
- Industrial waste;
- Health-care waste;
- Nuclear/radioactive waste; and
- Hazardous waste.

### i. Urban storm water management

The rapid urbanization rate alters how water flows during storm events, putting volumes of wa and more pollutants into national rivers, lakes and estuaries. In urban areas, roads, parking lot other impervious surfaces channel and speed the flow of water streams and, when combined w pollutants picked up by storm water, these lead to water quality degradation in urban streams

Storm water management is a cross-cutting issue that can be addressed by different actors in Sanitation sub-sector. Given its impact on infrastructure sector development, concerted efforts be needed to address this issue.

With respect to the scope, this policy considers wastewater, urban storm water and so management as inextricably linked and also focuses on integrated management of urba water and wastewater. This is in contrast to the practice of viewing each wastestream as independent and separate from the others. By this policy, the management of wastewa urban storm water needs to be considered within the context of the overall urban water life rat than as a specific resource in isolation.

### ii. Faecal sludge management

The Rwandan Policy 2010 has already proposed an approach based on safe manageme faecal sludge throughout the sanitation value chain. The new SDGs now also entail all the step the sanitation management chain, from containment to reuse/disposal as shown below:

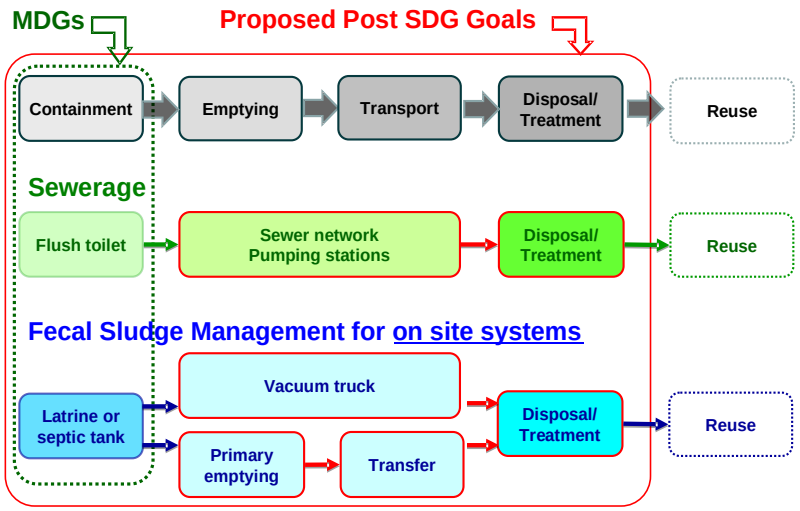


**Figure 1: Sustainable Development Goals (SDGs)**

This means that it is not sufficient to build only latrines and toilets; a "public service" must pro "safe" services for transportation and treatment for both on-site and off-site systems.[1]

### iii. Individual vs. collective sanitation

Unlike water supply, the tasks and responsibilities of sanitation services are much more between individual (household level) and collective service providers, and the definitions individual and collective and (b) on- and off-site sanitation need to be carefully set. The table b offers a definition for each type of the sanitation chain in accordance with the SDGs.

**Table 1: Definition of sanitation services**

| Management | Individual sanitation | Collective sanitation |
|---|---|---|
| **On-site sanitation** | Sanitation facilities at household level (latrines, septic tanks, infiltration pits) | Institutional sanitation:<br>• Collective toilets (schools, health centres…)<br>• Public toilets (markets, squares, bus stations) |
| **Off-site sanitation** | Faecal sludge management (collection by vacuum tankers and transportation to a faecal sludge treatment plant) | • Centralized sewerage (conventional)<br>• Decentralized sewerage (condominial)<br>• Wastewater and faecal sludge treatment plants |

The definitions in the table above show that all facilities at household level are on-site and indi However, "individual sanitation" does not imply that all the services are to be provided by households alone: complementary *collective service provision* for emptying, transportatio treatment of faecal sludge from individual on-site sanitation is needed.

### iv. Coverage and access to safe sanitation

The sanitation indicators – coverage and access to safe basic sanitation – are most im indicators for the sanitation services sector. They reflect the sector in Rwanda's flagship development documents (EDPRS 2, Vision 2020).

> **Access to basic sanitation**: Per cent of people able to acquire affordable services ar private sanitation facility as well as safe on- or off-site treatment and disposal of wastewater sludge.

This definition of **access** means that households (and industries, trade) should have su

[1] Such "public services" can be provided by public utilities or the private sector. In this case, the public sector must regulate activities of the private sector.

financial resources and the local market should be able to provide solutions and services that a affordable. Households also need to access the suitable information for them to be able to dec the best solution for their needs and resources in line with environmental standards.

*Coverage* is different from *access*; coverage goes beyond access and means sustainable, conti use and access over time.

> **Coverage** of **basic sanitation**: Per cent of people *using* an improved private sanitation faci safe on- or off-site treatment and disposal of wastewater and sludge.

Access contributes to sustainable coverage. **But it is coverage, not access, that provides return on investment and the economic benefits the country is aiming at.**

"Using" also means that people apply a new social norm, translated into a suitable, responsible healthy behaviour, both at household and community levels (through formal or informal enforcement of the local social norm). They *use* the facility ("having" a facility is not enough).

Therefore, the policy and the strategy will propose to develop a *coverage indicator* as objective and sole indicator for (i) coverage; (ii) access; and (iii) adequate hygiene behaviour.[2]

It should be noted that the above definition is for practical monitoring purposes; it follows the S and includes the entire value chain, from improved latrines/toilets to safe reuse/disposal.

Apart from agreeing on definitions, it is essential to develop a viable and sustainable m system, including reliable data collection and calculation methods. The new data-gathering pro will require evolving from simply counting the number of latrines/toilets (Millennium Developm Goals, or MDGs) to assessing the achievement of the value chain (SDGs), and data may take s years to be reliable and representative. It is particularly important to ensure that the definition questionnaires used by the National Institute of Statistics as well as the Management Informat System (MIS) are in line with the above definitions. For that reason and for the purpose of the P and Strategy, the definition used for access to individual sanitation is still based on th approach.

### v. Definition of safe latrines/toilets

The Joint Monitoring Programme for Water and Sanitation (UNICEF/World Health Organiz (WHO)) has defined for monitoring that an "improved" sanitation facility is one that hy separates human excreta from human contact. It defines improved/unimproved sanitation hard as follows:

**Table 2: WHO/UNICEF definitions of sanitation facilities**

| **Improved sanitation facilities** | **Unimproved facilities** |
|---|---|
| Use of the following facilities in home/compound:<br>o Flush/pour-flush to:<br>▯ piped sewer system<br>▯ septic tank<br>▯ pit latrine<br>o Ventilated improved pit (VIP) latrine<br>o Pit latrine with slab<br>o Composting toilet | o Use of the following facilities anywhere:<br>▯ Flush/pour-flush to elsewhere<br>▯ Pit latrine without slab/open pit<br>▯ Bucket<br>▯ Hanging toilet or latrine<br>o Use of a public facility or sharing any improved facility<br>o No facility, bush or field (open defecation) |

This definition remains useful for several purposes. As a benchmark criterion, it will support te

[2] According to the latest WHO/UNICEF Joint Monitoring Programme (JMP) report 2015, the percentage of Rwanda's population w hand-washing facility at home with soap and water is estimated at only 6 per cent in urban areas and 1 per cent in rural areas

strategies while formulating urban master plans and rural sanitation projects. Improved sanita facilities also remain a starting point for progress data-gathering at the individual hous although such data are not sufficient to comply with the new SDG and policy requirem measure adequate sanitation coverage.

### vi. Definition of electronic waste management

E-waste encompasses all discarded and disposed electrical and electronic equipment (EEE), wh defined as equipment dependent on electric currents or electromagnetic fields in order properly, but also equipment for the generation, transfer and measurement of such cur fields.

"Electronic waste or e-waste is any broken or unwanted electrical or electronic appliance. E-wa includes computers, entertainment electronics, mobile phones and other items that have discarded by their original users. While there is no generally accepted definition of e-waste, in cases, e-waste consists of expensive and more or less durable products used for data telecommunications or entertainment in private households and businesses".

### vii. Definition of industrial waste management

Industrial waste is the waste generated by industries and includes solid, liquid and gaseous wa addition, it includes any material that is rendered useless during a manufacturing process, such that of factories, industries, mills and mining operations. Any waste arising from commercial, t activities, laboratories or containing substances or materials which are potentially harmful to h beings or equipment are termed as industrial waste.

### viii. Definition of health-care waste

The term health-care waste includes all the waste generated within health-care facilities, rese centres and laboratories related to medical procedures. In addition, it includes the sam waste originating from minor and scattered sources, including waste produced in the co health care undertaken in the home (e.g., home dialysis, self-administration of insulin, recuper care).

Health-care waste categories include but are not limited to general waste, infectious waste, pathological waste, sharps, pharmaceutical waste, genotoxic waste, chemical waste, waste wit content of heavy metals, pressurized containers and radioactive waste.

### ix. Definition of nuclear/radioactive waste

Radioactive waste is any material that is either radioactive itself or is contaminated by radioac for which no further use is envisaged.

Radioactive waste includes solids, liquids and gaseous material contaminated with radionuclide produced as a result of procedures such as in vitro analysis of body tissue and fluid, in vivo org imaging and tumour localization, and various investigative and therapeutic practices.

Radioactive waste is also generated while decommissioning and dismantling nuclear rea other nuclear facilities. There are two broad classifications: high-level or low-level waste. High- waste is primarily spent fuel removed from reactors after producing electricity. Low-leve comes from reactor operations and from medical, academic, industrial, mining and other comm uses of radioactive materials.

### x. Hazardous waste

Hazardous waste is waste that is dangerous or potentially harmful to human health or the environment. Hazardous waste can be liquids, solids or gases. Sources of hazardous waste incl

hospitals, timber treatment, petrol storage, metal finishing, paint manufacture, vehicle s tanneries, agriculture/horticulture, electricity distribution and dry cleaning.

# 2. POLICY CONTEXT: COHERENCE WITH DEVELOPMENT FLAGS

## 2.1 THE IMPORTANCE OF HYGIENE AND SANITATION FOR DEVELOPMENT

Propersanitationand hygieneaffectsbroadareasof humanlife. The provisionof adequate sanitation services plays a crucial role in preventive health care and is more generally a prerec and indicatorfor socio-economicdevelopment.Poor sanitaryconditionspromotediarrhoea, intestinalparasitesand environmentalenteropathy,and havecomplexand reciprocallinksto malnutrition in children. Existing evidence demonstrates that poor sanitation and hygiene conc can affect a child's nutritional status via at least three direct pathways (i) diarrhoeal d intestinal parasites; and (iii) environmental enteropathy. Malnutrition weakens the body's defe and makes children more vulnerable to disease. At the same time, diarrhoea and intestinal par contribute to malnutrition by causing decreased food intake, impaired nutrient absorption and nutrient losses.

Studies pointed out that even a relatively mild infestation of parasites can consume 10 per cer child'stotal energyintakeas well as interferewith digestionand absorption.Unsanitary environmentsdue to the lackof adequatewatersupplyalsocontributeto malnutritionby challenging children's immune systems; nutrients that would otherwise support growth go inst towards supporting the immune response. Some researches demonstrated strong relation betw diarrhoeal infections in the first two years of life and cognitive functioning when childre between 6 and 9 years old. Numerous studies have also reported that malnutrition and have been found to be related to children's mental and social development, in both the short a longer terms. Children who have suffered from early malnutrition have lower intelligence quoti and school achievement levels and more behavioural problems at later ages.

Closely interlinked with other development sectors, the provision of adequate sanitation therefore remainsto be a coreelementof developmentstrategiesand indicators,including Rwanda's Vision 2020 and EDPRS 2, as well as the recently endorsed SDGs.

## 2.2 COHERENCE WITH DEVELOPMENT FLAGSHIPS

Vision2020Rwandais politicallycommittedto achievelong-termaspirationsand targetsin sustainable socio-economic development. The related targets and principles are defined following development flagships that primarily include Rwanda's Vision 2020 and EDPRS 2 and new SDGs.

### 2.2.1 Vision 2020

Vision 2020 was revised in 2012 in alignment with the new EDPRS 2 2013–2018. The directly r statement of Vision 2020 embedded in pillar 4, infrastructure development, is presented in An

### 2.2.2 EDPRS 2 (2013–2018)

The Sanitation Policy is coherent with the EDPRS, Rwanda's medium-term framework for achie its long-term development aspirations and priority areas, and the very ambitious sanitation tar There shall be a close link with the EDPRS 2 planning and monitoring framework.

The main policy relevant statements and objectives in the EDPRS 2 2013–2018 are shown in A

### 2.2.3 Seven-Year Government Programme (2010–2017)

The targets of the Seven-Year Programme of the Government of Rwanda further reinforce the
targets. *(A sanitation-related quote from the programme (2010–2017) is presented in Annex 1*

### 2.2.4 Sustainable Development Goals (SDGs)

In September 2015, the United Nations adopted the 2030 Agenda for Sustainable Developmen
end poverty and promote prosperity for all while protecting the environment and addressing cl
change.

The new 2030 Agenda has water and **sanitation** at its core, with a dedicated SDG 6 on water
sanitation and clear linkages to goals relating to health, food security, climate change, resilien
disasters and ecosystems, among many others.

Reaching the ambitious objectives of the 2030 Agenda demands that Rwanda addresses
access to drinking water and sanitation along with issues of quality and supply, in tan
improved water management to protect ecosystems and build resiliency. It includes two main

- Goal 6, "Ensure availability and sustainable management of water and sanitation for all"
- Goal 17, "Strengthen the means of implementation and revitalize the global partners
  sustainable development", in the context of water and sanitation.

In addition to this, SDGs 11 and 12 also propose solid waste objectives, although they do not d
the extent:

- Goal 12.5, "By 2030, *substantially* reduce waste generation through prevention, redu
  recycling and reuse"

The post-2015 development road map for sanitation have be developed in tandem with other r
parallel intergovernmental processes currently under way, some of which have culminated in 2
such as the Third World Conference on Disaster Risk Reduction, the discussions on Fin
Development and the international climate change negotiations (COP21).

### 2.2.5 Health Policy 2014 and Health Sector Strategic Plan (2012–2018)

The objective of the Health Policy is centred on the reduction of burden of disease of
important health problems in Rwanda – i.e., maternal and child health problems, infectious dis
and non-communicable diseases through access to primary healthcare. Both prevention and
treatment and care services are included in these programs, as well as interventions a
improving important health-determining factors, such as behaviour change communication,
promotion of adequate nutrition, environmental health and sanitation and access to safe water
Policy directions with relevance to the water supply sub-sector are as follows:

a) The health cross-sector collaboration has to be strengthened to tackle multi-factorial
   determinants affecting the health of the population (poverty reduction, nutrition and foo
   security, water and sanitation, human rights, education and social protection, empowerm
   of youth and vulnerable populations).
b) Environmental health interventions will be strengthened from the national to the
   level. Hygiene inspections will be decentralized to empower districts and sectors
   Community-Based Environmental Health Promotion Programme will be scaled up t
   implemented country-wide.
c) Inter-sectoral collaboration between non-health departments and the MoH is essen
   interventions targeting health determinants: water distribution and sanitation syste
   meet essential health needs, and public hygiene activities (domestic and health-care wa
   management, health inspections).

### 2.2.6 Rwanda Environment Policy (2003)

The National Environment Policy sets out overall and specific objectives as well as fund principles for improved management of the environment, both at the central and local accordance with the country's current policy of decentralization and good governance.

The policy also sets out institutional and legal reforms with a view to providing the country wit coherent and harmonious framework for coordination of sectoral and cross-cutting polici furthermore introduces innovations including, among others, the establishment of a Rwanda Environment Management Authority and provincial and district or town committees responsibl environmental protection, which are currently in place and functioning.

### 2.2.7 National Policy on Injection Safety, Prevention of Transmission of Nosocomial Infecti and Health-Care Waste Management (2009)

The National Policy on Injection Safety, Prevention of Transmission of Hospital Infections and H Care Waste Management has been developed to help health professionals to improve the qual care and to establish procedures and evaluation mechanisms to ensure optimal quality of heal to prevent infections. The Policy aims at protecting and/or minimizing the risks due to injections and management of health-care waste practices for patients, health workers, consur and the environment from the hazardous health-care waste disposal practices.

### 2.2.8 National Guidelines on Health-Care Waste Management

The guidelines provide a minimum standard for safeguarding public health and the env through efficient management of health-care waste. All types of health-care waste are account by these guidelines, and each health facility is recommended to be responsible for ma its waste from the point of generation to the final disposal. These guidelines are recommended stakeholders in the health sector and in particular all those involved in delivery of hea services in Rwanda.

The guidelines provide a framework of waste management strategies outlined below:

- Hygiene and infection prevention control committees for waste management, plannin auditing;
- Reduce, recycle and reuse;
- Waste labelling and containment;
- Proper waste handling, segregation, storage and transport;
- Correct waste treatment and disposal

### 2.2.9 Rwanda Draft E-Waste Policy (2015)

The draft E-Waste Policy under MYICT stresses that the utilization, purchase and import of elec and electronic equipment is expected to grow substantially in the years to come, and a conser estimate would be a growth rate of 20 per cent annually. The increased usage of elec electronic equipment would subsequently generate increased volumes of e-waste. Moreo current lack of infrastructure to handle e-waste in Rwanda has motivated institutions a persons to store outdated equipment, which also need to be managed in an environmentally s manner.

### 2.2.10 National Industrial Policy (2011)

The National Industrial Policy (April 2011) makes it clear that the waste produced by i processes is harmful to the environment and to the businesses and people who rely o therefore paramount that mitigating measures are taken so that growth can take place in a sustainable long-term manner.

### 2.2.11 Rwanda Industrial Master Plan (2009–2020)

It is estimated that close to 70 per cent of industry in the country is located in Kigali, which imp potential concentration of the pollution in the capital. Standard facilities for waste treat other sewerage control systems that will be installed on all industrial parks across the manage effluents shall need to be put in place.

## 2.3 STATUS OF RWANDA'S SANITATION SUB SECTOR

### 2.3.1 Household and institutional sanitation

Rwanda has achieved remarkable progress in health. Since 1990, under-5 mortality has decrea two thirds and maternal mortality by three quarters, while life expectancy has nearly doubled.[3]

Open defecation has practically been eradicated and most of Rwandan households have financed and built their on-site private sanitation premises, albeit only about two thirds comply the international standard definitions of an improved sanitation facility. Very few Rwandan households have installed flush toilettes. The prevailing practice remains that water is cooking and washing (grey water, discharged mostly on surface) while excreta are disp waterless latrines, which is a rational solution considering the scarcity of the average water su and financial constraints.

The country has not yet invested in collective (water-borne) sanitation systems for densified u areas, except a few small sewerage systems in Kigali for about 1,000 households altogether. M hotels, hospitals, office buildings and some industries have installed their own (pre-) tre systems. Actually, conventional sewerage and treatment systems for Kigali, Gasabo and Kicuki in the planning process.

Community Health Clubs have been established in all of the 30 districts in Rwanda. In addition cent of all 14,767 villages in Rwanda have registered Community health Clubs (CHCs). Of this 5,376 villages have trained Village Health Workers (ASOC) who are running health sessions reg The remaining districts are set to be trained by 2018. Although sanitation hasn't been the mai over the past few years, the CHCs provide an excellent platform to promote sanitation improvements.

Rwanda's schools benefited from the Community Health Clubs (replacing the Hygiène et Assainissement en Milieu Scolaire –(HAMS) /(Hygiene and Sanitation in schools) program started in 2000) which focuses on behaviour changes in hygiene practice, including considerat for menstrual hygiene.

**Progress towards the sanitation flagship targets**

Improved sanitation coverage is estimated by the UNICEF/WHO Joint Monitoring Programme at (rural: 71 per cent, urban: 83 per cent)[4] for 2015 but including shared toilets. Rwanda's Joint Water and Sanitation (WATSAN) sector review, November 2015, provides slightly higher figures with reference to Integrated Household Living Conditions Survey (EICV) 4 results: overall acces improved sanitation is indicated with 83.4 per cent (rural: 81.4 per cent, urban 93.5 per cent). fifth Rwanda Demographic and Health Survey (DHS) as of 2014/15 provides similar results (72 cent including improved and shared facilities). It should, however, be noted that the reliability available access figures is limited. This is due to the difficulties in correctly assessing the quali private pit latrines used by the vast majority of the population. Total latrine (or toilet) including improved and not improved sanitation facilities, in Rwanda is estimated at 96

[3] World Bank, World Development Indicators, 2015, <http://data.worldbank.org/indicator>.

[4] Source: 'Progress on Sanitation and Drinking Water: 2015 update and MDG assessment', Joint Monitoring Programme, 2015.

according to the Census 2012[5] and the fifth Rwanda Demographic and Health survey (DHS) as 2014/15, which reflects a high household acceptance level for such infrastructure.

However, the facility coverage level contrasts with relatively low hygiene practices as indicated the Demographic and Health Surveys in 2010 and confirmed in 2014/15. Only 12 per cent of households had a place for hand washing. The proportion of households with a place for hand washing increases increasing wealth, from 9 per cent among households in the lowest three quintiles to (only) 20 per those in the highest quintile.

To achieve universal coverage with improved sanitation until 2018, and assuming a current im toilets deficit of 25 per cent, Rwanda will not only have to improve, replace or build annually al 500,000 facilities at household levels, but also increase hygiene awareness and practices and safe (collective) *sanitation services* for several million households throughout the country.

**Table 3: Number of latrines/toilets to be built in 2016, 2017 and 2018**

| Year | Population | Households | New latrines/toilets to be built | | | |
|---|---|---|---|---|---|---|
| | | | Deficit | Substitution old | for new households | **Total** |
| | 2,36% | 4.3% | **25%** | 6.7% | | |
| 2016 | 13,000,000 | 3,023,256 | 251,938 | 151,163 | 69,767 | **472,868** |
| 2017 | 13,307,087 | 3,094,671 | 251,938 | 154,734 | 71,415 | **478,087** |
| 2018 | 13,621,427 | 3,167,774 | 251,938 | 158,389 | 73,102 | **483,429** |

The indicative calculation for latrine/toilet construction is based on the following assumptions:

Annual growth of population of 2.36 per cent and average number of 4.3 members per household[6]

(i) An estimated deficit of improved sanitation facilities of about 25 per cent equivalen approximately 750,000 improved latrines, or 250,000 per year;

(ii) An average lifetime of 15 years for individual pit latrines requiring the annual substitution reconstruction of about 7 per cent of the existing improved facilities; and

(iii) A new pit latrine/toilet for every new household.

### 2.3.2 Urban storm water management

Volumes of storm water and wastewater form a very large part of the urban water cy improved and integrated management offers potentially large environmental, economic and so benefits. The ability to achieve these benefits is increasing as new technologies, systen concepts and management methods are progressively introduced, however, there is little evid of major moves towards more adoption.

Storm water runoff from the built environment remains a great challenge, as it is a so contamination and a main contributor to water-quality impairment of water bodies natio Storm water remains a country-wide problem, especially in country cities, towns, rural centres grouped settlements (villages) due to the topography and natural conditions of the soil. In add to entrainment of chemical and microbial contaminants as storm water runs over roads and rooftops, storm water poses a physical hazard to water bodies.

The serious problem is identified particularly in the City of Kigali and in Secondary Cities. Since the Government of Rwanda has taken measures to move the population from high risk including flooding zones in urban and rural areas. Actually, all families near flooding zo

5 Fourth Population and Housing Census, Rwanda, 2012, National Institute of Statistics of Rwanda, 2014.

6 Integrated Household Living Conditions Survey, 2013/14, National Institute of Statistics of Rwanda, 2015.

around dangerous storm water channels have been removed. Several urban master plans are elaborated should cater for wastewater and urban storm water management issues.

Urban storm water planning and implementation are the responsibility and task of mun (Districts and City of Kigali), but no specific task force at the national level is in place and in ch support decentralized storm water management yet. There is a need to manage both wastewa and urban storm water in linked and integrated manner.

### 2.3.3 Solid waste management

The 2010 National Sanitation Policy already addressed solid waste management, delegating th to households, communities, Non-Governmental Organizations (NGOs), the private sector, community associations and district authorities, some of them operating with limited technical financial means.

Rwanda has not implemented systematically the integrated solid waste management approach has seen different interventions carried out by districts and the private sector, the latter mostl Kigali, in line with the (global) principles set out in the Policy 2010 and in the "Practical Tools o Waste Management of Imidugudu, Small Towns and Cities: Landfill and composting facilities", published in 2010.

Kigali and other towns are undertaking considerable efforts to maintain the urban envir clean, but final treatment and disposal is lagging behind schedule. A promising integrat management approach has been developed in the Kigali City Master Plan Report, 2013, but ha yet been implemented: Environmental Treatment Zone.

Problems arise at all stages of waste collection and disposal. Kigali's waste still contains 70 per of organic, biodegradable waste, and in rural areas this portion of waste may reach more than cent. While some waste-sorting, composting and recycling activities have been developed ove past few years, Rwanda did not invest yet in environmentally safe landfills, although several la are planned – e.g., in Kigali, Kamonyi, Ngoma, Nyamagabe and Huye – and incinerators constructed in health centres.

The Government of Rwanda also has encouraged private investment in recycling. These compa receive legal guidance, which still needs more clarification regarding the compliance of all invo parties (customers, companies and authority) and so far, there is no clear technical assistance the Government and no special financing facility.

Rwanda's market demand for recycled products remains limited except for plastic and paper ( glass: none; bottles, metal, organic waste: medium).

Regulations are primarily targeted to private waste collecting and recycling companies (obliga deliver sorted waste) and less to consumers – e.g., no regulation on how to sort at so obligation to comply with or to pay for selective collection.

Implementation of solid waste management has been decentralized to municipalities and distr specific task force at the national level is not yet in place and in charge to support decentralize waste management.

### 2.3.4 E-waste management

In 2015, MYICT, in collaboration with the Ministry of Trade, Industry and East African Co Affairs (MINEACOM), have formulated a draft special policy on e-waste, which gives a broader p direction on e-waste management. Detailed guidance and strategies for e-waste management be provided by the specific e-waste policy.

Considerable efforts have been made to tackle e-waste issues whereby an assessment on e-w

status and trends in Rwanda was conducted and recommendations for e-waste management w highlighted for consideration by the concerned institutions. The draft regulations on e-waste collection, transportation, dismantling and recycling are being developed by the regulator and advanced stage. The E-waste management framework and the capacity to handle e-waste in R is still a challenge that needs special attention and is addressed by this policy.

### 2.3.5 Industrial waste management

The Industrial Policy (2011) clarifies that the majority of industrial firms are not endow equipment for treatment of their industrial waste in the natural environment. Effluents are pou mainly in waters such as Nyabugogo River. This includes disposal of biodegradable organic pro oils and heavy metals such as chrome, lead, zinc and copper, among others.

The appropriate industrial zones were created whereby most of the industries were relocated f inappropriate areas to ensure environmental protection and the protection of human health.

The Rwanda Cleaner Production Centre was established to promote an integrated strategy app the whole of the production cycle to improve the environmental performance of industrial firms Rwanda. The Centre shall promote more efficient use of raw materials, energy and water, and to ensure a life cycle production approach for environmental sustainability.

Much as the Industrial Policy (2011) highlights the need for equipment for treatment of waste, there is no specific policy on industrial waste management, which this policy recommen be developed going forward for effective industrial waste management.

### 2.3.6 Radioactive/nuclear waste management

Rwanda has not yet developed the regulatory framework for radioactive/nuclear waste management. The technology to handle, treat and recycle radioactive waste is also limited. Mi activities being undertaken in the country are expected to have radioactive elements, hence th a need for a specific policy for radioactive waste management considering the likelihood of radioactive/nuclear waste generation. Steps are being taken to put in place the regulatory framework for radioactive waste whereby the draft radiation law is under development Ministry of Infrastructure (MININFRA).

### 2.3.7 Health-care waste management

Policies, guidelines and procedures have been developed to ensure health-care waste manage These include: National Policy on Injection Safety, Prevention of Transmission of Nosocomial Infections and Health-Care Waste Management (2009), National Guidelines on Health-Ca Management, and health-care waste management standard operating procedures.

Considerable efforts have been made to establish the policy framework for health-care management, but there is still no law governing the management of such waste. Such a law ne be developed going forward. The 2009 policy also needs to be reviewed to match the newly a SDGs.

## 2.4 KEY SECTOR ISSUES AND CONCERNS TO BE ADDRESSED

Rwanda's economic growth and poverty reduction goals are hampered by a lack of imp sanitary facilities as well as limited service provision for excreta disposal, management of solid liquid wastes, combined with inadequate hygienic practices and storm water risks,.

To increase sanitation coverage, Rwanda can build on some valuable scalable sanitary achieve Most Rwandan households have already financed and built their waterless sanitary facil

adhere to basic principles regarding garbage disposal and recycling (composting). The decentralization process provides an adequate framework for community participation and sensitization. Large programmes have been launched and capacities installed to improve dom and school sanitation and hygiene.

Feasible and socially acceptable sanitation technologies are available but not yet affordable fo population segments (funding gap and unavailable options for country-wide household fi Modern sanitation service provision, solid waste and storm water management require institutional capacities and somewhat costly infrastructure. Investments with high economic bu financial return are usually not very attractive for the private sector and may need pu and/or subsidies.

Key challenges also include the magnitude of the sanitary improvement agenda over the next years and the capacity constraints for scaling up the supply side; the combination of s with targeted support for infrastructure development, the enforcement of existing and new regulation (e.g., sludge emptying services, household solid waste separation, storm water standards); limited awareness on hygiene practice; funding requirements (households, private public sectors); the reformulation of institutional responsibilities and coordination mechanisms the lack of a monitoring and reporting system for the sanitation and solid waste sub-sectors.

Climate change is now recognized as one of the defining challenges for the twenty-firs More frequent and intense extreme weather events have resulted in a higher incidence of floo pollution and droughts around the planet. The ensuing adverse impacts on sanitation, for insta on storm water management, industrial waste, e-waste; health-care waste and nuclear/radioac waste can constitute an increased danger for human health and the environment. In a c relative uncertainty associated with climate change projections, policy responses shall h formulated based on current knowledge to address these consequences.

Climate change considerations may impact the Policy and the Strategy and will strengthen cr such as sustainability (also related to the SDGs) and resilience.

## 3. VISION

The vision of the Sanitation Policy is to:

Ensure sustainable, equitable and affordable access to safe sanitation and waste management services for all Rwandans, as a contribution to poverty reduction, public health, economic development and environmental protection.

## 4. MISSION

The mission of the sanitation sub-sector and its key stakeholders (national, local, public and pr is to:

Promote, plan, build and operate services in a sustainable, efficient and equitable mann instruments, capacities and administrative processes will be established to ensure effect programme management and sanitation sector programme steering.

## 5. POLICY PRINCIPLES

Most of the Rwandese population relies on individual sanitation, and specific approaches for bo individual and collective services must be considered.

Households have demonstrated their willingness and capacity for building their own san facilities in most areas of the country – although many of the facilities do not yet comply with t definition of improved facility. The willingness and sense of responsibility existing amon population is a strong asset that should be acknowledged and supported. A second asset is cer

the dynamic of the Rwandan business sector.

These considerations shall drive the strategy for achieving the ambitious objective of u coverage in sanitation services, including management of excreta, wastewater, solid wa storm water, and will define the role and leadership of the Government of Rwanda at municipal, district and national.

The Policy considers the role of the Government as follows:

1. To motivate and support households, industries and trade so they improve their own *indivi sanitation facility, contribute to efficient solid waste operation and improve stormwater prevention*.
2. To improve the business *enabling environment* for service providers (masons, constru shops, vacuum tankers, solid waste operators, recyclers) so they are able to provide afforda services to households, industries and trade.
3. To plan, invest, operate or delegate operation of *collective sanitation and solid waste servi and facilities*, including institutional sanitation, sewerage, treatment plants (for waste faecal sludge and solid waste).

The formulation of this sanitation policy is guided by a number of policy principles. These inclu

i. **Priority to basic services:** Each person and community has equal right to ac sanitation services. Priority will be given to "some for all" rather than "all for some", u the Vision 2020 goal of access to universal coverage for all is reached. Due attention w given to affordability.

ii. **Water sanitation and hygiene (WASH) services:** Such services will be deliv integrated package to ensure maximum health outcomes.

iii. **Decentralization:** The responsibility for sanitation development is vested at the decentralized level. The sanitation sector is committed to building and strengthe decentralized planning, implementation and management capacities.

iv. **Community participation:** The beneficiaries of sanitation services shall be actively i in planning, decision making and oversight throughout the project implementation cyc In particular, they will choose the service level that responds to their needs and capac The final responsibility for household sanitation shall remain an individual issue.

v. **Cost recovery and financial sustainability:** Operation and maintenance costs of sa infrastructure shall be borne by the users. Affordability shall be addressed by the choic appropriate technologies and by enhancing efficiency, not only by granting subsidies. **polluter-pays** and **user-pays** principles are to be applied in sewerage and waste management.

vi. **Private-sector participation:** The sanitation sector will continue to promote de management through private providers, which is a key strategy to enhance sustainabi The private sector will also be encouraged and supported in developing capacit investment, construction and service delivery in sanitation and solid waste manageme

vii. **Operational efficiency and strengthening of accountability:** Priorities for *collective* services (sewerage and solid waste as well as faecal sludge) develop management, in order to improve financial viability, minimize fiduciary risk (che balances) and optimize the use of the available resources.

viii. **Emphasis on behaviour change:** The sector recognizes the critical importance of hy behaviour change for demand creation and the achievement of sustainable health benefits. Sanitation and hygiene activities and projects shall be developed through strategic cooperation with the health, nutrition and education sectors.

ix. **Interests of women and children:** The crucial roles and the particular interests of w and children are fully acknowledged. All sector activities shall be designed and implemented in a way to ensure equal participation and representation of men women, and to pay due attention to the viewpoints, needs and priorities of women and children.

x. **Grouped settlements:** The sanitation sub-sector gives preferential consideration to s delivery in grouped settlements where densities are high, taking into account the char habitat structure.

xi. **Environment and water resources protection:** Sanitation will be developed in close coordination with water resources management, based on an integrated approach. Wastewater and solid waste collection and disposal and storm water interventions sha planned and managed with a view to minimize costs, environmental impact and the protection of water resources.

xii. **Sector Wide Approach (SWAp):** The Water and Sanitation sector aims to dev consistent, national approach, to harmonize financing and implementation modalities a to optimize stakeholder coordination under the lead of the Sector Working Group (SWG The SWAp as well as the sector's capacity-building efforts will consider all sector stakeholders, including NGOs and the private sector. National structures and cap shall be further developed to replace project implementation units in the short to med term.

xiii. **Results-based management**: Monitoring and evaluation (M&E) systems will be deve in conjunction with planning and budgeting procedures, involving decentralized actors particular the districts), in order to ensure that the activities and investments are in lin with the defined sector objectives and priorities. The M&E for Research and Lea approach shall be used instead of M&E.

## 6. POLICY OBJECTIVES

Specific policy objectives are formulated in a way to be directly used for strategic plan monitoring. Each sub-sector objective will be associated with its indicators, time-bound targets implementation responsibilities.

| | |
|---|---|
| *Individual sanitation* | 1. Raise and sustain household sanitation coverage to 100 per cent by 2020, and promote hygiene behaviour change. |
| *Institutional sanitation* | 2. Implement improved sanitation for schools, health facilities and other public institutions and locations. |
| *Off-site collective sanitation* | 3. Develop safe, well-regulated and affordable off-site sanitation services (sewerage and sludge collection, treatment and reuse/disposal) for densely populated areas. |
| *Storm water management* | 4. Enhance storm water management in urban areas to mitigate impacts on properties, infrastructure, human health and the environment. |
| *Solid waste management* | 5. Implement integrated solid waste management in ways that are protective to human health and the environment. |
| *E-waste, industrial waste, nuclear waste and health-care waste* | 6. Ensure safe management of e-waste, Industrial wastes, nuclear waste and health-care waste. |

| | |
|---|---|
| *institutional sector framework* | 7. Develop the sanitation sub-sector's institutional and capacity-building framework. |

# 7. POLICY DIRECTIONS

## 7.1 OBJECTIVE 1: Raise and sustain household sanitation coverage to 100 by 2020

Individual on-site systems will remain the sanitary solution for the large majority of Rw households in reaching the overall coverage objective. *Modern individual sanitation* shall be designed and made available and affordable to the households and operated by them in order provide affordable and high standings of services. The development of the modern indi sanitation shall take into account disabled people.

### 7.1.1 Establish a cooperation framework for a comprehensive inter-sectoral program to promote improved household sanitation and behaviour change

A firm, permanent framework of cooperation will be established to coordinate the interventions the different government institutions involved in sanitation and hygiene promotion – essentiall MoH, MININFRA, WASAC, Ministry of Local Government (MINALOC), MINEDUC and the districts. stated earlier, MoH, with the involvement of MINALOC, will continue to be the lead in sanitation and hygiene promotion at the community level, essentially through its national Community-Based Environmental Health Promotion Programme (CBEHPP). WASAC, on the hand, will be responsible for the development, evaluation and support of adequate tech sanitation solutions. As sanitation and hygiene components are lagging behind, they shall cont to be incorporated in each water supply project.

### 7.1.2 Raise sanitation coverage by enhancing the demand for sanitation through a combination of measures

In order to achieve universal access to sanitation in 2018, Rwanda shall improve, replac every year almost 500,000 (mostly individual) sanitation facilities – i.e., improved latrines in ur and rural areas. Households are today the country's largest financiers of sanitation, devoting substantial resources to developing their own on-site facilities. Thus, ownership and beh change are critical steps for sustainably increasing sanitation coverage and improving h practices, including proper use and maintenance of latrines, hand washing at critical ti water storage and handling, as well as improved access to local materials and services.

Government institutions shall therefore focus on promotion and facilitation, while households w remain the main investor. Well-designed sanitation programmes have shown leverage ratios o 1:10 between public and private investments.

The demand for improved sanitation shall be promoted through a combination of measures, including:

(i) awareness campaigns related to visible and non-visible health impacts of poor sanitation aiming at behaviour change;

(ii) marketing the adequate sanitation offer (supply side), targeting people's expectations a preferences such as comfort, status, health benefits, value or safety;

(iii) education and training in schools and universities; and

(iv) provision of limited and selective material incentives or targeted subsidies for the poor a the vulnerable to accelerate the improvement, construction or replacement of san

facilities.

In line with Rwanda's Human Settlement Policy (2009), incentives for new or improved facilities shall be targeted to the population in densified and actual or planned Imidugudu settlements.

The MoH, through the CBEHPP, shall strengthen the focus on issues and practical solut domestic and community sanitation and hygiene. In addition, sanitation improvement pr shall rely on Rwanda's particular *Umuganda*, *Ubudehe and Kuremera* programmes to ta support (poor) households within the context of communities.

### 7.1.3 Develop private-sector capacities for improved sanitation

The sanitation implementation programme shall foster enabling conditions for the developmer the private sector, which shall produce building materials, construct facilities and provide serv such as sludge removal and, eventually, financing facilities. Among the approaches to be cons are vocational and commercial training programmes, the Labour Intensive Local Development Programme and output-based aid.

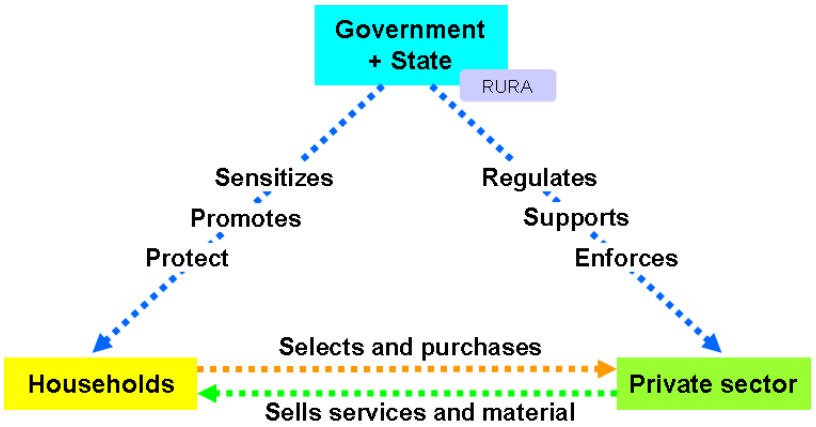


**Figure 2: Repartition of roles for the development of individual sanitation projects**

### 7.1.4 Develop pilot and demonstrate a range of individual sanitation technologies for different standings

The joint sanitation programme shall promote systematic research and development of afforda and inclusive hygienic on-site individual sanitary solutions, including the provision of manu rural and urban households without individual water connections, the programme shall waterless excreta disposal or solutions using grey water while strongly promoting the use of w for hygienic purposes such as hand washing. Technical solutions may include composting such as alternating twin ventilated improved pit latrines, fossa alterna, ecosan, arbour loo and flush toilets, as well as rainwater harvesting and reuse of wastewater in accordance with environmental risks, users' attitudes, acceptability and affordability. Collective toilets including biogas facilities are considered feasible solutions in densified settlements or in combina livestock since a majority of private household own livestock.

Practical field testing, construction of sanitary showrooms, dissemination of knowledge and sca up as well as sanitation marts shall be done at district level and involve Rwanda's aca professional sector, private investors as well as the international community. The Rwanda Stan Board (RSB) shall be involved in the standardization of sanitation technologies in accord environmental requirements.

## 7.2 OBJECTIVE 2: Implement improved sanitation for schools, health facil other public institutions and locations

Sanitary facilities of public institutions, in particular schools and health centres, shall demonstr clear exemplary function for the population.

### 7.2.1 Implement a joint programme to provide hygienic sanitary facilities and promote hygiene in all schools, health centres and other public institutions

The role of the school Hygiene Clubs shall be reinforced, and all educational and health infrastructure projects and programmes shall include a sanitation part addressing both and non-structural (soft) elements such as awareness promotion.

Well-built public toilets meeting norms and standards and convenient to disabled people in pla high frequencies such as markets shall allow promoting public health and lowering risks of dise In Kigali and secondary cities, especially in business centres and shopping malls, acces visible public toilets shall be incorporated in such buildings instead of providing a special space public toilets. Special emphasis must be given to the proper management of public latrines tha be delegated to the private sector or associations.

## 7.3 OBJECTIVE 3: Develop safe, well-regulated and affordable off-site services for densely populated areas

*Off-site collective sewerage* shall be confined to areas where it can be demonstrated that it is favourable than individual sanitation, considering affordability, technical feasibility (settlement density, water consumption, infiltration rate) and environmental requirements.

Off-site collective sanitation services combine infrastructure elements (e.g., sewerage sy treatment plants) as well as service functions (e.g., sludge collection from septic tanks) that in public and private actors and different sectors (infrastructure, environmental health and environment). Adequate institutional interfaces and regulations are yet to be developed.

### 7.3.1 Establish an effective regulatory and institutional framework for collective sew and sludge management

The development of an effective regulatory framework will start with a review and harmonizati the existing laws, standards and regulations based on the evaluation of the actual *enfo practices* throughout the country.

Intensive consultations shall be held with the health and environment sector institutions with a to develop concrete operational guidelines and procedures. The executive responsibilitie cooperation modalities shall be clarified by defining and separating regulatory, operation supporting roles down to district and sector levels and shall include the supporting capacity-bu concept for investment management and service provision.

### 7.3.2 Promote viable, low-cost approaches for collective sewerage schemes

In order to deliver an affordable public service in line with demand in the city of Kigali and den urban centres with piped water, the following off-site technology options for collection and treatment technologies shall be prioritized:

1. Simplified, condominial or small-bore (solid free, simplified) sewerage systems, depending the situation;
2. Off-site collection of grey water (through sewerage) and on-site collection and treatm excreta where existing toilets or waterless latrines are already providing a safe level of se and

3. Conventional sewerage with separate collection of domestic wastewater (separate from rainwater drainage).

In addition, innovative management models shall be encouraged, such as community o operated decentralized sewerage systems.

Wastewater treatment technologies and classified effluent standards shall be implemented in phases, based on a careful evaluation of environmental and financial viability criteria. I technologies and approaches for the reuse and recycling of side products (sludge in ag treated wastewater for irrigation and watering) shall be piloted and replicated.

### 7.3.3 Implement cost recovery for collective sewerage systems

Based on the *user-pays principle*, WASAC and other commercial operators shall recover operat costs for urban wastewater services by user fees. The principle shall be applied progressively s to recover the full operating costs for wastewater collection networks and treatment pl recovery of investment costs of the fixed assets shall commence at a later stage, taking into a the financial capacity of the clients (polluters).

Communities shall be involved in the decision and implementing process with regard to planning, construction and maintenance of simplified sewerage systems with the option to contribute in kind to reduce costs (lower tariffs).

Industries normally enjoy a higher financial capacity than households and the polluter-pays cri shall be fully enforced. Tariffs shall consider both wastewater volumes and the nature and leve toxicity. Requirements regarding the standards of wastewater (pre-) treatment will be d depending on the local conditions, and enforced over time, taking the financial capacity industry into account.

### 7.3.4 Prepare sanitation master plans for all urban areas

In cooperation with the respective districts/the City of Kigali and other concerned institut REMA, the Sanitation sub-sector shall prepare or update sanitation master plans for all urban a and grouped settlements.

These sanitation master plans will include at least the following intervention areas:

- identify zones for on-site sanitation and collective, off-site sewerage;
- focus on simplified, affordable solutions for collective sanitation;
- outline affordable solutions for pit and septic tank emptying services and sludge d based on contamination risk analysis;
- identify critical polluters such as industries, hospitals and slaughterhouses, and suggest solutions for treatment by conducting an Environmental Impact Assessment;
- identify types and locations of sludge disposal facilities and, if applicable, of treatment pla and
- Outline storm water and solid waste concepts (*see below*).

## 7.4 OBJECTIVE 4: Enhance storm water management in urban areas impacts on properties, infrastructure, human health and the environ

Urban storm water runoff causes a range of negative impacts, including damages to infrastruct environmental health hazards and pollution of water resources. Urban storm water man being cross-cutting in different sectors, its improvements need cooperation with other sectors fields of urban planning, erosion control and environmental health.

### 7.4.1 Build the institutional and regulatory framework for cooperation and support in storm water management

MININFRA will take the initiative to establish a framework for joint action involving the main ac of the sub-sector – i.e., the city of Kigali, the districts, and other ministries or agencies concern This includes the clarification of responsibilities for preventive and emergency actions, the harmonization of laws and regulations, the identification of gaps, and the initiation of joint plan and coordination mechanisms.

The key issue is the integration of preventive measures in storm water management in urban a and land use planning. Damages and expensive constructions (e.g., large drainage syst remedial measures shall be minimized by preventive soft concepts, such as the Low Impact Development approach, which aims to manage storm water close to its source and tre resource rather than a waste product. As enforcement, some measures shall be taken for the s water and rainwater management by incorporating this component in the construction p requirements, especially in the City of Kigali and other secondary cities, for special cases of pu buildings and larger private buildings. For that, the Rwanda Housing Authority shall be involved elaborating directives and guidelines related to storm water and rainwater management compound level. Additionally, rainwater collection at the building level shall continue to be promoted as another means to decrease the risks of runoff impacts and to increase water avai for hygienic purposes.

### 7.4.2 Support districts and the City of Kigali in integrated planning in urban storm water management

The preparation of storm water management plans for urban areas that are linked to wa management shall be part of the district sanitation master plans facilitated by Urbanization an Settlement within MININFRA. These shall identify measures to reduce storm water runof Impact Development approach) in urban areas, avoid stagnant water (vector control), p erosion and sediment accumulation and minimize the pollution of water resources.

## 7.5 OBJECTIVE 5: Implement integrated solid waste management

### 7.5.1 Follow the waste hierarchy approach for maximum impact and cost efficiency

Poor management of solid and liquid waste from households or businesses can undermine endeavours of economic development and spread disease and discomfort. Priority shall be give the minimization of waste and the enhancement of solid and liquid waste management areas. Today, a wide array of technologies is available for waste collection, treatment and disp However, implementing activities shall be based on concepts and technologies to be ev within the integrated policy framework in terms of social acceptance and financial and feasibility.

This approach is called the "waste hierarchy". It is a classification of waste management priorit order of their impact and cost efficiency. The aim of the waste hierarchy is to extract the maxi practical benefits from products and to generate the minimum amount of waste.


**Figure 3: The waste hierarchy**

**Source:** United States Environmental Protection Agency[7]

### 7.5.2 Develop an integrated approach for solid waste management in Rwanda

Integrated solid waste management provides an international accepted framework for understanding and tackling the problem. Such management means the integration of (i) all stakeholders; (ii) the technical waste system elements such as prevention, reuse and r collection, transport, treatment and recovery, and final and disposal; as well as (iii) les aspects such as sociocultural behavioural patterns, and environmental, institutional, polit legal issues to be taken into account when implementing and managing the system.

To develop integrated solid waste management, MININFRA shall work in close coordinat public, private and NGO stakeholders, and in particular with the ministries responsible environment and environmental health. Integrated solid waste management strategies, and m and implementation plans shall mobilize all stakeholders and be established at the district leve a differentiated approach for rural and urban areas and a special focus on Kigali.

### 7.5.3 Facilitate solid waste collection and transportation

Solid waste will be sorted, collected and transported for disposal. Effective waste collec transportation systems should be put in place by the competent authority. Standards and specification for waste storage containers as well as waste transportation vehicles will be put i by the competent authority.

On-site and off-site transportation of waste should be conducted so as to prevent and spills, releases and exposures to the public.

### 7.5.4 Encourage waste reuse and recycling

There should be waste prevention strategies where the total amount of waste may be significa reduced through the implementation of recycling plans. Such strategies shall consider the follo elements:

- Evaluation of waste production processes and identification of potentially recyclable materials;
- Identification and recycling of products that can be reintroduced into the manufa process or industry activity;

[7] <www.epa.gov/homeland-security-waste/waste-management-hierarchy-and-homeland-security-incidents>.

- Establishing recycling objectives and formal tracking of waste generation and recycling and
- Provide training to sanitation service providers on waste recycling.

### 7.5.5 Waste disposal

Sanitary landfills and incineration methods will be used to dispose of municipal and non-municipal solid waste. All garbage, household hazardous waste, construction waste, demolished waste, industrial waste, recyclables and rubbish shall be disposed of at the municipal landfill or any other waste disposal facility approved by the competent authority.

The waste management competent authority and/or municipalities shall classify categories of waste hauled to the municipal landfill for disposal. Categories will include, among others, household solid waste, commercial waste, industrial waste, household hazardous waste, regulated construction/demolition waste, commercial waste, wood waste, earth materials, metals, requiring incineration including, but not limited to, animals, and biomedical waste.

Incinerators will be used for hazardous waste and health-care waste which cannot be disposed conventional treatment due to its toxicity. Incineration will be used to destroy pathogens and while reducing waste content. Landfill and incinerator management guidelines will be put in place competent authorities.

## 7.6 OBJECTIVE 6: Ensure safe management of e-waste, industrial waste, nuclear/radioactive waste and health-care waste

Outdated electronic equipment, industries, different health-care facilities as well as energy mining activities generate waste that is dangerous to the environment and human health context, special treatment of waste generated through such activities is needed. Specific policy tools to provide a detailed direction of managing such waste shall be developed by concerned ministries/institutions.

The following policy statements have been provided to ensure safe management of the mentioned under objective 6.

### 7.6.1 Establishment of e-waste collection and management framework

The positive economic development in the country prompts a larger part of the population to purchase electrical and electronic equipment, thus generating e-waste. Such e-waste poses a threat to the environment if not properly collected, segregated and treated.

The volume of waste electrical and electronic equipment grows rapidly every year and is believed to be one of the most critical waste disposal issues of the twenty-first century. The United Nations University estimates that 20 million to 50 million tonnes of e-waste are being generated every year worldwide. To this effect, the Ministry in charge of Information and Communication Technology shall fast-track the finalization of the E-Waste Policy currently under development. For the implementation of this policy, the regulator will develop regulations for e-waste collection and management taking into account the waste management hierarchy approach.

Strategically located e-waste collection centres, drop-off points and a dismantling facility will be established through public-private partnerships (PPPs) to provide a secure and environmentally conscious solution for the sorting and segregation of e-waste into reusable streams. E-waste collected from collection centres, drop-off points or individual institutions will be properly transported to the dismantling facility.

Technical specifications and other requirements for the establishment of the dismantling collections centres and drop-off points will be provided for in the e-waste management regulat and guidelines.

### 7.6.2 Reinforce the industrial waste management framework to minimize environmental pollution and eliminate dangers to human health

Industrial waste treatment facilities will be provided at industrial premises by the industry own the effluent will comply with national standards, guidelines and regulations for discharg public sewer and environment. Effluent disposal standards, industrial wastewater manag regulations and guidelines will be developed by competent authorities.

For industrial parks, the developer shall ensure that a centralized treatment plant is de operated and well maintained. Individual pre-treatment of industrial waste will be the responsi of the industry/factory owner.

Improved and appropriate industrial waste management will require development of a s industrial waste management policy, regulations as well as industrial waste management guid by the concerned ministries/institutions/authorities. To this effect, the regulator shall dev regulations while the guidelines shall be developed by the ministry having industries un responsibilities.

### 7.6.3 Develop a radioactive/nuclear waste management framework

The policy framework for nuclear waste management has not been in existence and the Gover of Rwanda recommends the development of a national radioactive waste management policy shall provide direction for proper management and disposal of radioactive/nuclear waste.

MININFRA shall develop the radioactive/nuclear policy in consultation with key stakeholders, particularly the ministry in charge of natural resources. The legislative and regulatory f regarding the safe management of radioactive/nuclear waste shall also be established. The framework will include a system for licensing radioactive waste management activities.

The Government of Rwanda shall ensure strengthened partnership with the private sect sustainable and effective radioactive waste management. Coordination and cooperation ministries/institutions shall equally be important due to the cross-cutting nature of radioactive management.

### 7.6.4 Strengthen the policy framework for the management of health-care waste

Health facilities produce waste during the diagnosis, treatment and carrying out of research. Annually, the health-care facilities produce large quantities of infectious, pathological, sharps, chemicals, pharmaceutical and radioactive waste, and have been guided by the National Policy Injection Safety, Prevention of Transmission of Nosocomial Infections and Health-Care Waste Management (2009).

Given the specialty of health-care waste, special disposal sites shall be established whereby th shall work closely together with districts for the site selection. The MoH will continue to collabo with MINALOC and district authorities, district health facilities as well as all other stake especially the private sector, to ensure the effective management of health-care waste.

The heath sector shall continue to take the lead in the health waste management initi collaboration with the districts and the health facilities within the districts. To ensure e health-care waste management, the policy of 2009 shall be reviewed to incorporate the

adopted SDGs. Each health facility shall be responsible for managing its waste, from th
generation to final disposal.

## 7.7 OBJECTIVE 7: Develop the sanitation sub-sector's institutional and cap framework

In the recent past, the WSS sector has undergone significant institutional changes, incl
creation of WASAC, the systematic introduction of delegated management (PPP), the emerging
of RURA in regulation, the overall move towards a SWAp with the creation of a SWAp secretaria
the delegation of implementation responsibilities to the districts. In addition to ensuring the sm
cooperation of government entities, the sector is also further strengthening mechanisms to co
and involve non-government stakeholders and to ensure sector-specific monitoring and knowle
management.

This section subsumes the institutional undertakings needed to consolidate the recent gains of
institutional change and make this sector framework functional, as well as ensure further
acceleration of sanitation service delivery and hygiene promotion. Further work on an i
intuitional gap analysis is recommended as part of the policy implementation action plan.

### 7.7.1 Promote sector harmonization and aid effectiveness by developing a sector-wide approach

The implementation of the sanitation policy/strategy shall be based on a SWAp. Formal
between MININFRA and its key development partners (multilateral agencies and bilatera
the SWAp is understood as an inclusive process involving all relevant stakeholders including
government institutions, civil society (NGOs), the private sector and user communities.

In developing the SWAp, a gradual approach will be adopted, based on successive steps deper
on the readiness of key partners and aligned with the build-up of national and decentr
capacities. Harmonized action will be advocated on the basis of its added value to sector
stakeholders (efficiency, lesser transaction costs, coherent monitoring, etc.), but with a
term focus on the creation of sustainable structures and capacities, reducing parallel impleme
arrangements and modalities. Special emphasis will be paid in the SWAp dialogue to e
districts will have access to predictable harmonized finances.

Partners agree on joint objectives, principles and operating procedures. A joint financing mech
based on government systems will be created but does not exclude other aid modalities as lon
the agreed principles are observed.

In the context of a SWAp, the WSS sector attaches importance to creating a sector community
involves all stakeholders including, but not limited to, central and local government ins
development partners, NGOs, user communities, researchers and the private sector. Communi
will be maintained through regular Sector Working Group meetings and annual joint sector rev
as well as by a dedicated website maintained by the SWAp secretariat. All sector actors, includ
NGOs, shall adhere to joint reporting standards and requirements.

The communication strategy addressing the general public will include messages on good prac
hygiene awareness and user rights and responsibilities, to be disseminated through different m
and specific materials for schools.

### 7.7.2 Re-define and consolidate institutional roles and coordination mechanisms

The recent or undergoing changes of the sector's institutional set-up call for a redefinition of e actor's roles and responsibilities, as well as for the establishment of effective coordination mechanisms. In particular, the sector undertakes to clarify the following aspects and in related formal arrangements with regard to:

a) Cooperation modalities with district local governments, including technical and fina support and monitoring arrangements;
b) Cooperation with RURA regarding the regulation and oversight of PPP arrangements, regulation of urban utilities (currently WASAC) and surveillance of tariffs;
c) Coordination with urbanization, housing and other land use plans, including, in pa the development of Imidugudu and cooperation between Kigali City Council and the util Kigali;
d) Establish an effective regulatory and institutional framework for collective sewerag sludge management; and
e) Build the institutional and regulatory framework for cooperation and support in storm wa management.

### 7.7.3 Strengthen the existing monitoring and evaluation and performance measurement framework

A comprehensive M&E and performance measurement system is a sector priority and a consistent, results-oriented management and an evidence-based policy dialogue in the contex SWAp. The system shall be linked to the overarching, cross-sectoral M&E systems (EDPRS/Com Performance Assessment Framework) on the one hand, and to district systems on the other ha small set of representative 'golden' indicators will be defined to facilitate the communi monitoring of overall sector performance. All relevant information, including, in particular, a na database of water supply facilities (including information on functionality) will be held in the MI

To strengthen the existing M&E system and to compile the necessary information, a re collection and reporting protocol will be set up in cooperation with the districts and pa aligning as far as possible with their regular reporting mechanisms. A reliable baseline established by conducting a national inventory of existing infrastructure. Definitions and calcul methods will be agreed with the National Institute of Statistics to make administrative data co comparable with national household surveys.

In light of the recent adoption of the 2030 Agenda for Sustainable Development, the Governme Rwanda has committed itself to report on the progress made on achieving the SDGs. These international monitoring requirements can also be seen as an opportunity to revise and update existing sector performance monitoring systems, as mentioned above, and in line with the aspirational SDG targets and definitions, which already formed the basis for the revisio National Sanitation Policy and Strategy.

### 7.7.4 Formulate a capacity development programme, including the development of professional training and education in water supply and sanitation-relevant fields

An overall capacity development programme will be developed based on an assessment of cap gaps and training needs for the different sector actors. Among the levels to be considered are:

a) Technical assistance and strengthening of MININFRA and the SWAp secretariat to effecti manage and oversee the implementation of the policy/strategy;
b) Technical training for district, WASAC and private-sector staff;
c) Training of trainers for participatory mobilization and sensitization activities;

d) Advanced training for WSS sector officers (WASAC, RURA, district engineers, etc.); and
e) Academic education in engineering, environmental health and other relevant fields at universities and research institutions.

However, training will be only one part of the overall capacity-building programme. The comprehensive capacity-building programme will also have to address i) institutional; ii) organizational; and iii) individual capacities.

The concept will be based on cooperation with existing training and educational institut academic education and research and development.

## Annex 1: Sanitation-related statement in the Rwanda development flagships

| SN | Rwanda Development Flagship | Statement |
|---|---|---|
| 1 | Vision 2020 | Section 4.4, Infrastructure Development:<br>By 2020, the rural and urban areas are to have sufficient sewerage disposal systems. Each town is to be endowed with an adequate unit for treating solid wastes. Households will have mastered and be practic measures of hygiene and waste disposal. |
| 2 | EDPRS 2 2013/18 | EDPRS 3.17: Sanitation will reach rural communities through public private investment<br>EDPRS 3.21: Sanitation is mentioned among the pull factors to incentivize rural populations to move to formal settlements<br>EDPRS 3.61: Water supply and sanitation play a critical role in preventive healthcare and socio-economic development in rural areas. Notably, hygiene and sanitation is a strong complement to effective access to clea water.<br>EDPRS 3.82: The goal for EDPRS 2 is to ensure universal access to and sanitation.<br>EDPRS Monitoring Matrix: Outcome 8, Increase access to basic infrastructure at the urban level; Target for urban households with access to improved sanitation facilities: 100% by 2017/18<br>EDPRS Monitoring Matrix: Outcome 12, Increase access to basic infrastructure for rural households; Target for rural households with acces to improved sanitation facilities: 100% by 2017/18 |
| 3 | Seven-year Government Programme (2010–2017) | Quote from government programme (2010–2017), p. 39: With regar water and sanitation, the number of Rwandans using clean water will be 100%, whereas the number of those with proper sanitation infrastructure will increase from 45% to 100% by 2017. |

## Annex 2: List of documents used for the policy review


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23. Monitoring Levels of Service and Sustainability, Akvo FLOW, Water for People.

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