

AFRICAN DEVELOPMENT FUND

**LANGUAGE: ENGLISH
ORIGINAL: FRENCH**



REPUBLIC OF RWANDA

RURAL WATER SUPPLY AND SANITATION PROGRAMME
(LAUNCHING PHASE OF THE PROGRAMME)

APPRAISAL REPORT



**DEPARTMENT OF INFRASTRUCTURE,
WEST AND CENTRAL REGION (OCIN)**

October 2003

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AFRICAN DEVELOPMENT FUND



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PROGRAMME BRIEF

Date: October 2003

The information given hereunder is intended to provide some guidance to prospective suppliers, contractors, consultants and all persons interested in the procurement of goods and services for projects approved by the Boards of Directors of the Bank Group. More detailed information and guidance should be obtained from the Executing Agency of the Borrower.

1. **COUNTRY** : Republic of Rwanda
2. **NAME OF PROJECT** : Rural Water Supply and Sanitation Programme
– Programme Launching Phase
3. **LOCATION** : The entire country for the national programme
Launching Phase: (Kibungo, Byumba,
Ruhengeri, Gisenyi and Kibuye Provinces)
4. **BORROWER** : Republic of Rwanda
5. **EXECUTING AGENCY** : Ministry of Infrastructure (MININFRA)
Water and Sanitation Department (DEA)
Kigali, RWANDA.
6. **PROGRAMME DESCRIPTION**

The programme comprises the following components:

- A) Studies and Planning Tools;
- B) Institutional Support and Capacity Building;
- C) Development of Water and Sanitation Infrastructure; and
- D) Coordination and Management

7. PROGRAMME COST

i) Total Cost	:	UA 671.50 million (US\$ 925 million)
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8. SOURCES OF FINANCE

i) Government	:	UA 100 million
ii) Beneficiaries	:	UA 29 million.
iii) Donors and Other Sources	:	UA 542.5 million.

9. ESTIMATED STARTING DATE AND DURATION OF PROGRAMME : January 2005; 16 years**10. TOTAL COST OF PROGRAMME LAUNCHING**

i) Total Cost	:	UA 17.18 million
ii) Foreign Exchange Cost	:	UA 10.51 million.
iii) Local Currency Cost	:	UA 6.67 million.

11. ADF LOAN AND GRANT FOR PROGRAMME LAUNCHING

i) ADF Loan	:	UA 4 million
ii) ADF Grant	:	UA 9 million

12. OTHER SOURCES OF FINANCE OF PROGRAMME LAUNCHING

i) Government	:	UA 2.63 million
ii) Beneficiaries	:	UA 1.55 million

11. DATE OF APPROVAL : December 2003**12. ESTIMATED STARTING DATE AND DURATION OF PROGRAMME** : January 2005; 4 years**13. PROCUREMENT OF GOODS AND SERVICES****For the Programme**

The procurement of goods, works and services will be in accordance with the rules of procedure of each donor. For goods and works procured under community participation, the Programme may apply relevant guidelines prepared by the African Development Bank or those of the World Bank. In general, the project will be implemented in conformity with the provisions of the manual of procedures to be prepared at the start of the programme and which will be financed with an ADF grant. Initially, this manual will contain all the procedures including those of the borrower deemed to be acceptable by the Bank and not in conflict with its own rules and procedures. The manual will be revised as and when other donors contribute to reflect their rules and procedures.

Regarding the Programme Launching Phase

The procurement of goods, works and services financed by the Bank will be in accordance with the Bank's Rules of Procedure for the Procurement of Goods and Works, or where relevant, to the Bank's Rules of Procedure for the Use of Consultants, based on the appropriate Bank standard bidding documents. The types of procurement to be used for the project are as follows:

Works: Works for large and medium-sized water supply schemes will be by international competitive bidding. Those relating to the pilot project for the collection and treatment of solid wastes will be entrusted to the Kigali Institute of Scientific and Technology of (KIST), which conducted the engineering studies of the pilot project and has undertaken research in the area.

Community works for the development of potable spring water, based on the Ubudehe process, small water supply schemes and inter-district projects in the Kibuye province will be procured through negotiation with the communities which will carry out the works themselves. Contracts for individual sanitation works will be based on procedures defined in the community tender guidelines.

Goods: Vehicles and computer equipment will be procured through local competition in view of their availability on the local market and the low amounts involved.

Services: Services for: i) the water supply and sanitation infrastructure master plan, ii) engineering designs, iii) works supervision and inspection, iii) training (capacity building), outreach and awareness activities by the local-community-support operators; iv) technical assistance and v) programme audit, will be procured through international competitive bidding based on a shortlist.

CURRENCY EQUIVALENTS
(September 2003 Rates)

Currency Unit	:	RWF
RWF 1	:	UA 0.001331
UA 1	:	RWF 751.212

WEIGHTS AND MEASURES
Metric System

FISCAL YEAR
1 January – 31 December

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LIST OF ACRONYMS AND ABBREVIATIONS

ABEDA	Arab Bank for Economic Development e in Africa
ADF	African Development Fund
ANEPAR	National Rural Drinking Water Supply and Sanitation Agency
ARR	Rwandan Regulatory Agency
CDF	Common Development Fund
CDWS	Complex Drinking Water Supply
CME	Community Development Committee
DEA	Water and Sanitation Department
PRSP	Poverty Reduction Strategy Paper
DWSS	Drinking Water Supply and Sanitation
FAO	Food and Agriculture Organization
GTZ	German Technical Assistance Agency
IFAD	International Fund for Agricultural Development
IWRM	Integrated Water Resource Management
LWF	Lutheran World Federation
MINAGRI	Ministry of Agriculture
MINALOC	Ministry of Local Government and Social Welfare
MININFRA	Ministry of Infrastructure
MINISANTE	Ministry of Health
MINITERE	Ministry of Lands, Resettlement and Environmental Protection
NEPAD	New Partnership for Africa's Development
NGO	Non Governmental Organization
PDC	Community Development Plan
PI – HIMO	Highly –Labour-Intensive Infrastructure Programme
PNEAR	National Rural Water Supply and Sanitation Programme
SME	Small and Medium Size Enterprises
UN	United Nations Organization

MATRIX OF RURAL WATER SUPPLY AND SANITATION PROGRAMME

Narrative Summary (NS)	Objectively Verifiable Indicators (OVI)	Means of Verification (MV)	Key Assumptions
<u>1. GOAL:</u> Provide rural communities with sustainable drinking water and sanitation services to improve their living conditions	<i>By 2020:</i> - Enhanced economic and social development of the rural areas thanks to availability of water. - Reduction, in rural areas of the prevalence of diseases associated with lack of good quality water and absence of adequate sanitation (which currently affects 11 out of every hundred persons) - Additional 7.5 million persons provided with drinking water - Additional 11.2 million persons provided with sanitation.	National statistics Annual reports of ministry in charge of water.	
<u>2. SPECIFIC OBJECTIVES OF PROGRAMME:</u> Improve access to drinking water and sanitation in rural areas Provide the country with means of effectively monitoring the DWSS sector Build capacities of various stakeholders to ensure the sustainability of rural drinking water supply and sanitation services.	<i>By 2020:</i> - Rate of access to drinking water rises from 41% to 100 % by 2020. - Rate of access to adequate sanitation rises from 8% to 100% by 2020. - Per capita consumption improves from 8 l/d/pers. to 20 l/d/pers. .	Statistics on rate of access to water and sanitation in the rural world. Statistics and programme monitoring and evaluation reports. Annual financial reports	
<u>3. OUTPUTS OF NATIONAL PROGRAMME:</u> 1.1 System of monitoring-evaluation of rural DWSS infrastructure and database on infrastructure put in place. 1.2. Various general and preparatory studies carried out. 1.3 Smooth coordination by donors. 2.1. Testing (pilot project) of rainwater harvesting, wastewater collection and composting of solid waste. 2.2. Rainwater harvesting system set up in schools and rural centres (Imidugudu). 3.1. Schools, prisons, health centres, trading centres and places of worship provided with DWSS facilities 4.1. Rural centres provided with DWSS networks	<i>By 2020:</i> 1.1. National Rural DWSS Infrastructure Development Plan available and updated periodically. 1.1. Manual of procedures of the programme available, staff recruited and agency operational. 1.1. Environmental and social impact and management assessments studies conducted periodically. 1.2. Water supply plans and community development plans of 70 districts, hydrogeological studies in the Bugesera, Kibungo and Umutara districts available, studies on DWSS systems for 130 rural centres are available. 1.2. Two preparatory studies on the programme phases completed. 1.3 5 Seminars and 16 coordination meetings between donors and programme review carried out. 1.3 5 Annual action plans and 16 activity programmes produced. 2.1. A pilot project for rainwater harvesting, collection of wastewater and composting of solid wastes set up for 500 families and in several schools. 2.2 Several disadvantaged schools and rural centres of the Imidugudu type are equipped with rain harvesting systems 3.1. 5,850 primary and secondary schools in rural areas, 342 communal prisons, 680 trading centres, 348 of health centres and 296 places of worship provided with DWSS facilities 4.1. 153 rural centres provided with DWSS networks.	UEP DEA Agency Documents on the plans Study reports Training reports and syllabus CDF quarterly reports and CDF audit Quarterly agency reports	Continuity in updating of data Economic growth and economic development of rural areas will boost willingness and capacity to pay for water and sanitation services. Regular payment of local enterprises for services.

Narrative Summary (NS)	Objectively Verifiable Indicators (OVI)	Means of Verification (MV)	Key Assumptions
5.1. Existing water supply systems rehabilitated 5.2. New water supply systems provided 5.3. Small and medium-size water supply systems provided 5.4. Community DWSS projects implemented 5.5. Related socio-economic developments made. 6.1. Staff of Ministry in charge of water, DEA, Rwandan Regulatory Agency (ARR), WS representatives in provinces (REAP) and Community Development Committee (CDC) trained 6.2. Authorized users' associations, NGOs, local consultants and SMEs trained in participatory approach, tender management and procedures. 6.3. CDF strengthened in the area of project evaluation and financial management 6.4. Water and sanitation engineers, water technicians, laboratory technicians and hydrant men trained 3.5. Through lines of credit, SMEs develop in the area of manufacture of spare parts and materials, consulting firms enhance the latter's capacities 5.6 National rural DWSS agency created.	<i>By 2020:</i> 5.1. Approximately one-third of equipment listed in the inventory is rehabilitated. 5.2. Several water supply systems provided. 5.3. Small and medium-size water supply systems established in each province. 5.4. 11,325 water sources and water points fitted and individual sanitation systems established for families. 5.5. Construction of dwelling areas constructed throughout the country. 6.1. 16,760 persons trained in awareness raising and mobilization. 6.2. 15 Organizations formed each year, 153 authorized users' associations established 6.3. Increase in number of applications processed by the CDF and effectiveness of its work 6.4. 100 scholarships granted for the training abroad of engineers, 5 cohorts of engineers trained at KIST, 150 technicians and 4,200 hydrant men trained 6.5. A limestone plant, 2 PVC manufacturing plants and PEHD are operational 5.6 A national rural DWSS agency created and operational by early 2006.	Statistics on limestone production, PVC and PEHD	Effectiveness of training activities and awareness campaigns as well as motivation of persons trained Training of sufficient number of hydrant men to ensure effective maintenance
<u>4. ACTIVITIES:</u> 8). Programme monitoring. 8). Works supervision. 7). Studies and execution of works. 6). Procurement of supplies and equipment. 5). Training, education, awareness 4). Conducting of studies and consultations 3). Contract award 2). Recruitment of consultants and NGOs 1). Recruitment of Technical Assistants.	<u>RESOURCES</u> TOTAL : UA 671.50 million Government : UA 100 million Beneficiaries : UA 29 million Donors :UA 542.50 million	Contracts signed. Agency reports Annual reviews Supervision missions by Bank and other donors. Disbursement statements. Audit reports.	Ownership by stakeholders of the Initiative concept Availability of government counterpart funds and those of beneficiaries Adherence of donors to programme. Stable political and social environment.

MATRIX OF ADF GRANT OF UA 9 MILLION FOR PROGRAMME LAUNCHING PHASE

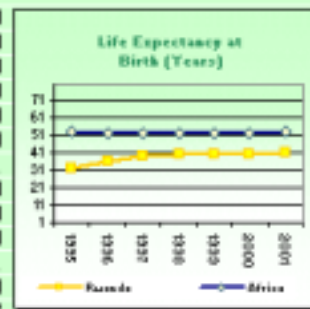
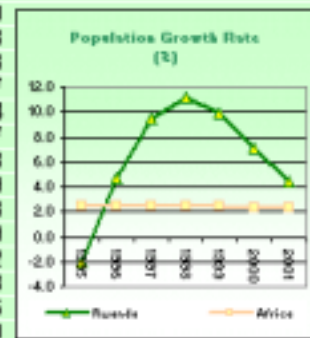
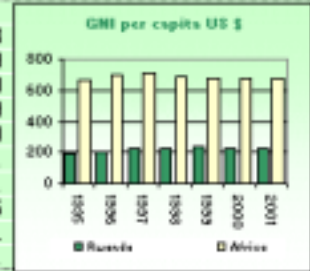
Narrative Summary (NS)	Objectively Verifiable Indicators (OVI)	Means of Verification (MV)	Key Assumptions
<u>1. GOAL:</u> Provide rural communities with sustainable drinking water and sanitation services to improve their living conditions	- Reduction of prevalence of diseases in rural areas caused by lack of good quality water and absence of adequate sanitation. - Enhanced economic and social development of rural areas through availability of water.	National statistics Annual reports of the Ministry in charge of water.	
<u>2. SPECIFIC PROJECT OBJECTIVES</u> - Improve access to drinking water and sanitation in rural areas in the Kibungo, Kibuye and Byumba provinces - Provide the country with means of effectively monitoring the DWSS sector - Build capacities of various stakeholders to ensure the sustainability of rural water supply and sanitation services - Promote Initiative and prepare subsequent phases of the Programme	<u>By 2008</u> in the Kibuye, Kibungo and Byumba provinces: - Per capita consumption improves from 8 l/d/pers. to 20 l/d/pers. - Rate of access to drinking water rises from 41% to 100 % by 2020. - 145,000 persons supplied with clean water in the project area	Statistics on rate of access to water and sanitation in the rural areas. Statistics and programme monitoring and evaluation reports. Annual financial reports	
<u>3. OUTPUT OF NATIONAL PROGRAMME:</u> 1.1 Sector monitoring and planning tools available 1.2 Subsequent phases of programme prepared 2.1 Capacities of stakeholders strengthened 2.2 Beneficiaries sensitized and trained 3.1 Byumba and Kibungo Provinces provided with DWSS networks 3.2 Kibuye Province provided with water points and individual sanitation 4.1 Coordination Unit and, later, Agency put in place 4.2 Programme monitoring and evaluation tools put in place 4.3 Donors sensitized and mobilized about the rural DWSS issue	<u>By 2008</u> 1.1.1 Database on rural DWSS infrastructure; 1.2.1 Water supply plans of 6 districts 1.2.2 Reports on preparatory studies for second phase of programme. 2.1.1 Human resources of ministries concerned by the programme, DEA and Rwandan Regulatory Authorities trained 2.1.2 In the Byumba and Kibungo Provinces: REAP, CDCs, NGOs and private enterprises trained; 2.2.1 In the Kibuye province: 1,000 persons, 50 facilitators and 30 resource persons trained; training aids for 5,000 persons distributed; and 5,000 persons educated and sensitized; 3.1.1 In the Byumba and Kibungo provinces: 4 DWSS networks established under the 4 water supply schemes project. 3.2.1 In the Kibuye province: 1,000 water points developed and individual sanitation provided for 15,000 persons. 4.1.1 Study on Agency carried out and Manual of procedures of the said Agency available, staff recruited 4.2.1 Social and environmental impact assessments of programme conducted 4.2.2 Three audits on the programme carried out 4.2.3 System of monitoring and evaluation of the programme described in the manual of procedure 4.3.1 Significant increase in rural DWSS investments	- Plan documents - Studies reports - Training reports and syllabus - Agency and DEA reports - CDF quarterly reports and CDF audit - Quarterly agency reports	Continuity in updating of data Economic growth and economic development of rural areas will boost willingness and capacity to pay for water and sanitation services.
<u>4. ACTIVITIES:</u> 6) Promotion of Initiative 5) Programme monitoring 4) Works supervision. 3) Studies and execution of works. 2) Training, education, awareness 1) Contract award	<u>RESOURCES</u> TOTAL : UA 11.47 million Government : UA 1.49 million Beneficiaries : UA 0.98 million ADF Grant : UA 9 million	Contracts signed. Agency and Bank supervision reports Disbursement statements. Audit reports.	Stable political and social environment.

**MATRIX OF ADF LOAN OF UA 4 MILLION USED FOR PROGRAMME
LAUNCHING PHASE**

Narrative Summary (NS)	Objectively Verifiable Indicators (OVI)	Means of Verification (MV)	Key Assumptions
<u>1. GOAL:</u> Provide rural communities with sustainable drinking water and sanitation services to improve their living conditions .	- Reduction of prevalence of diseases in rural areas associated with lack of good quality water and absence of adequate sanitation. - Enhanced economic and social development of rural areas thanks to availability of water.	National statistics Annual reports of ministry in charge of water.	
<u>2. SPECIFIC PROJECT OBJECTIVES</u> - Improve access to drinking water and sanitation in rural areas in the Laves Region (Ruhengeri and Gisenyi Provinces)	By 2009 In the Laves Region - Per capita consumption improves from 8 l/d/pers. to 20 l/d/pers. - Rate of access to water increases from 48% to 55%. - 125,000 persons supplied with water in a sustainable manner.	Statistics on rate of access to water and sanitation in the rural areas. Programme monitoring and evaluation reports.	
<u>3. OUTPUTS OF NATIONAL PROGRAMME:</u> DWSS Networks provided in Laves Region (Ruhengeri and Gisenyi provinces)	<u>By 2008</u> - Updating of bidding documents for secondary network and distribution. - Updating of engineering designs and bidding documents for lots 6 and 7. - DWSS network rehabilitated and extended. - Inspection and supervision of works carried out	- Agency and DEA reports - Agency quarterly reports	Continuity in updating of data Economic growth and economic development of rural areas will boost willingness and capacity to pay for water and sanitation services.
<u>4. ACTIVITIES:</u> 3). Supervision of works. 2). Studies and execution of works. 1). Contract award	<u>RESOURCES</u> TOTAL : UA 5.71 million Government : UA 1.14 million Beneficiaries : UA 0.57 million ADF Loan : UA 4 million	Contracts signed. Agency reports, Annual reviews and Bank supervision missions. Disbursement statements. Audit reports.	Stable political and social environment.

RWANDA: COMPARATIVE SOCIO-ECONOMIC INDICATORS

	Year	Rwanda	Africa	Developing Countries	Developed Countries
Basic Indicators					
Area ('000 Km ²)		26	30,061	80,976	54,658
Total Population (millions)	2001	7.9	811.6	4,940.3	1,193.9
Urban Population (% of Total)	2001	6.3	38.0	40.4	76.0
Population Density (per Km ²)	2001	301.8	27.0	61.0	21.9
GNI per Capita (US \$)	2001	220	671	1,250	25,890
Labor Force Participation - Total (%)	2001	54.4	43.3	...	...
Labor Force Participation - Female (%)	2001	52.1	35.1	...	...
Gender-Related Development Index Value	1999	0.391	0.476	0.634	0.916
Human Develop. Index (Rank among 174 countries)	2000	162	n.a.	n.a.	n.a.
Popul. Living Below \$ 1 a Day (% of Population)	1984	35.7	45.0	32.2	...
Demographic Indicators					
Population Growth Rate - Total (%)	2001	4.4	2.4	1.5	0.2
Population Growth Rate - Urban (%)	2001	4.6	4.1	2.9	0.5
Population < 15 years (%)	2001	44.1	42.4	32.4	18.0
Population >= 65 years (%)	2001	2.7	3.3	5.1	14.3
Dependency Ratio (%)	2001	87.6	85.5	61.1	48.3
Sex Ratio (per 100 female)	2001	97.6	99.4	103.3	94.7
Female Population 15-49 years (% of total population)	2001	23.7	23.6	26.9	25.4
Life Expectancy at Birth - Total (years)	2001	40.6	52.5	64.5	75.7
Life Expectancy at Birth - Female (years)	2001	41.4	53.5	66.3	79.3
Crude Birth Rate (per 1,000)	2001	42.2	37.3	23.4	10.9
Crude Death Rate (per 1,000)	2001	20.8	14.0	8.4	10.3
Infant Mortality Rate (per 1,000)	2001	119.6	79.6	57.6	8.9
Child Mortality Rate (per 1,000)	2001	200.9	116.3	79.8	10.2
Maternal Mortality Rate (per 100,000)	1998	1,300	641	491	13
Total Fertility Rate (per woman)	2001	5.9	5.1	2.8	1.6
Women Using Contraception (%)	1996	13.7	...	56.0	70.0
Health & Nutrition Indicators					
Physicians (per 100,000 people)	1993	5.3	36.7	78.0	287.0
Nurses (per 100,000 people)	1989	11.9	105.8	98.0	782.0
Births attended by Trained Health Personnel (%)	1998	31.0	38.0	58.0	99.0
Access to Safe Water (% of Population)	2000	41.0	60.4	72.0	100.0
Access to Health Services (% of Population)	1999	80.0	61.7	80.0	100.0
Access to Sanitation (% of Population)	2000	8.0	60.5	44.0	100.0
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2001	11.4	5.7	...	...
Incidence of Tuberculosis (per 100,000)	2000	80.1	105.4	157.0	24.0
Child Immunization Against Tuberculosis (%)	2000	81.0	63.5	82.0	93.0
Child Immunization Against Measles (%)	1996	57.0	58.2	79.0	90.0
Underweight Children (% of children under 5 years)	1996	27.3	25.9	31.0	...
Daily Calorie Supply per Capita	2000	2,077	2,408	2,663	3,380
Public Expenditure on Health (as % of GDP)	1998	2.0	3.3	1.8	6.3
Education Indicators					
Gross Enrollment Ratio (%)					
Primary School - Total	1996	95.0	80.7	100.7	102.3
Primary School - Female	1996	92.3	73.4	94.5	101.9
Secondary School - Total	1996	13.2	29.3	50.9	99.5
Secondary School - Female	1996	11.5	25.7	45.8	100.0
Primary School Female Teaching Staff (% of Total)	1992	47.5	40.9	51.0	82.0
Adult Literacy Rate - Total (%)	2001	32.0	37.7	26.6	1.2
Adult Literacy Rate - Male (%)	2001	25.5	29.7	19.0	0.8
Adult Literacy Rate - Female (%)	2001	38.3	46.8	34.2	1.6
Percentage of GDP Spent on Education	1998	2.5	3.5	3.9	5.9
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	1999	35.1	6.0	9.9	11.6
Annual Rate of Deforestation (%)	1995	0.2	0.7	0.4	-0.2
Annual Rate of Reforestation (%)	1990	9.0	4.0	...	...
Per Capita CO2 Emissions (metric tons)	1997	...	1.1	2.1	12.5



Source : Compiled by the Statistics Division from ADB databases; UNAIDS; World Bank Live Database and United Nations Population Division.

Notes: n.a. Not Applicable; ... Data Not Available.

EXECUTIVE SUMMARY

1. Context of Programme

The African Development Bank (ADB) initiative on rural water supply and sanitation aims at accelerating access by rural communities of the continent to acceptable drinking water supply and sanitation services. Through this Initiative, the Bank aims to contribute to achieving the Millennium Development Goals (MDG) in the water sector and the African Water Vision within a framework of integrated water resources management (IWRM). Rwanda is one of the five countries selected for the launching phase of the Initiative.

2. Overall Goal of the Programme

The goal of the programme is to provide sustainable drinking water supply and sanitation services to rural communities with a view to improving their living conditions.

3. Specific Objectives of the Programme

The specific objectives of the programme are to: i) improve access to drinking water and sanitation in the rural areas, ii) provide the country with the means to monitor the water supply and sanitation sector and iii) build capacities to ensure the sustainability of rural water supply and sanitation services.

4. Programme Description and Output

The programme comprises four components, namely: (i) studies and setting up of a system of DWSS resource and infrastructure management and monitoring; (ii) institutional support and capacity building for programme stakeholders; (iii) water supply and sanitation infrastructure development and (iv) programme management.

The expected output of the programme are: (i) preparation of sectoral studies for the planning of the DWSS sub-sector, conduct of an institutional study for the creation of a National Rural Water and Sanitation Agency, and preparatory studies of the various phases of the programme, (ii) capacity building for the various structures operating in the rural water and sanitation sector: government structures, decentralized structures and the private sector, and (iii) implementation of CDC community water and sanitation sub-projects and nationwide projects that are the responsibility of the Ministry in charge of Water.

5. Programme Cost and Launching Phase

The total cost of the programme launching phase is estimated at UA 671.50 million, excluding taxes and customs duties. The cost of the launching phase is estimated at RWF 12.90 billion, that is UA 17.18 million.

6. Sources of Financing

The programme will be jointly financed by the ADF, other donors, the Rwandan Government and the beneficiaries. The launching phase of the programme will be financed with an ADF grant in the amount of UA 9 million, an ADF loan of UA 4 million, Government and beneficiaries' contributions amounting to UA 2.63 million and UA 1.55 million, respectively.

7. Programme Implementation

As a first step towards the implementation of the programme, a Programme Coordination Unit (PCU) will be created at the Ministry of Infrastructure and directly attached to the Secretary General of this ministry. A National Rural Water and Sanitation Agency (ANEPAR) will be created to coordinate the implementation of the programme and assist the Government to plan activities in the sub-sector and harmonize the water supply and sanitation approaches, standards and technologies. Prior to the putting in place of the ANEPAR, a study will be conducted to define the status and functions of this agency. Experts in various specialities will be recruited through a consulting firm to provide technical assistance for selective services and, on request, to facilitate the start-up activities of the programme as well as its implementation and monitoring. The Community Development Committees (CDC) will be the executing agencies of the community sub-projects. They will be assisted by the PCU/ANEPAR and support organizations (consulting firms and NGOs).

8. Conclusion and Recommendations

8.1 The rural drinking water and sanitation programme occupies a pride of place in the Rwandan Government's investment programme. It will contribute to achieving the country's poverty reduction strategy objectives and those of the 2020 Vision in the water supply and sanitation sector. The programme, which uses a grassroots community demand-responsive approach, is consistent with the guidelines of the water and sanitation sector strategy as well as the decentralization policy adopted by the Government. This approach involves the participation of the beneficiaries in the definition of water supply and sanitation sub-projects, and the construction and management of infrastructure through the decentralized structures put in place by the Government. The programme falls within the scope of the Bank's financing strategy in Rwanda. The programme is technically feasible and economically viable.

8.2. The Board is invited to note the existence of the rural drinking water supply and sanitation programme in Rwanda geared towards achieving the millennium development goals. It will be implemented according to the technical, administrative and financial operations modalities described in this report.

8.3. It is recommended that an ADF loan not exceeding UA 4 million and an ADF grant not exceeding UA 9 million be granted to Rwanda to implement the launching phase of the programme described in this report.

1. INTRODUCTION

1.1. Framework of Initiative

1.1.1. The African continent has a high population growth rate of 2.6% but rates of access to potable water and sanitation are the lowest in the world. Indeed, only 62% of its population has safe drinking water compared with 82% at the global level. However, in the rural areas, where over 60% of the African population lives, the deficit is much worse with only 34% of the population having access to drinking water as against 71% at the global level. Paradoxically, the financing of drinking water supply (DWS) has hitherto been mainly directed towards urban centres to the detriment of rural areas. At the African Development Bank Group for example, nearly 80% of investments in the drinking water sector have been in urban areas. There is also a lack of adequate sanitation services. The sanitation coverage rate of the continent stands at 60% while that of rural Africa is 45%.

1.1.2. It is against this background that the African Development Bank Group launched an Initiative to accelerate access by rural communities of the continent to drinking water and sanitation and thereby contribute to achieving the Millennium Development Goals (MDG) and the African Water Vision (AWV). A working document on the concept of the Initiative was produced at the beginning of 2003 and various international bodies have adhered to it, notably the International Panel on the Financing of DWS infrastructure, the G8 and the Conference of African Ministers in charge of Water.

1.2. Bank Initiative

Approach of the Initiative

1.2.1. The Initiative aims at increasing the DWSS service coverage rate in rural Africa to 66% by 2010 and 80% in 2015. To this end, it will: i) mobilize more resources for the financing of DWSS; ii) put in place and utilize accelerated mechanisms for the preparation and implementation of interventions; iii) use the demand-responsive approach; iv) promote the participation of beneficiaries and women in particular in the planning, implementation and management of outputs; and v) promote simple and appropriate technologies.

1.2.2. Accelerated mechanisms entail procedures that are *flexible, transparent and rapid for the preparation, appraisal and implementation* of programmes and projects, *contract award, disbursement and financial management*, but which also highlight accountability, quality and sustainability.

1.2.3. Instead of isolated projects, the initiative encourages the programme approach in the identification, preparation, appraisal and implementation of assistance. Investments will be based on an agreed minimum level of water supply and sanitation service, defined by country, taking into account hydrological and hydrogeologic conditions, population density and socioeconomic situations.

1.2.4. Financing will be directed toward communities notably through social funds and by resorting to AGETIP-type structures (Agency for execution of works of public interest), and adapting them to needs. At community level, implementation structures and management of services will be supported by existing institutions, local organizations and associations and women's groupings. The capacity of beneficiaries will be built to enable them carry out adequate planning and management of the services.

Implementation of the Initiative

1.2.5. The initiative will be implemented in phases, starting with a group of countries that already have a sound general policy framework and are willing to make the necessary political commitment. Five countries, namely Ethiopia, Ghana, Mali, Rwanda and Uganda have been identified for the launching phase.

1.2.6. The choice of Rwanda is justified by: (i) the importance the Government attaches to the water and sanitation sector in the national poverty reduction strategy; (ii) the existence of a conducive institutional framework for the development of DWSS infrastructure in rural areas; (iii) the existence of a decentralization policy aimed at empowering grassroots communities; (iv) the effective creation of decentralized structures on the ground; (v) the size of the rural population which represents 90% of the country's population; (vi) a high incidence of poverty in the rural areas since 60% of the country's population lives below the poverty line; (vii) low access rate of these communities to water and sanitation services (41% for potable water and 8% for sanitation); (viii) abundant water resources.

1.2.7. Informed about the Initiative, Rwanda expressed an interest in being among the countries chosen for the launching phase. By a letter dated 7 July 2003, the Government sent a request indicating the DWSS projects to be financed as a priority.

1.2.8. This document, prepared following an appraisal mission in September 2003 to Rwanda, by a multidisciplinary team of the African Development Bank, outlines a national rural water supply and sanitation programme (NRWSP) that will help achieve the objectives of the Initiative in Rwanda. This report is the outcome of discussions held with the Government, ministerial officials and donors as well as information gathered during meetings with rural communities. It was also based on the working document on the Initiative produced by the Bank in 2003, the Initiative Implementation Framework Document, policy papers and sectoral strategies, sectoral studies, technical documents and reports on similar projects consulted by the mission in the country.

1.2.9. This report aims at providing a technical and institutional implementation framework to: (i) ensure proper planning of interventions in the DWSS sub-sector in the rural areas; and (ii) unify coordination of the implementation of projects. More specifically, it aims at arousing the interest of donors for the financing of DWSS in Rwanda. Lastly, it outlines the launching phase of the Initiative in Rwanda through a rural DWSS programme amounting to UA 13 million to be submitted to the Bank's Board of Directors for approval.

1.3. Context of Rwanda

1.3.1. Situated in the Great Lakes Region and covering an area of 26,338 km², Rwanda is marked by a relief comprising a multitude of hills and steep high mountains prone to severe erosion. This relief rises progressively from the East, where the average altitude is 1,250 meters, to the North and West culminating into a chain of mountains called "*Congo-Nile Crest*", with altitudes varying from 2,200 to 3,000 meters, and a chain of volcanoes the highest of which has a peak of 4,507 meters. Rwanda is marked by a continental equatorial climate and is divided into three climatic zones: (i) the high altitude region; (ii) the central plateau region; and (iii) the Eastern plateau and Western lowlands.



Photograph No. 1: Rwanda, a Country of a Thousand Hills

1.3.2. With an estimated population of 8,162,715 inhabitants¹ and an annual population growth rate of 3%, Rwanda is one of the most densely populated countries in Africa (density estimated at 302 inhab./km²) and it is administratively subdivided into 12 provinces, 106 administrative districts (including 84 rural districts), 1,545 sectors and 9,011 units.

1.3.3. The rural population accounts for 90% of the total population, and has an illiteracy rate of 47.3%. The survey on household living conditions showed that in 2000, 60% of the Rwandan population lived below the poverty line. The Human Development Index (HDI) of 2002 ranked Rwanda 152nd out of 174 countries.

1.3.4. Rwanda has a good rainfall pattern and abundant water resources. However, the distribution of potable water is still inadequate and the rate of access in the country is estimated at 41% but does not exceed 40% in the rural areas. Regarding sanitation, even though over 80% of the country's population has access to latrines, only 8% of these meet hygienic standards.

2. WATER AND SANITATION SECTOR

2.1. Water Resources and Supply

2.1.1. Rwanda is endowed with a good rainfall pattern: annual rainfalls vary from 1,300 to 2,000 mm in the high altitude region and from 1,200 to 1,400 mm in the East, averaging 1200 mm per annum. The country has many surface water resources. Indeed, the lakes extend over 128,190 ha, the area covered by permanent watercourses is 7,270 ha. while the area of marshlands and valleys covered by water stands at 77,000 ha. The lakes and many watercourses found in the country are distributed among the two major water basins separated by the Congo-Nile Crest and which flow into the two major African rivers, namely: the Congo and the Nile. The Congo River basin covers 33% of the country and drains 10% of the water while that of the Nile covers 67% of the territory and drains 90% of surface water. Most of the marshes are known to act as large flood plains during the main rainy season. They serve as a buffer by reducing the maximum rate of flow during the rainy seasons and by maintaining a relatively high rate during the dry seasons. Ground water resources are made up of about 22,300 small water sources that feed the rivers and streams and lakes. In the Eastern part of the country, the rainfall pattern is low and surface water less

¹ General Housing and Population Census - April 2002.

accessible but studies conducted on ground water aquifers indicate an annual recharge rate of 0.53 billion m³.

2.1.2 Thus the Country has abundant water but only uses 12.22% of the available resources as indicated in Chart No. a2.1 in Annex 2. Compared with other African countries, this percentage is relatively low. Even the harvesting of rainwater has hitherto not been promoted except in some school centres, parishes and health centres managed by priests.

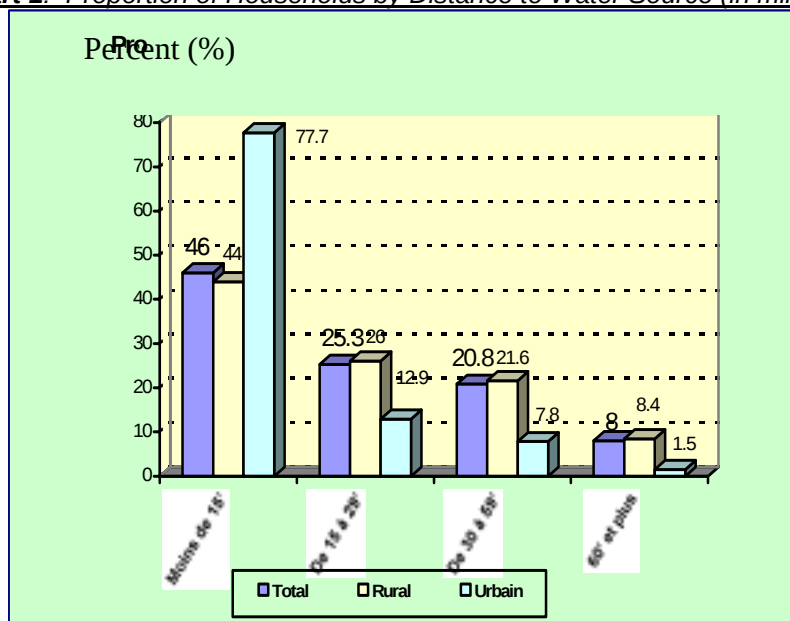
2.2 Review of the Water and Sanitation Sector

Drinking Water Infrastructure

2.2.1. In urban areas, the production, conveyance and distribution of drinking water have been entrusted to the public utility Electrogaz, by Statutory Order No. 118/76 since its creation in 1976. Electrogaz has many water supply sources in Kigali. These include surface water that provides a daily supply of 20,000 m³ of water, ground water provides 3,500 m³ and natural water sources 2,000 m³. This company manages 15 water supply systems that serve 73.3% of urban households with 286 public standpipes and 22,806 private connections. In view of the generally dilapidated state of the network, particularly in the City of Kigali, technical losses are high, representing 40% on the distribution network alone. The lifting of its monopoly by Act No. 18/99 of 30 August 1999 should contribute to improving the performance of the sub-sector with the arrival of new operators.

2.2.2. In rural areas, four kinds of infrastructure provide access to drinking water: small developed water sources, simple gravity supply systems, complex water supply systems (CWSS) and boreholes with hand pumps. The system of developed small water sources, which is the least expensive, is the method used by nearly 75% of the rural population with access to drinking water (in 1998). It was with these various types of water infrastructure that 40% of the rural world had access to clean water in 2001 compared to 60% of the urban population. But there are wide disparities between the various provinces or rural areas of the country as well as between distances covered to reach water points (see Charts 1 and 2).

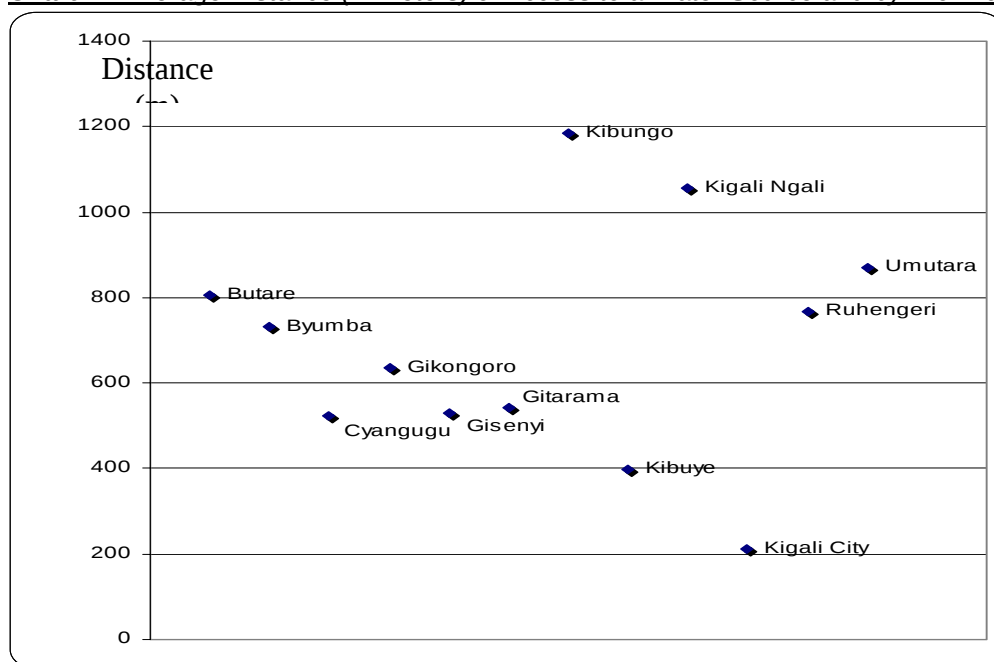
Chart 1: Proportion of Households by Distance to Water Source (in minutes)



About 22% of rural communities spend between 30 and 60 min. per day to fetch water.

2.2.3. In the rural areas, water supply infrastructure available until 1992 had been provided without any participation by the beneficiary communities in the various stages of the project cycle ranging from planning to execution of works, maintenance and even management of installations. Essentially financed by donors and the Government, the infrastructure had never been perceived by the beneficiaries as belonging to them but rather as those of the project and/or donors who designed and put them in place. It is in this context that water and even its supply have often been considered, in the rural areas, to be free, and that the water supply network is almost entirely the responsibility of the Government and therefore was hardly maintained. The Government has endeavoured to remedy this situation of lack of responsibility of grassroots communities by delegating responsibility for water supply infrastructure to the communes². Subsequently, with the Water Project financed by the World Bank and that of the GTZ, efforts were made to establish the federation of water users' associations to manage these facilities but all these efforts were to be eroded by the war and genocide that raged from 1990 to 1994.

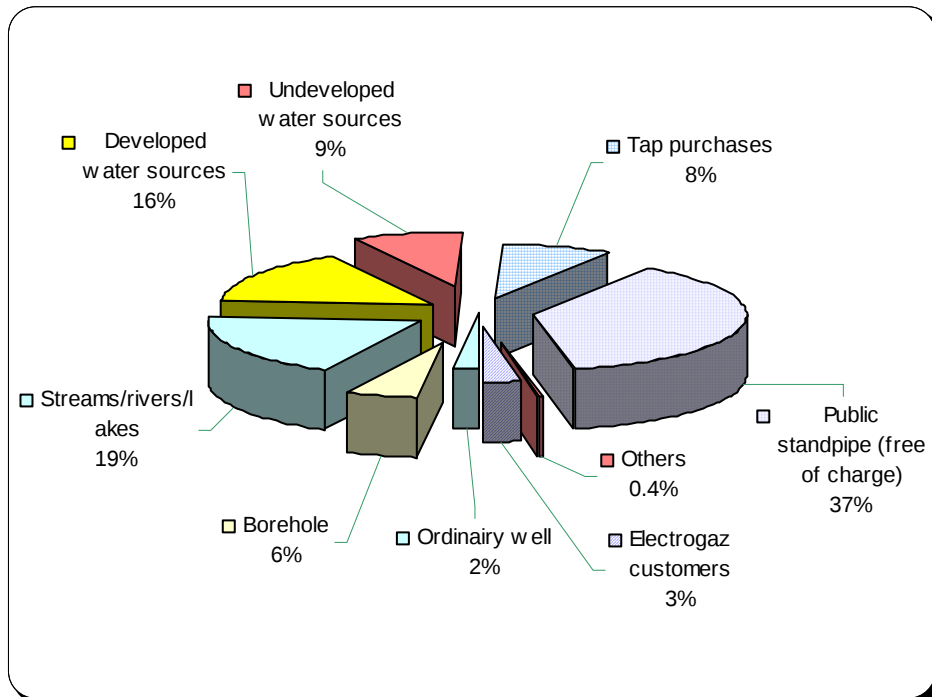
Chart 2: Average Distance (in meters) of Access to a Water Source and by Province



In the Kibungo Province, the population covers an average of 1.2 km to fetch water.

2.2.4. Since then, some water structures have been rehabilitated generally with external assistance. The federation of water users' associations and water points committees have been re-established in some localities or districts. Thus, the drinking water supply systems today comprise 18,241 developed water sources and 788 water supply points 78 of which have pumps. They supply up to 7,421 public standpipes and 2,483 private connections. Also, 185 wells have been fitted with hand pumps in the Kibungo, Umutara, Kigali Ngali and Byumba Provinces. Despite this, the needs for rehabilitating existing water supply facilities in the rural areas are still estimated at 30%. Simply put, the country's drinking water supply systems are inadequate or are in a poor state.

² With the Presidential Order No. 291/11 of 15 May 1987, this responsibility is today enhanced by the decentralization policy that gives local communities the right to delegate its management to authorized associations or private professional operators.

Chart 3: Drinking Water Supply Sources in Rwanda

An estimated 20% of Rwandans continue to use unsafe water from streams, rivers and lakes.

Sanitation Infrastructure

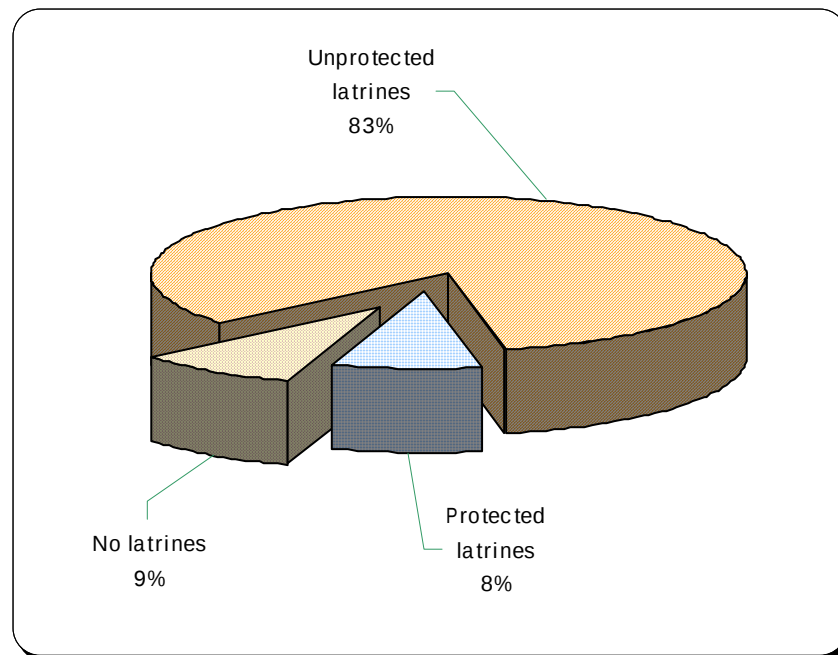
2.2.5. Sanitation facilities are few in urban areas and virtually nonexistent in the rural areas. In the cities, there is no adequate wastewater and stormwater drainage system. Disposal of industrial effluents is problematic since there is no treatment plant for this type of waste, which is generally released raw into the rivers or streams whose systems are consequently severely affected. The intensity of rains is such that the safety of banks and water pipes as well as crossing structures is jeopardized. Besides, the problem of erosion is worsened through deforestation and continues to have several negative impacts on the environment, the most significant being the destruction of fields and crops and the loss of soil fertility (an estimated 1 million tons of soils are displaced annually).



Photograph Nos. 2 and 3: In a hilly country, rainwater can constitute a hazard for infrastructure and dwellings. The photo on the right shows rainwater flowing through a dwelling.

2.2.6. Except for a few affluent neighbourhoods with wastewater collection networks and collective wastewater treatment systems³, the City of Kigali itself does not have an adequate sanitation system. In Kigali, as in the secondary cities, wastewater is generally discharged into traditional septic tanks or directly into watercourses resulting in the pollution of the ground water. Only 3.2% of household refuse is evacuated through a public collection system. Many types of toilets are found in Rwanda, but the most commonly used ones are the unprotected and unhygienic latrines.

Chart 4: Type of Toilets used in Rural Areas in Rwanda



82% of Rwandans have unhygienic latrines.

Water Billing

2.2.7. Water billing consists of three levels. The first (L1) only covers the operating and minor repair costs; the 2nd level (L2) which, in addition to L1, includes the repair and maintenance costs of machines (motors) and level 3 (L3) that covers the depreciation of water supply infrastructure. Hitherto, the application of this water billing system has not exceeded the first two levels. This has resulted in revenues that generally cannot cover the actual costs of DWS and so far, it is the Government that bears the cost of renewal of water equipment.

2.2.8. Systems of revenue collection applied are also variable: a fixed fee is generally applied to developed spring water but it is sometimes also applied to some standpipes. The frequency of payment of water bills (monthly, quarterly or annual) is decided by the users. Payment of actual consumption is applied to public standpipes and, especially, to private connections with individual meters. Since the rates are decided locally, equalization is conceivable only for systems managed locally and by the same professional operator. A programme in a decentralized context as that of Rwanda requires that each study propose, in consultation with the grassroots communities, the most appropriate water and sanitation billing system. A study financed by the World Bank on the capacity of households to pay for water and sanitation services recommends that different prices should be instituted even for

³ The pilot wastewater treatment plant using macrophyte plants at Nyarutarama and a conventional plant treating wastewater from the "Caisse Sociale du Rwanda" houses in Kigali.

water installations that are close to each other, since this would lead to competition and eventually a reduction in prices.



Photos n°3 and 4 : The standpipes are often managed by women. The prices are often attractive in terms of the population's purchasing power. The saleswomen is paid Rfw 1 to 2 per 22,5 litre jerrican of water soled for Rfw 10.

2.3. Organization of Sector

2.3.1. The water and sanitation sector mainly comes under the Ministry of Infrastructure (MININFRA) whose Water and Sanitation Department deals with issues specific to the sector. The latter is responsible for the organization of sector activities, planning of projects and the inventory of resources. Other ministries operate in the sector: the Ministry of Trade, Industry and Tourism which participates in the determination of electricity and water rates; the Ministry of Agriculture, Animal Husbandry and Forestry that caters for rural engineering and, hence marshes as well as their catchment areas; the Ministry of Health, in charge of the codification of health standards in the area of water and sanitation; the Ministry of Lands and Environmental Protection (MINITERE), responsible for environmental protection and urban environmental hygiene; the Ministry of Local Administration and Social Welfare (MINALOC), involved in the decentralization and management of rural water supply projects in grassroots communities; and the Ministry of Finance and Economic Planning that participates in the determination of utility rates, financing of sectoral investments and the supervision and institutional reform of Electrogaz.

2.3.2. The water and sanitation sector operates within an undefined legal framework that does not reflect to current situations. Thus, the sector appears to be managed in an ad hoc manner on the basis of preliminary drafts of texts that are not the final legal versions. It would therefore be necessary to accelerate the updating and adoption of the policy and law on water resource management as well as the sanitation code. Putting in place of such a legal and institutional framework should enable the Rwanda Utilities Regulation Agency⁴ to fully play its role in this sector. The Agency, which was created by the Law No. 39/2001 of 15 October 2001, aims at regulating telecommunications, electricity, gas, water, sanitation and transport. In particular it fixes the level of prices, develops standards for quality services, monitors the performance of operators and generally reconciles the interest of the various operators in the sector. In the absence of a definite legal and institutional framework, the Agency has not yet involved itself in the water and sanitation sector as much as that of telecommunications.

⁴ A.R.R. (in French) or in English Rwanda Utilities Regulation Agency (R.U.R.A.).

2.3.3. At the decentralized level, the Government has set up a new sector policy by which water infrastructure belongs to the districts that can delegate its management to authorized water users' associations or private professional operators. Where a water supply line covers more than one district, management structures in the form of inter-municipal bodies have been set up. At the level of water points or standpipes, water point committees have been put in place often involving many women.

2.3.4. Under the Government's decentralization policy, community projects are financed by the Common Development Fund (CDF). The latter was established by Law No. 20/2002 of 21 May 2002 and aims at i) financing development projects in districts and cities, ii) monitoring the use of funds earmarked for development projects and iii) serving as an intermediary between districts and cities on the one hand and donors on the other. All the districts operate an account replenished by the CDF.

2.4. Sectoral Constraints, Policies and Strategies

Constraints

2.4.1 In the development of water resources, Rwanda has been facing the following problems and constraints: i) absence of an exhaustive inventory of the country's water resources, ii) absence and lack of knowledge about the importance of basic hydrological and climatological data (their collection, archiving, processing and use to assess the impact of their changes on water resources, iii) soil erosion and inadequate and unintegrated management of water and soils, in view of the high rate of deforestation, iv) at the central and local level, insufficient skilled and adequately trained technical staff, v) insufficient and dilapidated water infrastructure and poor mastery of the management of this type of infrastructure, vi) industrial pollution of lakes, watercourses from urban areas with the infamous lack of wastewater treatment plants and sanitary monitoring, vii) poor state of sanitation and hygiene infrastructure in rural areas, and viii) increased risk of eutrophication of lakes and their invasion by water hyacinth. The programme proposes solutions to all these constraints (see Programme Description in paragraph 4.6).

2.4.2. Lastly, it is noteworthy that in Rwandan culture, water is considered to be a gift from heaven. Until recently, this belief was widely spread in the rural areas. But with growing scarcity, water for most Rwandans is now increasingly seen as an economic good. The mobilization of the population to accept the principle of recovery of recurrent costs as a way of ensuring the financial and economic viability of projects has not been easy in some regions⁵. Adherence by the population to this principle often requires a solid mobilization and awareness campaign but, above all, its participation in all the phases of the project cycle.

Government's Vision and Policies for Sector

2.4.3. *The Government's Vision 2020* should make Rwanda by the year 2020 a country in which: (i) the entire population will have access to potable water; (ii) rainwater harvesting and retention methods will be mastered for both domestic and farm uses; (iii) natural water reservoirs, notably high altitude forests, will be reconstituted and managed with caution; (iv) water resources will be managed in a rational and integrated manner, and in harmony with the

⁵ This is particularly true in communities with low levels of formal education in regions with abundant surface water and water sources as well as a good and regular rainfall pattern.

national land use master plans; (v) the population will be able to manage water in an equitable and sustainable manner; (vi) infrastructure for water production, protection, distribution and sanitation will be protected and maintained by all.

2.4.4. The *Integrated Water Resources Management Policy* (IWRM) that currently exists in Rwanda dates from 1998. A technical assistance programme has been set up with the World Bank to review this policy through a broad-based consultation process and formulate its application law as well as a system of information, monitoring and evaluation of the Integrated Water Resources Management activities. This policy will therefore be revised and updated to reflect recent developments and ensure that it is in line with the policies of other sectors concerned by water use.

2.4.5. *The water and sanitation sector policy* and the Government's sectoral strategy were validated in 1997 by all the sector operators and donors, including the Bank. This policy was confirmed at the round table meeting on the PRSP in 2001. The policy is based on 5 general objectives, namely: (i) ensure supply of drinking water to all families; (ii) facilitate access by all families to an adequate sanitation system; (iii) encourage community participation and management in all the sector activities; (iv) guarantee the protection, conservation, rehabilitation and development of all water resources and catchment areas; (v) base all development activities of the sector on a participatory approach with a view to proposing viable financial and technological options for the sustainable development of the sector.

2.5. **Major Projects and Programmes Financed by Donors**

Donor Operations

2.5.1. Three categories of donors are involved in the financing of the sector: bilaterals, multilaterals and NGOs. Their total commitments for the 1995-2000 period are estimated at US \$183.45 million. The main bilateral donors are Germany, Canada, United States, Austria, Belgium, Australia, Switzerland, Japan and the United Kingdom. Their commitments in the Water and Sanitation Sector amounted to US \$80.87 million (13.8% of the Development Budget) for the period. The multilaterals comprise the World Bank, ADB, ABEDA, FAO, IFAD (in 2003), European Union, UNICEF, UNHCR and WHO with a total commitment of US \$98.99 million corresponding to 17.4% of the Development Budget (DB). The main NGOs present are the Lutheran World Federation (LWF), CARE International/Rwanda, OXFAM G-B, Agro-Action Germany, ZOA Care International, Africare/Rwanda and OXFAM Quebec/Rwanda. Their total commitments amount to US \$3.59 million.

2.5.2. Following the 1994 genocide, the water sector received massive support from bilateral and multilateral donors as well as non-governmental organizations particularly in conjunction with emergency assistance to restore the various DWSS installations and to complete projects that had been suspended as a result of the war. Subsequently, financing dwindled with the delay in implementing the reforms of the sector and particularly the privatization of the management and restructuring of finances of Electrogaz. With the significant involvement of the Government in the preparation and implementation of these reforms and notably the future privatization of the management of Electrogaz⁶, the assistance of several donors is currently awaited to support the development of the water sector.

⁶ To this end, the World Bank has granted the Government a loan to finance part of the costs of privatization of the management of Electrogaz, training of the staff and procurement of equipment to improve its marketing system.

2.5.3. In 2001, the capital budget for the water and sanitation sector for both rural and urban areas⁷ amounted to RWF 686 million. The rate of execution was only 24.2%. This low rate of execution was essentially due to the inadequate mastery of donor procedures by the local managers. Hitherto, the Rwandan Government has been subsidizing the running of complex rural drinking water supply facilities whose technical and financial management the beneficiary communities and districts do not master. To manage these systems, the Government uses the services of two companies: a foreign company as part of the private sector involvement scheme and a national company, namely (Electrogaz)⁸. With ongoing privatization of the management of Electrogaz, the beneficiary communities and the districts will have to manage water infrastructure themselves.

Bank Group Operations

2.5.4. The African Development Bank Group financed the Kigali City water supply studies (1999-2001) and the electricity and drinking water supply programme (approved in 2003). Prior to this, the Bank Group had financed the Kigali and Butare Water Supply Study (1974-1976), strengthening of DWS for the City of Kigali (DWS Kigali I, 1978-1981), the DWS project for the city of Butare (1980-1982), the second DWS project for Kigali (Kigali II, 1987-2000) and the water supply studies for Kigali City (Kigali DWS Studies III, emergency phase, 1999-2001). Through the integrated rural development project, the Bank also financed the Umutara development project (PDM), a DWS scheme that today serves some 140,000 inhabitants.

2.6. Lessons Learnt and Incorporated into the Design of the Programme

2.6.1. Projects designed and implemented without the effective participation of the beneficiaries have invariably been doomed to failure. On the other hand, participatory projects are those that are best owned by their beneficiaries. The Programme recommends the participatory approach which is also favoured by the ongoing decentralization policy in the country. In the planning, implementation, monitoring and evaluation of DWSS projects, participatory methods will be given a pride of place and it will be necessary to ensure that women play a preponderant role, notably in community projects. The projects should explicitly take into account the purchasing power of the communities and demonstrate their capacity to bear the water costs through the pricing system to be put in place.

2.6.2. It would appear that the functions of the DEA limit it to water supply activities geared towards the use and not conservation of water resources. The Programme will only elect projects that conserve water resources and preserve the environmental balance (in conformity with the Framework Law on Environmental Protection and Management in Rwanda).

2.6.3. Systems have been introduced but have subsequently been beset by maintenance problems due to the unavailability of spare parts locally. Marketing of these spare parts has proved to be unprofitable for the private sector in view of their low stock turnover rate. The programme should pave the way for local enterprises to gain access to funding enabling them to meet this type of demand. More generally, the programme should consider the need to

⁷ Out of a total of the RWF 36.490 million.

⁸ With ELECTROGAZ, payments are made through a system of compensation between the Government and the Company based on the debts that the latter owes to the Government. On the other hand, the Government resorts to the external official aid to pay for services provided by the private operator. In general, these are subsidies for the operation of these major water supply systems in rural areas.

create an industry upstream capable of meeting the need for civil engineering materials, pipes, reservoirs, and storage or conservation materials, a need that will increase with the accelerated implementation of the programme.

2.7. Bank Strategy in Water and Sanitation Sectors

2.7.1. The Bank Group's assistance strategy is geared towards poverty reduction and is based on the poverty reduction strategy paper (PRSP) as well as the Government's investment strategy. In order to set conditions for sustained growth aimed at reducing poverty, the Rwanda PRSP identified six major priority areas, namely: (i) revitalization of the rural sector and agricultural processing; (ii) human resource development; (iii) economic infrastructure development; (iv) private sector promotion; (v) strengthening of good governance; and (vi) institutional capacity building. Apart from the priority given to it in the PRSP, infrastructure development is required to achieve, inter alia, the objectives of the rural sector revitalization, agricultural processing and private sector promotion. However, an analysis of investments in the country indicates a concentration of donor interventions in the social sector, agriculture and good governance to the detriment of the water supply and sanitation sector. In view of the foregoing, through the Initiative, the Programme will develop not only rural water and sanitation infrastructure, but also, in order to ensure their sustainability, it will contribute to the development of human resources, private sector promotion and institutional capacity building in the area of water supply and sanitation.

3. RURAL DRINKING WATER SUPPLY AND SANITATION SUB-SECTOR

3.1. Provision of Drinking Water Supply and Sanitation Services

3.1.1 Despite the fact that Rwanda possesses abundant water resources, only 41% of its rural communities have access to drinking water, which translates into about 3.5 million people without access to clean water. As regards sanitation, even though more than 80% of Rwandans possess latrines, only 8% of these are sanitary. Thus, some 6.4 million people live in precarious hygiene conditions; a situation which often gives rise to water-borne diseases, one of the major causes of infant mortality.



Photographs no. 4 and 5: In Rwanda, water is abundant, access to clean water is rare and latrines are not hygienic

3.1.2 The rate of access to drinking water however varies across provinces. Gisenyi province, for instance, has the lowest rate of access to drinking water, which stands at 36%, and Umutara, with a 5% rate, has the poorest level of sanitation.

3.2 **Constraints and Opportunities**

Constraints

3.2.1 At the institutional level: i) the administrative organs, especially the ministries responsible for water issues, lack adequate qualified manpower. Very few of them have expertise in hydrology and water resources. The DEA⁹ has only one hydrologist and none of the institutes of higher education offers courses for water and sanitation engineers or technicians; ii) with decentralization, it has become glaring that grassroots communities and districts as yet do not have adequate technical and analytic capabilities; iii) the CDF has just been established and to the donors, it has not yet proved its mettle as the ideal structure for channeling funds. Work is ongoing on the elaboration of its Manual of Procedure; and iv) lastly, one notes the absence of an operational framework for coordination, consultation and official information¹⁰.

3.2.2 At the level of civil society: i) local enterprises also have very weak financial and organizational capabilities; there are local consulting firms and isolated people, with very limited facilities, who spend more time preparing quotations than they do on actual studies; ii) few of the local NGOs are engaged in rural water supply projects, or even in the related fields of awareness-creation, education and mobilization; iii) neither the local NGOs nor consulting firms have established links with large international consulting firms which could provide them with the necessary training in the areas of water supply and sanitation.

3.2.3 In terms of sustainability: i) some of the players do not know the basic rules of project design and programming, and focus primarily on the attainment of the immediate physical objectives, ignoring the need to ensure proper management and sustainability of these structures¹¹; ii) water tariffing has not always reflected maintenance costs or purchasing power; iii) attempts at social mobilization sometimes come too late; i.e. when the population has grown accustomed to not paying for water and cost-recovery is therefore compromised.

3.2.4 The sanitation sub-sector has its own specific problems: i) despite several sensitization campaigns conducted in the country on hygiene and sanitation, particularly on the use of improved latrines, rural communities continue to use mostly pit latrines as the preferred method of evacuation; the majority of these are badly constructed, making them difficult to maintain; ii) wastewater evacuation systems are inexistent, household wastewater is thrown into backyards and rainwater continues to cause considerable damage; iii) the average rural dweller cannot raise the funds needed to construct improved pit latrines ; iv) on the institutional front, the competent authorities are yet to adopt all the requisite regulatory texts on sanitation.

⁹/ As at end 2002, it had a staff complement of 41 with qualifications in Chemistry, Physics, Civil Engineering, Sociology, French, Hygiene and Sanitation, Mathematics, Geography, Geology and Meteorology

¹⁰ The solution would be to set up a national DWSS Agency (ANEPAR) in the rural areas.

¹¹ Capacities for infrastructure management; project recurrent costs; technological expertise etc..



Photographs nos.6 and 7: After the rains, torrential water constitutes a danger as it destroys infrastructures in rural centres and cities

Opportunities

3.2.5 Rwanda has a dense network of waterways and enjoys good rainfall. Most of the Community Development Plans of Districts list water among their three main priorities. This shows that the populations has a real demand for water and that they are willing to be involved in every stage of the DWS project cycle. Rwandans, even in rural communities, are becoming increasingly aware of the value of drinking water as a social and economic good that can be bought. In addition, the rural populations are getting used to contributing labour in the context of the “umuganda” community work, hence the “ubudehe” approach has every chance of succeeding. Increasingly also, rural communities are learning to develop water sources and how to manage them.

3.2.6 Opportunities also exist in the area of sanitation: i) the preliminary draft of the Sanitation Code is already available; ii) an inventory of appropriate sanitation technologies has already been produced; iii) numerous models of improved latrines exist; iv) water supply facilities in schools, healthy centers, imidugudu¹², and business areas often lack adequate sanitation facilities; and v) the sanitation component is expected to be an integral part of every new DWS project from now on.

3.2.7 From an institutional point of view, i) Rwanda is remarkably well into the process of decentralization and thus offers a suitable framework for carrying out community projects. The districts regularly draw up their strategic and operational plans on a participatory basis, and every unit (grassroots community) gets a chance to air its views (cf. Annex 8 on the organization of the decentralization and the new community development policy); ii) a water and sectoral sanitation policy exists at the national level, albeit as a preliminary draft, which deals with strategies specific to the rural area; similarly, the DEA also has a division that deals specifically with rural water supply; iii) a guide on mobilization, auto-management and organizational modalities in the water and sanitation sector has been drawn up. Various laws, regulations and institutions governing the quality of service have also been prepared; and iv) lastly, the CDF should prove to be an efficient financing tool within the Initiative. (cf. Annex 9 for a presentation of the CDF)

¹² IMIDUGUDU : a village inhabited mainly by refugees, widows, demobilized soldiers etc..

3.3 Ongoing Donor Interventions in the Financing of the Sub-sector

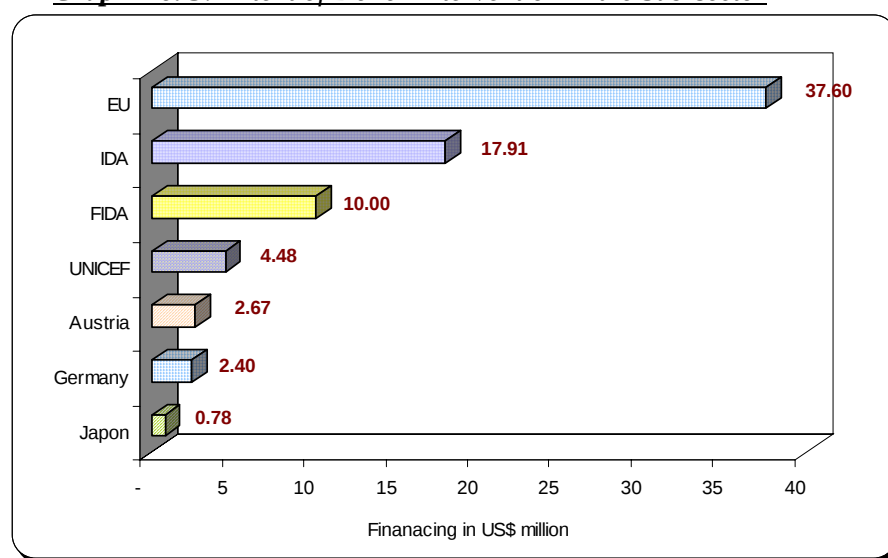
3.3.1 There are about a dozen water and sanitation projects currently being implemented with bilateral and multilateral donor funds.

Table 3.3: Ongoing Donor Interventions in the Rural DWSS Sub-sector

No.	Project Title	Donor	Type of Funding	Amount in RWF (10 ³)
1.	Rural Water Supply and Sanitation	IDA	Loan	8,240,000
2.	Rural Water Supply and Sanitation	IFAD	Loan	4,6000,000
3.	DWS to 8 Communes around Kigali	FRG	Grant	1,104,000
4.	DWS to Bugesera-East	EU	Grant	6,845,860
5.	DWS to Mukingi	Rwanda	Internal	79,230
6.	Water, Environmental Sanitation & Hygiene Education	UNICEF	Grant	2,060,000
7.	Strengthening DWS to Bugesera-South/Karenge	EU	Grant	10,450,000
8.	Water Sanitation Master Plan for Umutara	Belgium	Grant	80,000
9.	Water Supply in Murambi District/Umutara	UNDP/Japan		360,000
10.	Rehabilitation of Muhazi Dam: Repair of the Catchment Area	Rwanda	Grant	13,000
	TOTAL			34,417,090

3.3.2 A look at the funding structure of these ongoing projects in the rural area shows that 70% of them are grant-funded while 28% are loan-funded. 98% of funding for the sub-sector is derived from external sources. The IFAD Rural Water and Sanitation Project, designed to supply water to 600,000 people, is 30% completed, and already serves 200,000 people. The Bugesera-East DWS project, being funded by the European Union, aims to complete and strengthen the Bugesera-South DWS from the Karenge Station, in such a way that the former's unit management costs will be lower once it is entrusted to the same professional operator. The project is expected to cover Gashora and Kanzenze Districts. The Murambi water supply project has entered the trial phase, and the Federation of Water User Associations and the water point committees have already been set up and are operational. The graph below gives an idea of the extent of funding commitments by the various donors.

Graph No. 5: Extent of Donor Intervention in the Sub-sector



The European Union is the principal donor in the rural DWSS sub-sector

3.4. Government Policy and Strategies for the Sub-sector

3.4.1 The key objectives of the new government policy for the water and sanitation sector are to: (i) promote a demand-responsive approach, (ii) decentralize the planning and management of DWSS services and build local capacities (iii) redefine the role of the different institutions involved in water services and sanitation with a view to expanding popular participation; (iv) provide support to the private sector as a partner and (v) redeploy the public sector to act as facilitator.

3.4.2. The adoption and application of decentralization is helping to promote this policy, as community agencies, such as the CDCs, are set up and become operational. A further step in this direction has been the establishment of the Community Development Fund and the CDF, which create a favorable framework for channeling funding to the beneficiaries. Donor aid will remain of paramount importance to the sector, and the Rwandan Government and individual donors can negotiate funding channels. They may work directly with the districts or through the CDF, but in compliance with the procedures and eligibility criteria agreed between the government and donor.

3.4.3 This participatory approach being applied as an integral part of the new policy in the DWSS sector, will help to (i) improve community involvement in the planning and management of infrastructure in the rural area, ii) make the CDCs the architects of the DWSS sub-projects, with the private sector, and even the users, playing the role of project managers, iii) make the users themselves responsible for managing the facilities, iv) avoid subsidizing investments that are not solicited by the communities, and v) evolve a transparent, equitable and decentralized funding mechanism.

3.4.4 The strategy that has been adopted for the water and sanitation sub-sector hinges on the following core elements: (i) each rural DWS project must systematically contain a sanitation component; (ii) households have the responsibility of building their own latrines while the provision of facilities in public places is the responsibility of the authorities concerned; (iii) DEA gives priority to specific hygiene education and sanitation programmes (HAMS) and to extending improved latrines technology through the construction of model latrines. As regards household refuse collection, the Government has prepared a bill seeking to establish a sanitation code, and another bill seeking to establish an environment code; both are yet to be adopted but this is expected to be done early in 2004.

3.4.5 Government intends to put this strategy into action, firstly by supplying drinking water to those provinces that are most acutely in need. The DWS type or system chosen must be affordable to rural dwellers, who must be involved in its selection. Sensitization campaigns to encourage the communities to cater for themselves and the establishment of self-management systems now go in tandem with the projects. These efforts must be initiated within communities, which already have drinking water and, therefore, cannot be trained under the ongoing project. Such communities should be given training in the different stages of the sub-project cycle to enhance their ownership.

4. **THE NATIONAL PROGRAMME**

4.1. **Concept and Justification of the Programme**

4.1.1. The programme has been designed in line with the policy of the Rwandan Government, and in consultation with all the actors in the sector, notably the citizens, institutions, donors, funding agencies, NGOs, and other stakeholders in the country. This reflects the Initiative's underlying concept, and acts on the recommendations of the Bank's Board of Directors and the Camdessus Panel on the financing of water and sanitation.

4.1.2. **Mobilize**¹³ In keeping with the spirit of the Bank Initiative, the programme seeks to encourage and facilitate intervention by donors, NGOs, the private sector and others involved in rural water supply and sanitation. This is not a programme steered or funded exclusively by the Bank. Rather, its aim is to assess the investments that will be needed to attain the objectives ascribed to the government's 2020 Vision¹⁴, and in consultation with all the actors, propose an implementation framework for rural DWSS projects in which all can contribute massively, effectively and quickly in the drive to achieve the set objectives.

4.1.3. **Improve**. The programme avoids the mistakes observed in past projects as set out in paragraph 2.6 and it takes into account the Camdessus recommendations, namely: (i) priority to grants; (ii) conduct of a comprehensive inventory of existing infrastructure and needs during the programme launching phase and, subsequently, the introduction of an infrastructure monitoring and evaluation tool will; (iii) provision for an important "national and international technical assistance" component for local communities, notably in the area of project design; (iv) the programme implementing agency will be responsible for collection, publication and comparison of financial and management data on local communities; it must ensure that all operations are carried out in a transparent manner; (v) water rates should cover the recurrent costs of operating, maintaining and replacing infrastructure; (vi) as is the practice in certain districts, the communities will make the necessary arrangements to ensure that poor people also have access to water; (vii) in deciding selection criteria for the sub-projects, priority will be given to regions which have least access to drinking water, and in the longer term, to the project management performance criteria; and (viii) strengthening of NGO will be a major aspect of the programme and these NGOs will be involved in every stage of the programme.

4.1.4. **Plan and Accelerate**¹⁵. It has been observed that the country's water resources and facilities have not been assessed accurately. The current programme therefore provides for the establishment of a database on existing infrastructure (SIG), studies on the Water Plans for the 70 districts; and hydro-geological surveys in Bugesera, Kibungo and Umutara, areas which make greater use of underground water. This is a three-phased programme and, before each stage is completed, preparation studies will be carried out on the next phase. At the decentralized level also, the programme will work with support agencies to devise accelerated mechanisms for the preparation, appraisal and implementation of community projects.

¹³ Strategic Thrust no.4 of the Initiative, which involves "Mobilizing more funds" (Governments., Donors, NGOs, etc..)

¹⁴ Achieve 100% water and sanitation coverage in rural areas in 2020

¹⁵ Strategic Thrust 1 of the Initiative, which is " Establish accelerated mechanisms for project preparation, appraisal and realization"

4.1.5. **Associate**¹⁶. The programme is based on the Rwandan government's decentralization scheme. It emphasizes the demand-driven approach and involvement of grassroots communities in project design, preparation, appraisal and implementation. All the sub-projects selected for funding under the programme must first have been included in their district's Community Development Plan (CDP) and the plan itself must have been drawn up by the beneficiaries, with the assistance of the decentralized government technical departments. This is the approach prescribed in the community development policy drawn up in 2001. The programme will be co-financed by donors and all actors in the sector will be involved in its implementation.

4.1.6. **Simplify**¹⁷. Priority will be given to the use of appropriate technologies, agreed by all the beneficiaries, and simple systems learnt from the experience of countries. Thus, the focus will be on projects which aim to develop water sources, small water supply systems, and small-scale sanitation systems (such as VIP or ECOSAN¹⁸ latrines). These projects will be implemented according to the 'ubuhede' method followed for traditional communal farms, and which have been successfully tested in the National Poverty Reduction Programme. Schools, business centres, places of worship, prisons and other public places will systematically have DWSS services, and these will also be available in rural centres (district headquarters), which are the hubs of commercial and social activity in the rural areas. Some areas of the country which suffer from water scarcity will however require large-scale water supply systems

4.1.7. **Strengthen and Coordinate**. Many agencies operate in the water and sanitation sector: central and local governments, donors, NGOs, private operators, local communities. Nevertheless, one observes (i) that their operational capacities are sometimes weak in terms of materials, human resources and training, and that (ii) coordination of their various activities leaves much to be desired despite the many types of worthwhile synergies that could be capitalized upon. Local communities often have difficulties in designing their projects and NGOs do not always have the means to help them to do so. Private operators are quite few and they themselves need strengthening to enable them to intervene upstream, as equipment and spare parts suppliers, or downstream as operators. Rwanda lost several competent management staff and technicians in the 1994 war and genocide. The country now has only three or four water and sanitation engineers. This explains why the programme design strongly emphasizes capacity building for the different actors. In addition, the executing Agency must play the vital role of facilitator and catalyst. It will be a light structure and will not need to intervene directly in programme implementation but will rather work to encourage and facilitate contacts between the various actors.

¹⁶ Strategic Thrust 2 of the Initiative, which is to "Implement, with the participation of the beneficiaries, projects to extend and consolidate DWSS services"

¹⁷ Strategic thrust no.3 of the Initiative, which is to "Promote appropriate technologies, gathering the consensus of all the beneficiaries such that they operate and maintain the facilities themselves"

¹⁸ ECOSAN : ECOnological SANitation. These types of toilets promote sanitation by allowing excreta to be used as fertilizer for agriculture.

Box 1 :Ubuguhede

Ubuguhede is a Rwandan tradition woven around the culture of working together as a community to resolve the problems of rural dwellers. Literally translated, the word means to prepare the fields before the rains and the planting season begin. A group of households join forces to work the fields of the entire community. They divide the various tasks among themselves, and thus ensure that the farms will be ready for the planting season. The Ubuguhede concept encompasses the entire society and includes men and women, and all the various social groups in the community. Even very poor communities, those who normally cannot take part in collective activities, may be associated. Having finished preparing the farms of those who participated directly, the workers move to farms owned by those who were unable to take part. When the crops are harvested, an “umuganura” harvest ceremony takes place, at which donations, usually grains, are collected from the community.

4.1.8. **Promote sanitation.** The programme will be buttressed by information, education and communication campaigns to encourage demand for individual sanitation facilities. The design of DWSS facilities will systematically incorporate the construction of equipment for wastewater evacuation. The programme will use two preferred modes of sanitation: (i) hygiene education at individual, family and collective levels (ii) encouraging simple, affordable hygiene and sanitation methods and technologies which are within the reach of rural communities. The beneficiaries will participate extensively, and their views will be sought, right from inception, on the choice of latrines and technologies for solid waste collection and valorization.



Photograph nos. 8 and 9: Latrines in Rwanda are not hygienic. The programme will promote the use of improved latrines

4.1.9 **Innovate.** Water alone cannot solve all the socio-economic problems of rural dwellers. They also need basic social and economic infrastructure (small markets, health centres, youth and women centres etc...). The programme projects will address this particular need by providing such areas within the districts. Women will play a significant role in the management of such areas (cf. Annex 7). The programme also intends to promote rainwater harvesting techniques, and will start by promoting the use of this technology in rural agglomerations (Imidugudu), in schools, health centres etc. During the programme-launching phase, a pilot project will also be launched in parallel for the collection of wastewater for use in biogas production, and for solid waste composting.

4.1.10. **Promote labour-intensive infrastructural development:** Implementation of the DWSS programme in the rural areas will, for the most part, follow the principles of the labour-intensive infrastructure development programme which the government adopted in 2003. The programme was established with Canadian assistance, and includes a water and sanitation component. Its objective is to upgrade rural infrastructure, and improve their maintenance through initiatives that demand a high labour input (abundant in the country,

where an estimated 1,000,000 people in the rural areas are seeking employment); this will help to draw income to the rural areas at the same time that necessary basic equipment are being provided.

4.1.11. Launch the Initiative in the country. The Initiative launching phase will, of course, focus on establishing and strengthening the agencies which have responsibility for implementing the programme. They must, in keeping with the underlying concept of the Initiative, sensitize and mobilize donors operating in the country to increase the volume of their investment in the rural DWSS sector. Part of their duties will also be to implement, or monitor, Bank-funded projects. With the Government's approval, a few basic studies will also be conducted during the launching phase, to prepare the subsequent phases of the programme; and a certain number of priority projects will also be undertaken, in response to the urgent needs expressed by the population, but also to anchor the Initiative from the outset. Project implementation will reflect the general principles earlier defined for the programme.

4.2 **Poverty Profile and Gender Issues**

Poverty profile

4.2.1. Rwanda is an inland, landlocked country. With a population of 8.16 million inhabitants in 2002¹⁹ and an average density of over 310 inhabitants per km², as against 26.9 only for Africa, it is one of the most densely populated countries in the world. Rwanda's average annual population growth rate is estimated at 2.3%, compared to 2.8% for sub-Saharan Africa.

4.2.2. With an urban population of only about 10%, compared with 37.1% for the whole of sub-Saharan Africa, the Rwandan economy remains highly dependent on the rural sector, especially agriculture, which contributes a little over 40% to the GDP, and accounts for more than 80% of its export earnings. Per capita GNP was 250 US dollars in 1999, against 684 for Africa, and 1,250 US dollars for the developing countries.

4.2.3 The proportion of the population living below the poverty line was estimated at 60.3% in 2001. Whereas the prevalence of poverty was only 14.3% in urban areas, in rural areas, it rose to 65.7%. However, official GDP/per capita forecasts envisage an increase from US\$ 255.7 in 2005 to US\$330.7 in 2010, US\$432 in 2015, and US\$ 566.6 by 2020. Thus, on average, a significant drop in monetary poverty can be expected since GDP will at least have doubled. The willingness of rural communities to pay for water is expected to have increased during the same period. In 2001, life expectancy at birth was 38.1 years for the entire country, and 38.7 for women. It is expected to reach 55 years by 2020. The percentage of the adult population between the ages of 19 and 45 years living with HIV/AIDS in 2001 was 13.9%, compared to 9% for Africa, 1.3% for the developing countries, and 0.3% for the developed countries. Infant mortality and morbidity rates remain high. Among children under the age of 5, they vary from 149 for every 1000 children in Kigali to 305, with a typical variation of 43.0. Water-borne diseases, due to poor sanitation, account for more than 50% of deaths in Rwanda. Conversely, however, during this same period, Rwanda's HDI²⁰ rose and it went from 164 out of 174 countries in 1998 to 158 in 200.

¹⁹ According to the provisional results of the General Population and Habitat Census (august 2002)

²⁰ HDI or Human Development Index.

Social and economic status of women

4.2.4 According to a 1998 UNICEF study, some 50% of households spend at least a 1/2 hour every day collecting a 20 litre jerrican of water, while a quarter more spend over an hour. These estimates do not even take account of the considerable energy and effort that the women and children²¹ put into transporting these 20 litres. Water sources are usually found in valleys, at the foot of mountains and hills, whereas the people themselves live on hill and mountain tops. The situation is worse in the east of the country, especially in the new province of UMUTARA, where there are virtually no natural water sources and it is necessary to walk several kilometers before reaching the nearest water point.



Photos no.10, 11, 12 and 13: Rwanda is a hilly country where fetching water is a daily chore for children, women and even men.

4.2.5. Since the early 90s, the population of women has been consistently higher in Rwanda, up to 51.3%, which gives a masculinity ratio of 91.5%. Today, this ratio is estimated to be 91.3% (RGPH 2002), women now make up 52.3% of the population of Rwanda, a direct consequence of the war of genocide, which has also resulted in an abnormally high number of female and children-headed households. The UNDP report on Rwanda's poverty profile (February 2002) indicates a considerable rise in the number of female-headed households, up from 21% in 1992 to 34% in 1996. Among these women, 57% are considered to be vulnerable, almost as if there is an ongoing feminization of poverty. In terms of literacy, although 47.3% of the population of Rwanda can neither read nor write, the illiteracy rate among women is 58%. The events of 1994 have swollen the numbers of vulnerable persons, particularly among women and children. These numbers are even higher in the rural areas.

4.2.6. Even though women are occupying an increasingly crucial place in the social and economic life of Rwanda, their economic status remains one of dependence on their husbands, parents and brothers. Also, income management is traditionally the preserve of the men, and women are rarely involved in the process of decision-making. Yet, with the changes that have taken place since the upheavals of 1994, women now have new responsibilities thrust upon them, many of which are incompatible with their present status. A number of measures have been taken to empower women: the new Civil Code and the inheritance law have reviewed the legislation to give women equal access to property, resources and matrimonial assets. Equality between men and women is now guaranteed by law, and the country's Constitution states that at least 30% of parliamentary seats must be occupied by women.

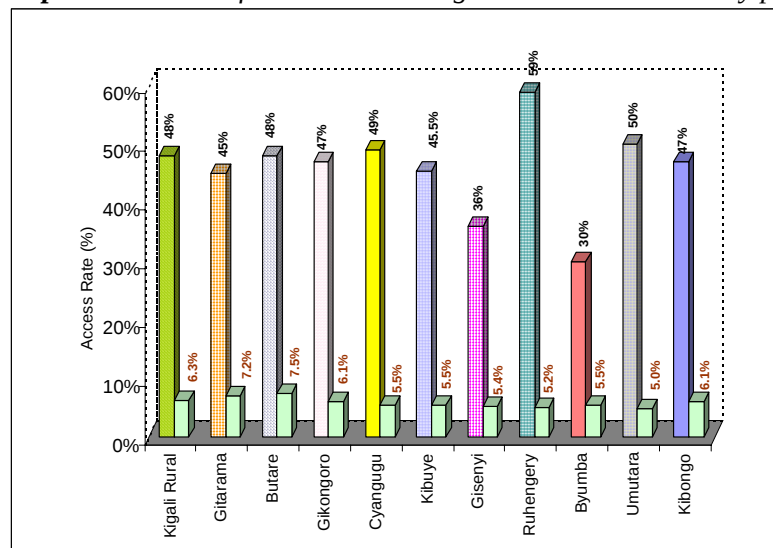
²¹ In rural areas, collecting water is a task generally reserved for women and children.

4.2.7. Despite her primary role in her country's development, particularly in agriculture, the Rwandan woman plays very little part in decision making, both at the base and at the apex. This situation translates into very low representation of women within the structures that design development projects, at both national and local levels. Because women themselves tend to be self-effacing within their communities, and they are never consulted about their needs, their priorities are not always taken into consideration. The government is well aware of these lacunae, and the law on community development structures, adopted in 2001, provides for women to have one elected representative on the CDCs at unit, sectors and district level.

4.3. The Areas of intervention and Beneficiaries of the Programme and launching phase

4.3.1. The programme beneficiaries are the populations of all rural areas in Rwanda who lack access to drinking water and sanitation services, as well as those who live in areas where existing water infrastructures are in need of rehabilitation. More specifically, the programme aims to assist women and children, who play the greatest role in water collection, and it particularly targets women, whose role in maintaining hygiene and sanitation in the household is primordial. One notes that 4,267,983 out of a total population of 8,162,715 were female in 2002²², and that, at 86.6% in the rural areas, the masculinity ratio was far below the average national index. The programme will also benefit the other sections of the population, who will enjoy the indirect dividends of a cleaner environment, as well as economic operators (SMEs, local consulting firms, etc..) and NGOs, who will have a more favourable economic environment and the promise of better business opportunities.

Graph No.6 : Rate of access to drinking water and sanitation by province



Gisenyi province has the poorest water access

4.3.2. The Bank-financed launching phase will be carried out in Kibungo, Byumba, Ruhengeri, Gisenyi and Kibuye provinces. These provinces have been selected on the basis of the urgency of their requirements, these being areas with very low access, generally less than 44%, and a high incidence of water-borne diseases. Moreover, it will be possible to

²² Republic of Rwanda: Service National de Recensement : Rapport sur les résultats préliminaires. Kigali, February 2003
(National Census Board: Report on the preliminary results . Kigali February 2003)

intervene quickly because the technical studies already exist. The area is estimated to have a rural population of 3,307,531, with Gisenyi and Ruhengeri having the largest populations. They also have high population densities, often far higher than the national average: 424 inhabitants per km² for Gisenyi and 540 for Ruhengeri. More specifically, the project, when completed, will supply drinking water to 270,000 people as follows: (i) 125,000 from the supply of water to the Laves region; (ii) 58,000 people through the 4 supply systems in Kibungo and Byumba; (iii) 87,000 people through the community water source development projects.

Table 4.3: Characteristics of the areas covered by the launching phase

Characteristics/Province	Byumba	Kibungo	Gisenyi	Ruhengeri	Kibuye	National. Average
Population	646,121	616,982	800,449	4823,539	421,438	680,226
Density	421	239	424	540	268	301.8
Masculinity ratio	90.3%	90.3%	87.1%	87.7%	86.9%	91.3%
Infant mortality rate per 1000	227	254	159	161	191	119.6
Poverty rate	22.14%	19.78%	19.75%	19.09%	24.06%	
Extreme poverty rate	45.51%	26.79%	29.18%	47.18%	42.65%	
Average distance to water point	732m	1.185m	529m	768m	398m	703m
No. of persons covered in the launching phase	58,000		125,000		87,000	

4.3.3. All the provinces within the area covered in the launching phase have a masculinity ratio below the national average, indicating a higher proportion of women than in the other provinces within the country. Kibuye, in the Bords de Lacs region, is the province with the biggest deficit of men in all the country, with a masculinity ratio of 87 men to 100 women.

4.3.4. In most of the areas chosen for the launch, distances to a water point are far greater than the national average of 703 metres. In Kibungo, for instance, it is 1,185 metres, and that is far from the referential distance of 205 metres, and nowhere near the 212 metres for the city of Kigali. From another viewpoint, however, the rural populations in these provinces still use water from rivers, streams, lakes and unimproved drinking water sources. Thus, in Kibungo, 37.9% of the population uses water from these sources. As is to be expected, these regions have very poor drinking water supply coverage and very high infant mortality rates. It is thought that almost 50% of deaths are caused by water-borne diseases.

4.4. Strategic context

4.4.1. The programme, being responsive to the demands of the communities at every phase of its implementation, accords well with the sectoral policy on water and sanitation. It is consistent with the decentralization policy adopted by the Government and put into effect in March 1999 when the CDCs were elected in the units, sectors and communes.

4.4.2. The programme will contribute to the attainment of the target objectives of the sectoral water and sanitation policy, which are (i) to supply every family with accessible drinking water in sufficient quantity; (ii) to ensure that every family has access to adequate sanitation facilities; (iii) to promote community participation and involvement in the management of all activities in the sector; (iv) the protection, conservation, rehabilitation and exploitation of all water resources and catchment areas; (v) development of the sector through a process based on strong stakeholder participation, and which proposes viable financial and technological options for the sustainable development of the sector.

4.4.3. The programme will also help to promote the government strategy of decentralization. It will afford disadvantaged rural communities greater access to sustainable water and sanitation services. It will increase their capacity for self-management, and will strengthen public and private institutions that support and assist these communities. Consequently, it will greatly contribute to the attainment of the general objective, which is to improve the living conditions of rural dwellers.

4.5. **Programme objectives and targets**

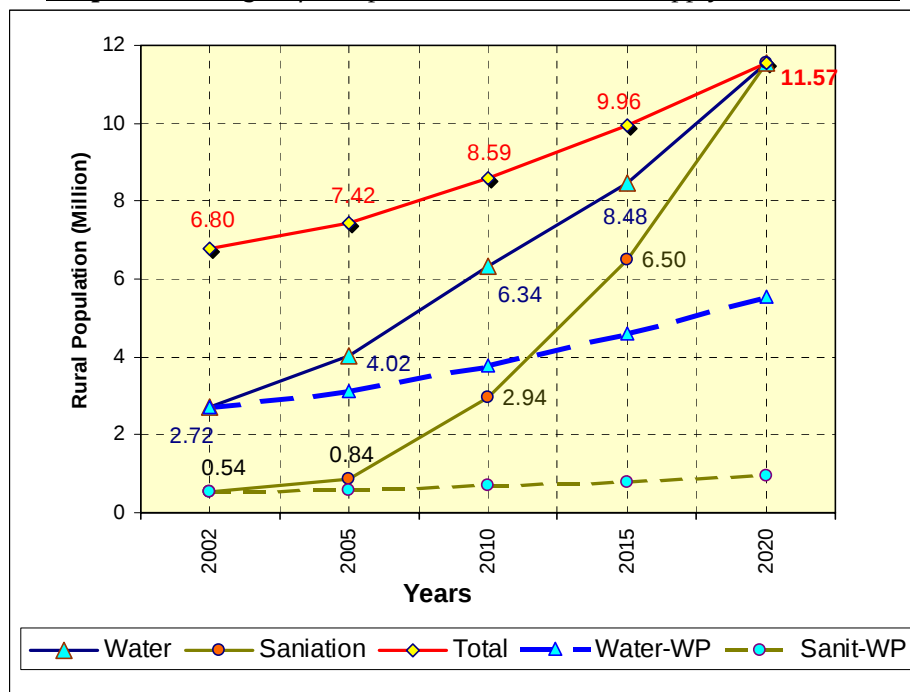
4.5.1. The overall goal of the programme is to ensure the sustainable supply of drinking water and sanitation services to rural populations and thereby enhance their living standards.

4.5.2. The specific objectives are : (i) to improve drinking water and sanitation access in the rural areas, (ii) to equip the country with the means of monitoring the DWSS sector and (iii) to boost capacities and thus ensure sustainability of DWSS services in rural communities.

4.5.3. To this end, the programme will aim to increase the proportion of the rural population with access to drinking water, currently 41%, to 66% in 2010, 85% in 2015 and 100% in 2020; and will seek to improve access to sanitation services from 8% to 34% in 2010, 65% in 2015 and 100% in 2020 (see graph below). These objectives are consistent with the strategic orientations set for the poverty reduction programme and the government's Vision for 2020.

4.5.4. The specific objectives of the launching phase, funded by the Bank, are: i) to improve drinking water and sanitation access in the rural areas of Kibuye, Kibungo, Byumba provinces, and in the Laves region; (ii) to provide the country with the means to monitor the DWSS sector, iii) to build capacities and thus ensure the sustainability of DWSS services in rural areas, and iv) to prepare the subsequent programme implementation phases.

Graph no.7: Targets for improved access to water supply and sanitation



The ultimate goal is to achieve 100% water and sanitation coverage in 2020

4.6 **Performance Indicators**

At each stage, the following performance indicators will be used to gauge the extent of programme implementation and the degree of success in the pursuit of its objectives. Factors which are likely to jeopardize its implementation or affect its impact on development will be identified early, and corrective measures can therefore be taken in time. These indicators will be quantified during the planning stage for each phase of the programme or project, and then measured by ANEPAR throughout the implementation phase, using mainly the data collected, the reports of the different actors, and audit reports.

Table No. 4.5: Programme performance indicators

Programme Output Effectiveness Indicators ❖ Existence and efficiency of a water resources monitoring system ❖ Existence and efficacy of an DWSS infrastructure monitoring system ❖ Availability of study and preparation reports for each phase ❖ Operationalization of ANEPAR
❖ Number of water points and supply systems established or rehabilitated ❖ Number of schools, trading centres, district headquarters, places of worship, prisons and living spaces with DWSS ❖ Number of adequate sanitation systems established ❖ Quality of operation of the DWSS systems ❖ Number of water points with facilities for drinking water quality analysis
❖ Number of members of CDCs and water points committees trained ❖ Number of users trained/ percentage of women sensitized ❖ Number of women managing water points ❖ Number of latrines constructed ❖ Average distance to drinking water point
❖ Drinking water demand coverage rate ❖ Percentage of households with adequate sanitation ❖ Number of sanitary latrines
Indicators of programme's development effectiveness • Improvement in rural community health • Rate of prevalence of water-borne diseases • Morbidity rate • Mortality rate
• Number of water user associations that are functional and financially sound • Number of women members of water user associations • Number of efficient private operators working in the sector • Capacity of users to plan, construct, manage and maintain the DWSS systems • Average drinking water consumption per inhabitant • Capacity to carry out maintenance of infrastructures • Number of economic activities that have sprung up around the DWSS systems

4.7 **Description of the programme and its launching phase**

4.7.1. The components of the programme are: (i) Planning Studies and Tools; (ii) Capacity building; (iii) Development of DWSS infrastructure (iv) Programme Management. Activities undertaken and achievements are detailed below, by component.

Component A : Studies and Panning Tools

4.7.2. A better knowledge of the country's water resource potential and existing infrastructure is called for, and the monitoring of ongoing interventions in the sector needs to be improved. Consulting firms will be commissioned to provide the planning and monitoring tools which are presently lacking. Thus, to ensure proper monitoring and assessment of the different programme phases, an action plan for the next phase will be prepared before each phase ends. Donor seminars will be held to discuss these action plans. Socio- environmental impact studies will also be conducted, as will preparation studies and audits. These activities will lead to:

- A national inventory of DWSS facilities;
- An infrastructure database;
- A system for monitoring-evaluating the successes of the programme;
- 5 operational action plans for each 4 year period;
- Study reports on DWSS in 130 rural development centres;
- Preparation of the 5 phases of the programme;
- Reports on the social and environmental impact of the programme;
- Water Plans for 70 Districts;
- Hydrogeological surveys in Bugesera, Kibungo and Umutara areas; and
- 15 annual programme audits

4.7.3. The launching phase will lay the groundwork for ensuring optimum conditions for implementation of the programme. Consultancy firms will be commissioned to provide the following services:

- A national inventory of DWSS infrastructures in the rural areas
- An infrastructure database
- A programme monitoring and evaluation system
- The Water Supply Plans for 6 districts
- Statutes and Manual of Procedures for the Agency
- Preparation of Phase 2 of the programme;
- Study on the social and environmental impact of the programme; and
- 3 programme audits.

Component B : Capacity Building

4.7.4. This activity will entail providing support : (i) to the public sector at the centralized level (the CDF included), and at the decentralized level; to enable it facilitate development of the sub-sector; (ii) to the grassroots communities, so that they will ensure sustainability of the facilities; (iii) to the private sector and NGOs (as equipment providers for construction works and services), to provide communities with technical and social assistance in building and managing their water and sanitation facilities.

4.7.5. A number of training activities are also envisaged:

- i) Training for staff of the DEA, the programme coordination unit and the PWSR (Provisional Water and Sanitation Representatives), to supplement the training earlier

provided under the World Bank–financed rural drinking water supply and sanitation project. It will focus on the participatory approach, environmental aspects, award of contracts, monitoring and evaluation of decentralized management projects; grant disbursement and accounting procedures, and simple accounting procedures used by the CDCs. Specialized training will also be provided, notably on conducting programme promotion workshops, and on gender issues.

ii) Training for the local private sector, particularly NGOs, consulting firms, consultants, construction companies and various suppliers, on (i) how to prepare and submit tenders; (ii) the community sub-projects cycle; (iii) guidelines and standards for implementation of sub-projects, (iv) management of sub-projects ; (v) management of DWSS infrastructures; (vi) technical audit; (vii) social and environmental audit, and (viii) monitoring-evaluation.

iii) Training for grassroots communities, in particular the Community Development Committees (CDC) on: pre-selection of sub-projects, understanding the validation criteria for sub-projects, management of participatory projects, project management, preparation of funding request dossiers, award of contracts, monitoring implementation of programmes and communication, technical audit, management of facilities, better knowledge of local infrastructure management institutions, management of water-related conflicts, and project monitoring and evaluation.

iv) Training and sensitization of beneficiaries and members of user associations on: validation and implementation of sub-projects, management of facilities, efficient operation of DWSS systems, accounting and procedures relating to infrastructure renewal. The other partners, principally the teachers, will receive training on crosscutting issues, hygiene education, environmental protection and prevention of HIV/AIDS.

v) Training of managerial staff and technicians: the programme also has a component for the training of Water and Sanitation Engineers, water technicians, laboratory technicians and standpipe attendants.

4.7.6. These activities, which will be carried out in the course of the programme, are expected to yield the following outcomes:

- Staff of both the central structures (Ministries, DWS, the Rwandan Regulatory Agency, etc. and decentralized structures, DWSS, Federation of Water Users Associations and CDCs are trained in mobilization, sensitization, environment, and gender issues, and are familiar with each stage of the sub-project cycle;
- Staff of NGOs and local consultants are trained in participatory techniques, SMEs receive training in contract award procedures;
- Health teachers and officials receive training in transversal issues, hygiene education and prevention of HIV/AIDS;
- CDFs are strengthened;
- Water and Sanitation engineers, water technicians, laboratory technicians and water engineers are trained;
- Lime manufacturing factories and companies that produce pipes, special parts and articles for the water sector (PVC and PEHD) are established and operational.

4.7.7. The outputs expected at the end of programme launching phase are the following:

- At the central level, enhanced human resource capacities in Ministries concerned by the programme, the DEA and the Rwandan Regulatory Agency;
- In Ruhengeri, Giseny, Byumba and Kibungo Provinces: Increased human resource capacities of the PWSR and CDCs;
- NGOs and private enterprises are trained;
- In Kibuye Province, 50 facilitators and 30 resource persons are trained; training kits have been distributed to 5, 000 persons, and 10,000 persons are educated and sensitized.

Component C: Development of DWSS infrastructure

4.7.8. Different types of projects will be implemented in this regard:

- i) Small scale sub-projects: a simple supply system involving a spring, pipes leading to a small reservoir and a public standpipe fountain; and another component involving the construction of latrines within the unit. This will be a “Ubudehe” community participatory process by the beneficiary communities or groups of beneficiaries, organized under the responsibility of the CDC assisted by a water engineer.
- ii) Medium scale sub-projects: supply covering several units, with water harnessed from a spring, borehole or water mains; two or three reservoirs connected to a public water fountain. The work will be done by a labourer or a local company. The CDC will be in charge, and will receive assistance from a technical support organization.
- iii) Sub-projects grouped into an inter-municipal project: the DWSS here may cover several districts. Linkage between the districts may be provided through common structures (water sources, purification plants, supply, reversal pumps, reservoirs..etc). The CDC or CDCs spearheading the inter- municipal sub-project must consolidate and integrate the sub-projects through an enlightenment and mobilization campaign among the communities. The projects will be handled by technical and social support organizations.
- iv) Country-wide sub-projects: These are major rural supply systems involving a water point, treatment plant, supply mains, flow reversal pumps, a network of distribution pipes, pumping and plants, reservoirs, public drinking fountains, and individual connections. The sanitation system, which will be localized mainly at the rural development centres, may comprise a wastewater and rainwater treatment network. The ministry responsible for water will be in charge of the project.
- v) Pilot sub-projects: sanitation of wastewater and rainwater in the new “IMIDUGUDU” villages and in the Secondary Centres, experiments in collective refuse collection for composting and biogas. The choice of villages and centres to benefit from these initiatives will be dictated by (i) the willingness of the districts and communities concerned to bear part of the investment costs and be fully responsible for maintenance and operating costs of the facilities; (ii) the prevalence of diseases caused by stagnant rainwater and wastewater; and (iii) a clear and present danger of flooding.

4.7.9. The programme is expected to yield the following outputs by the year 2020:

- Several Schools and Imidugudu¹-type localities will be equipped rainwater collection systems;
- Several localities will have solid waste composting systems and biogas technology in their schools;
- 5850 primary and secondary schools, 342 communal detention centres, 680 business centres, 348 health centres and 296 places of worship will have DWSS;
- 130 rural development centres equipped with water and sanitation systems;
- rehabilitation of existing drinking water supply systems
- extension and installation of 6 water supply systems;
- 11,325 drinking water sources and water points will have been developed through the “Ubuguhede” community participatory process;
- 9 DWSS community associations will have been established;
- 60 community associations reactivated.
- the inhabitants of 12 provinces in the country will have been provided with water supply through community projects.



Photo no 14: Rainwater collection techniques exist already in Rwanda.
The technique should be given wider dissemination

4.7.10. The programme launching phase will make possible the following achievements, in response to the urgent needs expressed by the populations:

- In Laves Region (Ruhengeri and Giseny provinces): DWS network rehabilitated and extended;
- In Byumba and Kibungo Provinces : 4 DWS networks installed as part of the 4 DWS supply projects;
- In Kibuye province: 1000 water points developed and individual sanitation provided for 2000 rural families.

Component D – Programme Management

4.7.11. This component, to be funded by the Bank, is scheduled for implementation mostly during the launching phase. The project management will initially be entrusted to a Programme Coordination Unit (PCU), and thereafter, to the National Rural Water and Sanitation Agency (PNEAR) immediately this body is set up.

¹ Disadvantaged areas inhabited mainly by widows, demobilized soldiers etc...

4.7.12. All the activities necessary for the launching phase and the subsequent phases of the Initiative come under this component. They involve: (i) planning, management and coordination of the operations; (ii) monitoring the implementation of the different components during the launching phase; (iii) book-keeping and monitoring of disbursements; (iv) account auditing; (v) management of the CDCs; (vi) validation of communal sub-projects; (vii) award of contracts for projects having national scope; (viii) monitoring-evaluation, (ix) establishment of the National Rural Water and Sanitation Agency; (x) monitoring and coordination of preparation studies for the subsequent programme phases and (xi) information and communication.

4.7.13. The PCU will work with technical assistants, who will be recruited by a consulting firm in the specific technical areas identified during project implementation. Initially, technical assistance will be provided in the form of consultants recruited, on a short term basis, to elaborate the programme's manual of procedures, prepare a manual of procedures for the Agency, carry out a mid-term review of achievements in the launching phase, help to evolve a computerized monitoring-evaluation system, prepare the socio-economic impact study- with emphasis on poverty reduction and on reducing water-borne diseases, the environmental impact, and the completion report for the launching phase of the programme.

4.8. Cost of Programme and Launching phase

4.8.1. *The programme's indicative cost* is estimated at around FRW 504 billion, i.e. UA 671.50 million or USD 924.83 million. Tables 4.8(a) and 4.8 (b) below give the estimated cost breakdown by component and expenditure category.

Table 4.8 (a): Programme Cost Estimates by Component

Component	Total in Million		
	FRW	USD	UA
A. Studies and Planning tools	5,972	10.95	7.95
Putting in place of a planning system	751	1.38	1.00
Engineering and background studies	5,221	9.57	6.95
B. Institutional Support and Capacity Building	13,150	24.11	17.51
Capacity building at the central level	2,601	4.77	3.46
Capacity building at the decentralized level	1,037	1.90	1.38
Support to the private sector and NGOs	7,375	13.52	9.82
Training of managers and technicians	2,138	3.92	2.85
C. Development of DWS Infrastructure	341,877	626.80	455.10
Development of water infrastructure	196,930	361.05	262.15
Development of sanitation infrastructure	135,218	247.91	180.00
Support Measures (*)	9,728	17.84	12.95
D. Programme Management	7,918	14.52	10.54
Programme management	2,434	4.46	3.24
Technical Assistance	5,484	10.05	7.30
Programme Total	368,917	676.37	491.10
Physical Contingencies	53,637	98.34	71.40
Price escalation	81,882	150.12	109.00
TOTAL PROGRAMME COST	504,435	924.83	671.50

These actions comprise the construction of living spaces (UA 12 million) and environmental mitigating measures (UA 950 000).

4.8.2. The programme cost estimates were prepared based on detailed engineering reports available, sector investments standards and similar works implemented in Rwanda. The quantities considered were reviewed to take into account works implemented by other donors in the sub-sector (see paragraph 3.2).

4.8.3. The unit prices were fine-tuned on the basis of the outcome of bids on recent works. Lastly, the unit price estimates were improved through comparison with prices obtained from manufacturers/contractors. The programme cost estimate excludes taxes but includes provisions for physical contingencies (15%) and price escalation (2% for foreign exchange and 5%² for local currency).

Table 4.8 (b): Programme Cost Estimates by Expenditure Category

Expenditure Category	Total in Million		
	FRW	USD	UA
A. WORKS	474,090	869.20	631.10
1. Water Works	277,122	508.07	368.90
Development of mini water points	18,780	34.43	25
Small and medium water supply infrastructure	163,013	298.87	217
Major water supply works	4,357	7.99	5.8
DWS development poles	90,145	165.27	120
Storm water collection	826	1.51	1.10
2. Sanitation Works	157,154	288.12	209.20
Construction of latrines	93,150	170.78	124
DWS development poles	63,853	117.07	85
Collection and treatment of solid wastes	150	0.28	0.2
3. Related Works	39,814	73.00	53.00
DWS socio-economic infrastructure	30,800	56.47	41.00
Construction of living spaces	9,015	16.53	12.00
B. GOODS	2,254	4.13	3.00
Vehicles	526	0.96	0.70
Information technology	45	0.08	0.06
Other equipment	1,653	3.03	2.20
C. SERVICES	26,201	48.04	34.88
General studies	811	1.49	1.08
Engineering studies	5,634	10.33	7.50
Works supervision and monitoring	13,071	23.96	17.40
Training, extension, education and sensitization	4,957	9.09	6.60
Technical assistance	1,608	2.95	2.14
Programme audit	120	0.22	0.16
D. OPERATIONS	1,893	3.47	2.52
Salaries	1,390	2.55	1.85
Allowances	451	0.83	0.60
Operations	53	0.10	0.07
PROGRAMME TOTAL COST	504,438	924.83	671.50

² This corresponds to the average inflation rate assumption. The current rate is 3% and the most pessimistic rate is 6.5%.

4.8.3 Cost of Launching phase Financed by the Bank: the total cost of this phase is estimated at FRW 12.9 billion (i.e. UA 17.18 million), excluding taxes and customs duty. The cost comprises FRW 7.9 billion (UA 11.46 million) in foreign exchange and FRW 5 billion (UA 6.67 million) in local currency. Tables 4.7(c) and 4.7(d) provide the cost summary by component and expenditure category. The cost details are given in the working document.

4.8.4. The cost estimates are based on September 2003 prices, to which a 10% provision was added as physical contingencies on all base costs excluding salaries, technical assistance, bonuses and allowances. A 5% and 2% provision for annual price escalation in foreign exchange and local currency, respectively, was added to all components.

Table 4.8(c): Cost Estimates of Programme Launching Phase by Component

Components	(FRW Million)			(UA Million)			% FE
	LC	FE	Total	LC	FE	Total	
A. Studies and Planning Tools	161	673	834	0.21	0.90	1.11	81%
Putting in place of a planning system	79	385	464	0.11	0.51	0.62	83%
Engineering and background studies	82	251	333	0.11	0.33	0.44	75%
Audit	0	38	38	0.00	0.05	0.05	100%
B. Institutional Support and Capacity Building	168	282	450	0.22	0.38	0.60	63%
Capacity building at the central level	44	175	218	0.06	0.23	0.29	80%
Capacity building at the decentralized level	82	82	164	0.11	0.11	0.22	50%
Strengthening of grassroots communities	42	26	68	0.06	0.03	0.09	38%
C. Development of PWSS Infrastructure	3436	4946	8382	4.57	6.58	11.16	59%
Development of water infrastructure	3151	4875	8026	4.20	6.49	10.68	61%
Development of sanitation infrastructure	285	71	356	0.38	0.09	0.47	20%
D. Programme Management	202	356	558	0.27	0.47	0.74	64%
Programme management	202	249	451	0.27	0.33	0.60	55%
Technical assistance	0	106	106	0.00	0.14	0.14	100%
Project total	3967	6257	10224	5.28	8.33	13.61	61%
Physical contingencies	397	626	1022	0.53	0.83	1.36	61%
Price escalation	644	1016	1660	0.86	1.35	2.21	61%
TOTAL PROJECT COST	5007	7898	12906	6.67	10.51	17.18	61%

Table 4.8(d): Cost Estimate of Programme Launching Phase by Expenditure Category

Expenditure Category	(FRW Million)			(UA Million)			% FE
	LC	FE	Total	LC	FE	Total	
A. WORKS	3264	4390	7654	4.34	5.84	10.19	57%
B. GOODS	46	95	140	0.06	0.13	0.19	68%
C. SERVICES	455	1572	2027	0.61	2.09	2.70	78%
D. OPERATIONS	202	200	402	0.27	0.27	0.54	50%
Project total	3967	6257	10224	5.28	8.33	13.61	61%
Physical contingencies	397	626	1022	0.53	0.83	1.36	61%
Price escalation	644	1016	1660	0.86	1.35	2.21	61%
TOTAL PROJECT COST	5007	7898	12906	6.67	10.51	17.18	61%

4.9. Sources of Financing and Expenditure Schedule

4.9.1. *The Programme* will be financed by the Government to the tune of UA 100 million (15%), programme beneficiaries for UA 29 million (4%) and donors and other participants (international NGOs, private sector participation, etc.) for about UA 542.50 million. It is worth noting that the beneficiaries will finance community water and sanitation works only, to the tune of about 5% of the cost of works slated for implementation. The Government will put functional premises at the PCU's disposal. The Programme will rehabilitate such premises if necessary.

Table 4.9 (a): Sources of Programme Financing (UA Million)

Source of Financing	Total in Million			%
	FRW	UA	UA	Total
Government	189.69	137.73	100.00	15%
Beneficiaries	55.01	39.94	29.00	4%
Donors and other participants	1029.05	747.17	542.50	81%
TOTAL	1273.75	924.83	671.50	100%

4.9.2. Table 4.9 (b) below shows the programme expenditure schedule by period and component. The financing needs amount to UA 57 million per year for the first six years of the programme. The needs gradually reduce to UA 26 million between 2011 and 2016, and UA 14 million yearly for the rest of the programme period.

Table 4.9 (b): Schedule of Expenditure by Programme Component (in UA :illion)

Component/Financing Period	2005-2007	2008-2010	2011-2013	2014-2016	2017-2020	Total
A. Studies and Planning Tools	3.30	3.26	1.22	1.22	0.67	9.67
Putting in place of a planning system	0.30	0.26	0.22	0.22	0.22	1.22
Engineering and background studies	3.00	3.00	1.00	1.00	0.45	8.45
B. Institutional Support and Capacity Building	9.22	9.22	2.10	2.10	1.36	23.99
Capacity building at the central level	1.50	1.50	0.70	0.70	0.34	4.74
Capacity building at the decentralized level	0.50	0.50	0.34	0.34	0.21	1.89
Support to the private sector	5.72	5.72	0.81	0.81	0.41	13.45
Training of managers and technicians	1.50	1.50	0.25	0.25	0.40	3.90
C. Development of PWSS Infrastructure	155.00	155.00	124.00	122.00	67.41	623.41
Development of water infrastructure	90.00	90.00	70.00	70.00	39.72	359.72
Development of sanitation infrastructure	60.00	60.00	50.00	50.00	26.57	246.57
Support measures	5.00	5.00	4.00	2.00	1.12	17.12
D. Programme Management	2.90	2.90	2.87	2.87	2.90	14.44
Programme management	0.90	0.90	0.87	0.87	0.90	4.44
Technical assistance	2.00	2.00	2.00	2.00	2.00	10.00
PROGRAMME TOTAL COST	170.42	170.38	130.19	128.19	72.34	671.50
Annual Investment	57	57	26	26	14	42

4.9.3. Table 4.9(c) below shows the programme triennial expenditure schedule by expenditure category. The financing needs of the rural population by province are also shown in Table 4.9 (d).

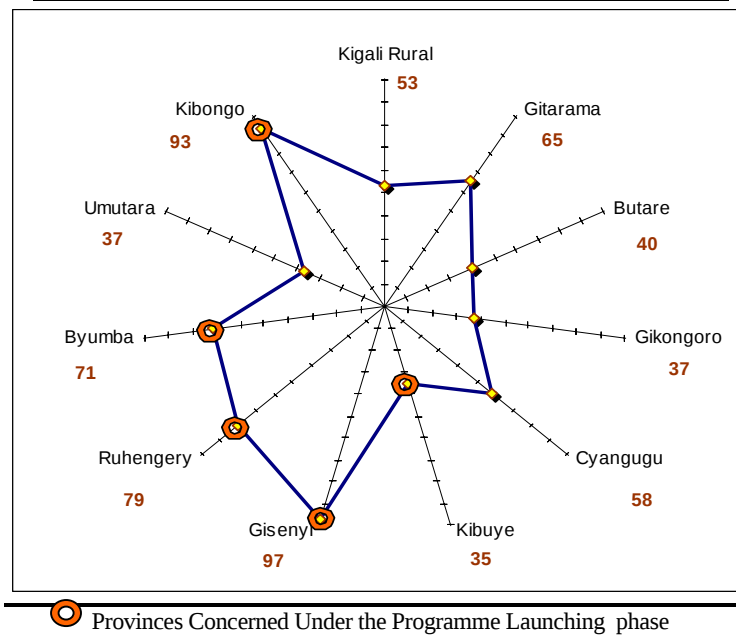
Table 4.9 (c): Schedule of Expenditure by Programme Category (UA Million)

Expenditure Category/Period	2005-2007	2008-2010	2011-2013	2014-2016	2017-2020	Total
A. WORKS	160.16	160.12	122.35	120.47	67.99	631.10
B. GOODS	0.76	0.76	0.58	0.57	0.32	3.00
C. SERVICES	8.85	8.85	6.76	6.66	3.76	34.88
D. OPERATIONS	0.64	0.64	0.49	0.48	0.27	2.52
PROGRAMME TOTAL COST	170.41	170.37	130.19	128.19	72.34	671.50

Table 4.9 (d): Financing Requirements by Province (UA Million)

Province	Water Access Rate	Sanitation Access Rate	Population Supplied with Water (2020)	Population Supplied with Sanitation (2020)	Investment (UA Million)
Kigali Rural	48%	6%	468,990	1,192,998	53.54
Gitarama	45%	7%	726,773	1,114,894	65.79
Butare	48%	8%	409,904	768,714	40.38
Gikongoro	47%	6%	418,074	606,253	37.02
Cyangugu	49%	6%	662,026	973,344	58.94
Kibuye	46%	6%	373,736	645,760	35.53
Gisenyi	36%	5%	1,176,495	1,443,601	98.05
Ruhengeri	59%	5%	891,832	1,334,896	79.95
Byumba	30%	6%	845,229	1,103,529	71.99
Umutara	50%	5%	417,995	605,012	36.99
Kibongo	47%	6%	1,120,322	1,372,668	93.32
Total			7,511,376	11,161,668	671.50

Graph 8: DWSS Financing Needs by Province (UA Million)



4.9.4. *The Launching phase Financed by the ADF*: the launching phase financed by the ADF will concern the Kibongo, Byumba, Ruhengeri, Gisenyi and Kibuye Provinces. These provinces were chosen due to the pressing needs, the high incidence of water-borne diseases and the

availability of engineering studies that provide the basis for rapid intervention. The launching phase will be jointly financed by the ADF (a UA 9 million grant [48%] and a UA 4 million loan [21%]), the Government for UA 2.63 million (15%) and the beneficiaries for UA 1.55 million (9%). Further details on the programme by type of financing are given in Tables 4.8 (e) and 4.9 (f) below:

Table 4.9 (e): Sources of Financing of Launching Phase (ADF Loan)

Source of Financing	Total in Million			%
	LC	FE	Total	Total
Government	1.14	-	1.14	20%
Beneficiaries	0.57	-	0.57	10%
ADF loan	-	4.00	4.00	70%
TOTAL	1.71	4.00	5.71	100%

Table 4.9 (f): Sources of Financing of Launching Phase (ADF Grant)

Source of Financing	Total in Million			%
	LC	FE	Total	Total
Government	1.49	-	1.49	13%
Beneficiaries	0.98	-	0.98	9%
ADF Grant	2.49	6.51	9.00	78%
TOTAL	4.96	6.51	11.47	100%

4.9.5. The ADF loan will finance the foreign exchange cost (UA 4 million) of water supply in the Lava Region of Ruhengeri and Gisenyi Provinces. The ADF grant will finance: (i) studies and putting in place of a programme monitoring and evaluation system; (ii) a pilot storm water utilization project, waste utilization for biogas and solid waste composting; (iii) capacity building for various programme actors; (iv) the implementation of four medium water supply schemes; (v) a community drinking water and individual sanitation project in Kibuye Province; (vi) technical assistance to the PCU and ANEPAR; and (vii) PCU equipment. The components funded with the grant will cover the basic water and sanitation infrastructure needs of the population in a way that will produce a significant impact on poverty reduction and directly improve the living standard of more than 145 000 rural dwellers in Kibungo, Byumba and Kibuye Provinces. These operations are eligible for the use of ADF IX grant resources (pursuant to the ADF IX guidelines on the use of grant resources).

4.9.6. The implementation monitoring indicators corresponding to the ADF grant financing include: (i) 1 000 water sources and points developed; (ii) four medium water supply facilities with length totalling 84 km built; (iii) 2 000 latrines built; (iv) 30 resource persons and 50 facilitators/coordinators trained; (v) 5 000 persons educated and sensitized; (vi) a rural DWSS infrastructure monitoring and evaluation system put in place; and (vii) project studies and documents prepared. The ADF loan performance indicators comprise: (i) implementation of a large water supply scheme in the Lava Region; and (ii) project studies and documents prepared.

4.9.7. The beneficiaries and the Government will finance 50% and 20%, respectively, of individual sanitation facilities (latrines). The ADF grant will support the remaining 30% for the construction of slabs and other concrete works. The beneficiaries and the Government will also fund 10% and 20%, respectively, of the cost of developing community water points and constructing water supplies.

4.9.8. Tables 4.9 (g) and 4.9 (h) below show the expenditure schedule of the programme launching phase by component and expenditure category.

Table 4.9 (g): Schedule of Expenditure by Component of Programme Launching Phase (UA Million)

Components	2005	2006	2007	2008	Total
					UA Million
A. Studies and Planning Tools					
Putting in place of the monitoring system	0.39	0.16	0.16	0.08	0.78
Engineering and background studies	0.28	0.11	0.11	0.06	0.56
Audit	0.00	0.02	0.02	0.02	0.06
B. Institutional support and Capacity Building					
Capacity building at the central level	0.11	0.11	0.07	0.07	0.37
Capacity building at the decentralized level	0.08	0.08	0.05	0.05	0.27
Grassroots capacity building	0.03	0.03	0.02	0.02	0.11
C. Development of DWSS Infrastructure					
Development of water infrastructure	4.05	4.05	2.71	2.70	13.50
Development of sanitation infrastructure	0.18	0.18	0.12	0.12	0.60
D. Programme Management					
Programme management	0.23	0.19	0.19	0.15	0.76
Technical assistance	0.05	0.04	0.04	0.04	0.18
TOTAL PROJECT COST	5.40	4.97	3.50	3.31	17.18

Table 4.9 (h): Schedule of Expenditure Schedule by Category of Programme Launching Phase (UA Million)

Expenditure Category	2005	2006	2007	2008	Total
					UA Million
A. WORKS	3.86	3.73	2.57	2.83	12.99
B. GOODS	0.12	0.07	0.02	0.02	0.23
C. SERVICES	1.19	0.95	0.77	0.34	3.25
D. OPERATIONS	0.24	0.22	0.14	0.11	0.70
TOTAL PROJECT COST	5.40	4.97	3.50	3.31	17.18

5. **PROGRAMME IMPLEMENTATION**

5.1. **Executing Agencies**

5.1.1 To implement the programme, a Programme Coordination Unit (PCU) will first be set up in the Ministry of Water Resources, under the direct supervision of that ministry's Secretary-General. A National Rural DWSS Agency will be established subsequently to coordinate programme implementation, assist the Government in properly planning sub-sector operations and harmonize DWSS approaches, standards and technologies. Prior to establishing the Agency, the PCU will conduct a study to define its statutes and responsibilities, as well as prepare a procedures manual. Technical assistance comprising experts drawn from various fields will be recruited through a consulting firm and will intervene occasionally and on demand to facilitate programme start-up operations, its implementation, monitoring and evaluation.

5.1.2 *The Programme Coordination Unit* (PCU) will be responsible for: (i) operations management, coordination and planning; (ii) programme implementation monitoring and control; (iii) accounting and disbursement monitoring; (iv) audit of all programme activities; (iv) information and the Monitoring Committee secretariat; and (vi) laying the groundwork for the establishment of the Agency. The PCU will be headed by a Coordinator and will comprise four experts (a water engineer, a procurement officer, a monitoring/evaluation officer and an environmentalist), a financial accountant and one support staff. The PCU staff will be recruited through job opening announcements. The Bank will cover the Unit's capital and operating expenditure.

5.1.3 *The National Rural Drinking Water and Sanitation Agency (Agence nationale de l'eau potable et de l'assainissement en milieu rural, ANEPAR)*: ANEPAR which will be supervised by the Ministry of Water Resources, will have a light structure. Its mission will involve: (i) supervising the decentralized structures with regard to designing, preparing and implementing their projects; (ii) facilitating sensitization and social mobilization; (iii) assisting in putting in place a DWS system at district level using such support agencies as local NGOs and consulting firms; (iv) seeking and establishing partnership with other donors, NGOs and public agencies to coordinate project implementation and avoid the duplication of project implementation agencies; (v) ensuring coordination among various actors; and (vi) ensuring the monitoring and evaluation of the programme. During the launching phase (up to 2009 inclusive), the ADF will fully cover the Agency's operating cost. Indeed, the Agency will be the cornerstone and promoter of the Initiative in Rwanda. Moreover, the Agency will comprise experienced consultants and play a key support and technical assistance role to the central and decentralized structures. After 2009, it will be jointly financed by the Government and other donors in line with modalities to be subsequently outlined.

5.1.4 Within three months, the PCU will prepare a procedures manual defining the programme implementation regulations and procedures, especially the detailed project cycles, the contract award methods, the disbursement methods and the Agency's *modus operandi*. The manual will be prepared in coordination with the CDF, MINALOC and the DEA. The manual shall be approved by all donors operating in the country, the CDF, the DEA and the Bank.

5.1.5 *Monitoring Committee*: a Monitoring Committee will be set up to articulate and coordinate programme activities, various sector policies implemented and strengthen the

participatory approach. Committee membership will comprise all players in the water and sanitation sector, as well as women's organizations. The Committee will ensure coordination among various stakeholders for the programme's smooth operation, especially in connection with crosscutting issues. It will play a consultative role and have as chair the Secretary-General or a representative of the Ministry of Water Resources. The PCU and, subsequently, the Agency will serve as the Committee's secretariat. Proof of setting up the Committee shall be a condition for disbursing the programme resources.

5.2. **Institutional Arrangements and Implementation Modalities**

Institutional Arrangements

5.2.1. The project will be implemented within the decentralization framework (see Annex 8). The CDCs are the focal points for local development issues (units, sectors and districts). The sector CDC consolidates the needs expressed by unit CDCs and draws up a priority list of projects. The District CDC then selects a list of projects which will constitute the District's annual action plan. Projects financed under this programme shall be mentioned in the plan. The decentralization framework thus defined by law presents considerable advantages. It puts the beneficiaries at the heart of all stages of the project cycle. Therefore, the district will be responsible for project identification, formulation, preparation and implementation.

5.2.2. Government departments will necessarily assist the districts, given the latter's weak capacity. MINALOC is in the process of preparing an inventory of district needs which should be ready before the end of 2003. On that basis, several capacity building operations have been planned, and the programme will earmark close to FRW 900 million to directly support such actions. Government departments represented locally will provide technical expertise: the DEA through the PWSSs, MINALOC through the province and the National Tender Board (NTB) through its local representatives. The programme has set aside the sum of FRW 2.6 billion to strengthen government departments to enable them to play that role. Lastly, NGOs and the private sector will also be called to play a part, and both will be strengthened through training enabling them to supervise the districts in social mobilization, management of crosscutting issues and preparation of projects upstream. FRW 1.3 billion has been earmarked for that purpose.

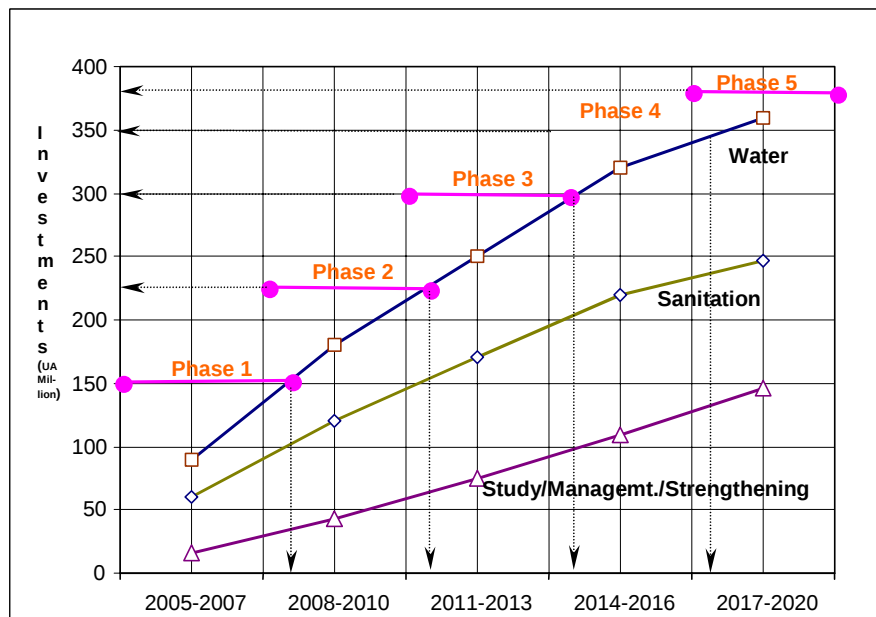
5.2.3. The Agency will coordinate these district assistance operations and ensure overall project monitoring and evaluation. The CDF (see Annex 9) will collect and manage donor funds. A **Rural Water and Sanitation Fund** will be established within the CDF, and a sub-account set up per donor. Each donor will sign a protocol of agreement with the CDF setting forth the latter's responsibilities and obligations, and the eligibility criteria for projects to be financed.

5.2.4. Lastly, the programme will strive to promote the private sector through lines of credit extended to local banks to fund companies specialized in the manufacture of spare parts, pipes, etc. The Rwandese Development Bank (BRD) is already the beneficiary of several ADB and EIB lines of credit. In its strategic plan, it intends to increase its portfolio volume to FRW 16 billion in 2006 then to FRW 25 billion in 2010, from FRW 5 billion in 2002). The BRD plans to further invest in rural financing, especially through services and infrastructure. Therefore in the medium term, the programme should shift towards rural sector financing via such establishments as the BRD.

Implementation Modalities

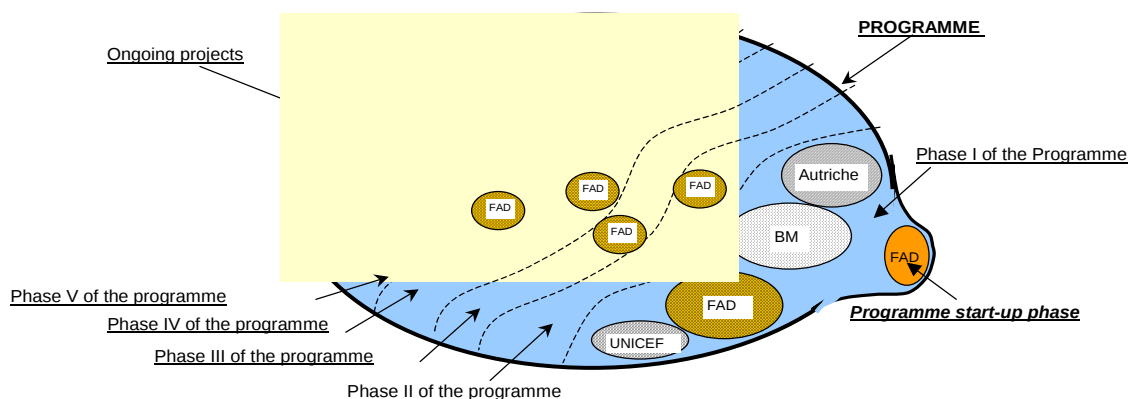
5.2.5. The programme will be implemented in 5 phases over 16 years. The launching phase will concern the provinces with low access rates and for which studies are available, namely Kibuye, Kibungo, Ruhengeri and Byumba. Other provinces will benefit during the two subsequent phases; priority will be given to those with the lowest access rate. In order to speed up programme implementation, the phases will overlap such that studies on the subsequent phase will be conducted during the preceding phase. The following graph shows the proposed trend of programme investments by phase:

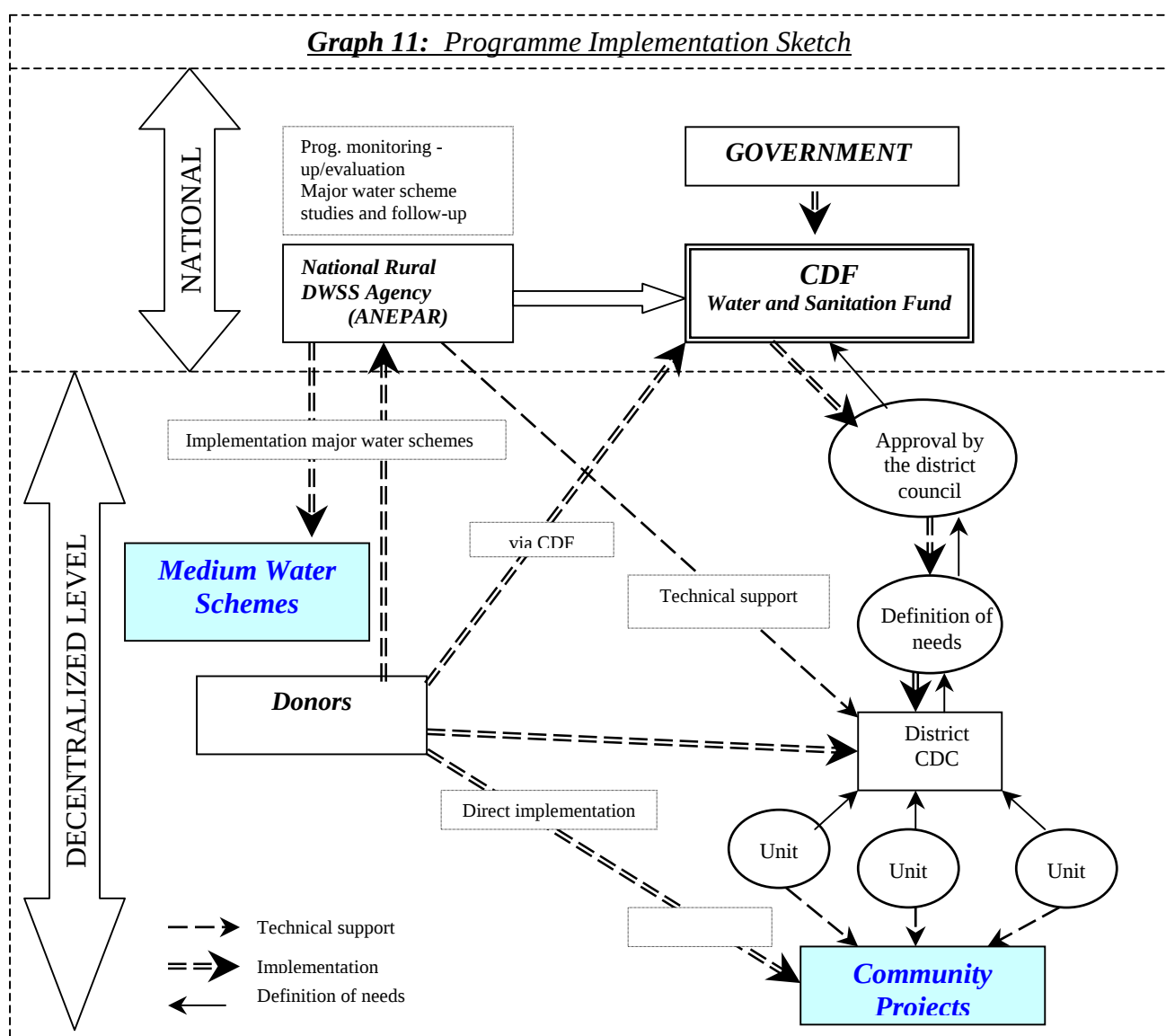
Graph 9: Trend of Programme Investments by Phase



5.2.6. Programme implementation will follow the participatory approach by rendering the local development communities accountable. Most projects to be implemented will follow the criteria and principles defined under the Highly Labor Intensive Infrastructure Programme (PI-HIMO). Close attention will be given to gender issues. Women's participation in all programme cycles is a key factor for its sustainability. The sensitization and training of beneficiaries and the CDCs are also basic to the sustainability of the infrastructure to be set up. DWSS infrastructure will be set up using environmental-friendly techniques. The negative impact of such infrastructure will be identified and mitigating measures factored into the programme cost.

Graph 10: Programme Implementation and Financing Modalities





5.3 **Procurement Arrangements**

Programme Arrangements

5.3.1 All goods, works and services will be procured in accordance with the rules of procedure of each donor or participating agency. For goods and works procured in connection with community participation, the programme could draw inspiration from the relevant guidelines prepared in that regard by the African Development Bank and the World Bank. Generally, the project will be implemented in line with all provisions contained in the implementation procedures manual to be prepared from the programme launching phase with ADF financing. Initially, the said manual will include all the procedures retained, including those of the borrower that the Bank considers acceptable and not at variance with its rules and procedures. The manual will be adapted as other donors join the programme, taking their respective rules and procedures into consideration. Overall, provisions for the procurement of goods, works and services could be made via several methods. Donors will choose the method(s) most suitable to them.

5.3.2 *Works procurement*: the programme works will be procured in three ways:

- (i) **Method 1** concerns such major works as water supply, transport and mobilization (e.g. supply of drinking water to the Lava Region) to be procured through international competitive bidding;
- (ii) **Method 2** concerns such medium-sized works as medium-scale water schemes in various provinces to be procured through local competitive bidding;
- (iii) **Method 3** concerns small-scale works to be implemented at unit or district level (e.g. development of a water source and construction of latrines) the implementation of which could use shopping procedures by list of minor contractors, procedures requiring the participation of local communities (in line with guidelines to be set forth in the procedures manual), procedures governing works on force account or direct negotiation. The *a posteriori* review of some procurements (Bank rules – a *a posteriori* review) could also be used.

5.3.3 *Procurement of goods*: goods and equipment for programme purposes will be procured through three methods as described below:

- (i) **Method 1** for major and costly goods or for specialized goods and equipment: international competitive bidding or, where possible, international shopping;
- (ii) **Method 2** for goods of average size and cost: local competitive bidding or local shopping;
- (iii) **Method 3** for minor goods of modest cost, available in the region or the country: the programme could use local shopping, the procedure inviting the participation of local communities or direct negotiation. The *a posteriori* review of some procurements (Bank rules – a *a posteriori* review) could also be used.

5.3.4 *Procurement of services*: (i) *various engineering studies* needed for preparing the programme as well as the establishment of a program monitoring and management system will be conducted through competitive bidding on the basis of a short list; (ii) employees of the National Agency (ANEPAR) which will be set up to manage the PNEAR will be consultants recruited through competitive bidding on the basis of a short list; (iii) *training* will be provided either by national or regional NGOs, national consulting firms or specialized training centers abroad (for managerial training through scholarships) selected following competitive bidding on the basis of a short list or through direct negotiation (in the event of rare expertise); and (iv) *a consultant* will be recruited on the basis of a short list to prepare the Programme Implementation Procedures Manual under the supervision of the PCU.

5.3.5. The following table gives an initial cost breakdown by each method described above:

Table 5.3(a): Breakdown of Investment by Method of Procurement

Procurement Method	Works (UA Million)	Goods (UA Million)	Services (UA Million)	Total Amount
Method 1	91	1	3.38	95
Method 2	391.3	2	24.90	418
Method 3	149	0	6.60	156
Total	631	3	34.88	669

Provisions for the Programme Launching phase

5.3.6. All goods, works and services financed by the Bank will be procured in accordance with the Institution's rules of procedure for the procurement of goods and works or the rules of procedure for the use of consultants, as the case may be. For goods and works procured under community participation, the programme will use the guidelines prepared by the Bank in that regard. Generally, the programme will be implemented in accordance with all provisions set out in the implementation procedures manual that will be prepared from the launching phase. The manual will contain all procedures retained, including those of the borrower considered acceptable to the Bank and not at variance with the Institution's rules and procedures.

5.3.7. *Works*: works on major and medium water schemes (amounting to UA 5.52 million and UA 2.56 million, respectively) will be awarded through international competitive bidding. The country has enough qualified contracting firms and each contract shall not exceed UA 200 000. Works on the pilot solid waste collection and treatment project (UA 0.30 million) will be directly assigned to the KIST (Kigali Institute of Science and Technology) which has already conducted research in the field.

5.3.8. Community DWSS works amounting to UA 4.04 million will be assigned to the communities. Thus, water resource development works through the *Ubudehe* process, minor water supply works and inter-district supply works in Kibuye Province will be negotiated directly with the community which itself will implement the works. Contracts for individual sanitation works will be awarded according to the procedures outlined in Guidelines for Community Contracts. Table 5.3 (b) below shows the provisions for the procurement of works, goods and services during the programme launching phase.

Table 5.3 (b): Procurement of Works, Goods and Services of Programme Launching Phase
(UA Million)

Description	ICB	LCB	SL	Others	Total
A. WORKS					
Community DWSS works /a	-	-	-	4.04 (3.23)	4.04(3.23)
Sanitation works /a	-	-	-	0.61(0.18)	0.61(0.18)
Major water schemes /b	4.32(4.00)	-	-	-	4.32(4.00)
Medium water schemes	2.00(1.40)	-	-	-	2.00(1.40)
Pilot project /c	-	-	-	0.30(0.30)	0.30(0.30)
B. GOODS					
Vehicles	-	0.06(0.06)	-	-	0.06(0.06)
Computer hardware	-	0.03(0.03)	-	-	0.03(0.03)
C. SERVICES					
Studies for planning tools	-	-	0.79(0.71)	-	0.79(0.71)
Engineering studies	-	-	0.75(0.68)	-	0.75(0.68)
Works control and supervision	-	-	0.83(0.58)	-	0.83(0.58)
Training, education, coordination and sensitization /d)	-	-	0.77(0.51)	-	0.85(0.51)
Technical assistance	-	-	0.18(0.18)	-	0.18(0.18)
Project audit	-	-	0.06(0.06)	-	0.06(0.06)
D. OPERATIONS					
Salaries	-	-	-	0.26(0.26)	0.26(0.26)
Allowances	-	-	-	0.10(0.10)	0.10(0.10)
Operations	-	-	-	0.33(0.33)	0.33(0.33)
Total	8.38(6.09)	0.08(0.08)	3.38(2.73)	5.33(4.10)	17.18(13.00)

Note: Figures in parentheses () indicate amounts financed with the African Development Fund (ADF) Grant

(a) Water point and individual sanitation contracts will be awarded in accordance with Bank Guidelines in that regard.

(b) Lava Region Project the foreign exchange amount of which is totally funded by the ADF loan.

(c) Pilot storm water, biogas and solid waste composting use project.

(d) Includes capacity building.

5.3.9. Goods: vehicles (UA 0.06 million) and computer hardware (UA 0.03 million) will be procured through local competitive bidding. These goods are available locally and only low amounts are involved.

5.3.10. Services: services (i) amounting to UA 0.79 million for setting up DWSS infrastructure planning tools; (ii) UA 0.75 million for engineering studies; (iii) UA 0.83 million for works supervision and control; (iv) UA 0.77 million for training (capacity building), coordination and sensitization by local community support operators; (v) UA 0.18 million for technical assistance; and (vi) UA 0.06 million for programme audit will be procured through international competitive bidding on the basis of a short list.

5.3.11. Miscellaneous: this component concerns the operating expenditure in the amount of UA 0.74 million, representing the salaries and allowances of locally recruited PIU staff. The ADF grant will totally cover these expenses.

5.3.12. Implementation Procedures Manual: following programme start-up, a procedures specialist recruited within the framework of the rural DWS infrastructure master plan will prepare a procedures manual. The manual will list all procedures retained for the implementation of the Bank project and propose thresholds for certain procurement methods. It will also indicate the thresholds for *a posteriori* review of some procurements. One of the thresholds to be retained shall be that of FRW 3 million above which the NTB (National Tender Board) is consulted, but below which simplified procedures – local shopping, list of

minor firms to consult to obtain price quotations, direct negotiation not requiring the review and non-objection of the NTB – could be used.

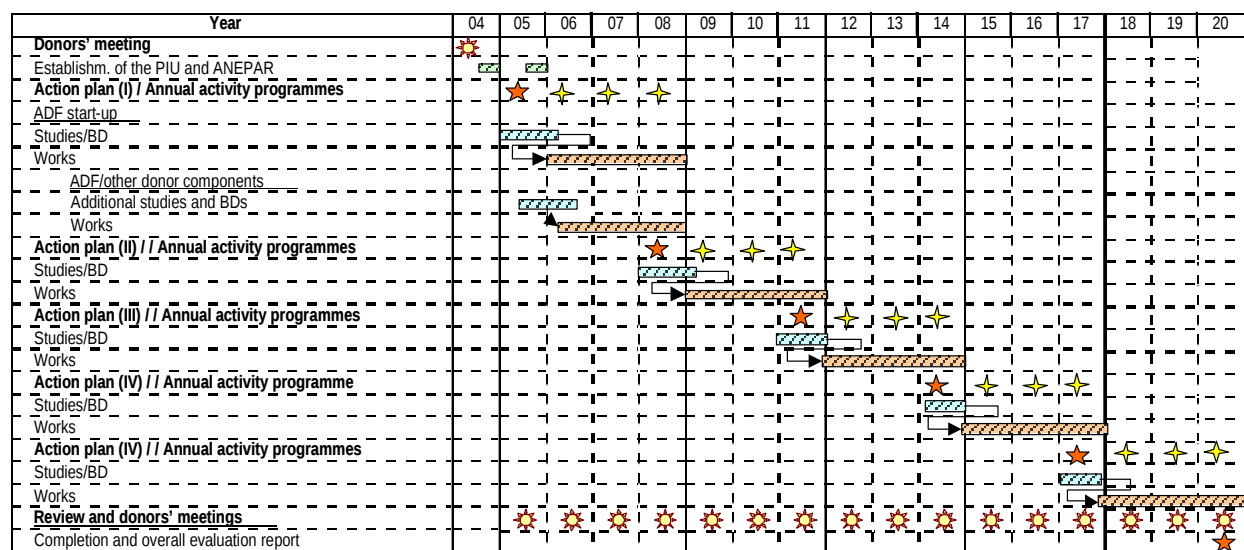
5.3.13. *General Information Note*: the text of the General Procurement Information Note will be discussed with the various parties during negotiations and published in *Development Business* following approval of the loan and grant by the Bank's Board of Directors. Prior to that, an information note on early procurement of technical assistance consultancy services will be published in *Development Business* following the Bank's approval of that procedure.

5.3.14. *Review procedures*: the following documents will be submitted for ADF review and approval before publication: (i) special procurement information note; (ii) bidding documents, proposal request documents, terms of reference and letters of invitation to consultants; (iii) publication of local procurement announcements; (iv) bid analysis reports for works and consultancy services, including contract award recommendations; and (v) draft contracts if those contained in the bidding documents had been modified.

5.4 Implementation Schedule

The programme will be implemented in 5 phases over 16 years. The phases will overlap. The launching phase will concern provinces with low access rates and for which studies are available. The launching phase will comprise a first four-year segment that the ADF will finance. The indicative programme implementation schedule is summarized below.

Program Implementation Schedule



The action plans, activity programmes, programme reviews, and the completion and the overall evaluation report will comprise environment-related aspects and social impacts.

5.5 Disbursement Arrangements

5.5.1 *For the Bank's resources*: these resources will finance the operation of the Agency, the DWSS projects through the CDF and major water schemes through the Agency. Disbursements will be made between the Bank and the Agency, on the one hand, between the Bank and the CDF and between the CDF and beneficiaries, on the other hand.

5.5.2 *For resources from other donors*: as stated in paragraph 3.3, many donors operate in the sector. The Initiative will, through the presence of the Agency, aim at facilitating the

operations of such donors and increasing the number of interventions. Current disbursement methods vary from donor to donor. Some use the direct payment method (e.g. the World Bank's Rural DWSS Project); others prefer the special account method (e.g. the EU which funds *Ubudehe* works [see Box 1] through the special account opened and managed by the National Poverty Reduction Programme).

5.5.3 The Initiative will encourage financing through the CDF. The CDF is the Government's preferred channel and offers many advantages to donors: (i) a considerable project bank; (ii) sound coordination of Government and donor actions; (iii) considerable flexibility in fund allocation criteria based on the protocol of agreement to be signed; (iv) resources traceability; and (v) a single interlocutor for disbursements. Control mechanisms through auditing and reporting guarantee the rapidity and reliability of the mechanism. The disbursement methods mentioned are described in subsequent paragraphs.

5.5.4 *Between the Bank and the PCU (subsequently the Agency):* the **Bank** shall fund the operations of the Agency and the PCU through the **Special Account** method. The financing will cover salaries and transport allowance for locally recruited staff as well as recurrent operating expenses (diesel, supplies, etc.). The PCU (subsequently the Agency) will open a special account with the BNR into which an initial payment will be made for a quarter's expenditure approved beforehand by the Bank. The account will be replenished periodically on presentation of a request and justification of the use of at least 50% of the preceding transfer, in accordance with Bank procedures. The Agency will play the role of project executing agency for major projects, in addition to recruiting consultancy firms for general studies and auditing. The **Direct Payment** method will be used for the procurement of works, goods and corresponding services.

5.5.5 *Between donors and the CDF:* the CDF will open an account with the BNR into which funds to finance the programme will be paid. A sub-account will be opened per donor. The financing of minor projects (source development, minor water schemes, rural centers, autonomous sanitation) will be through the **Special Account** method and in compliance with procedures specific to each donor. Early each year, the CDF will prepare a general financing plan, taking into account local financing plans and requests received. Disbursements will be made in tranches. Apart from the first disbursement, subsequent tranches shall only be released after justification for the use of 50% of the preceding tranche.

5.5.6 *Between the CDF and the beneficiaries (districts or units):* the district prepares an annual financial plan which specifies the desired disbursement schedule for development project financing. The approved amount will be disbursed in tranches from the CDF account to the district account. After the first disbursement, all other ones will only be made after a report on expenditure effected with the previous tranche (submitted when requesting for the release of the subsequent tranche).

5.5.7 During the launching phase, water point development and sanitation works will be financed through the CDF. Major and medium water schemes, construction of loving spaces, the pilot storm water collection project and all services will be funded through the Direct Payment method. Agency operations will be financed through the Special Account method.

5.6 Programme Monitoring and Evaluation

5.6.1 The Agency will produce a four-year action plan for each phase, in other words in 2005, 2008, 2011, 2014 and 2017, respectively. The action plan will constitute the Agency's commitment vis-à-vis the Government and donors to attain the set objectives for each corresponding phase. Early each year, the Agency will prepare a detailed activity programme based on the action plan. At the end of each phase, the Agency will prepare a programme performance evaluation and impact assessment report using the performance indicators given in paragraph 4.5. Lessons from the report will go into improving the subsequent programme phases. Moreover, during the implementation phase, the Agency will submit a quarterly report on the programme's physical and financial status to participating donors. Furthermore, to ensure close follow-up of programme implementation from inception, a follow-up/evaluation officer will be recruited and will be part of the PIU/Agency permanent management team.

5.6.2 Donors participating in the programme will conduct regular supervision missions. For its part, the Bank will organize supervision missions every six months comprising the project officer and at least one Bank expert. The mission will take stock of implementation problems encountered and propose solutions, evaluate the number of works set up and the number of persons benefitting from the programme. Lastly, the mission will organize a meeting with donors to discuss how to improve the programme operation. One out of two missions will be devoted to the programme's annual review, during which a workshop will be organized to discuss the Agency's activity programme and mobilize donors for the financing of subsequent phases.

5.7 Programme Financial and Audit Reports

5.7.1 The Implementation Procedures Manual which will be prepared from the start of the programme will define a single accounting, financial and audit system in detail. The system will be updated as donors join in to render it acceptable to all. However, the following provisions will be taken right from the launching phase financed by the Bank:

5.7.2 *CDF follow-up*: the CDF will produce the following reports and send them to donors on the 5th of the month marking the end of each **quarter**: (i) the Fund's financial statement; (ii) a financial statement on each Fund sub-account; (iii) a reconciled financial statement on disbursements made during the quarter from each of the Fund sub-accounts; and (iv) a quarterly activity report on the CDF. Not later than two months following the end of each **year**: the CDF audit report by an auditor approved by the Bank.

5.7.3 *Monitoring by the Agency*: the Agency will produce the following reports and send them to each donor: not later than one month after the end of the **quarter**, the Agency's quarterly activity report; not later than two months following the end of each **year**, the Agency's audited financial statements and the Agency's audit report.

5.8 Assistance Coordination

5.8.1 One of the key objectives of the Initiative is to mobilize funds for rural DWSS financing and encourage the sector's traditional donors to increase their investments. In that regard, several actions will be jointly undertaken: (i) Bank Management will promote the Initiative among its partners during international meetings and, more specifically, within the

framework of NEPAD and the Conference of African Water Ministers; (ii) the Bank will periodically organize multilateral and bilateral donor information and mobilization missions; (iii) in Rwanda, the appraisal mission presented the Initiative to donors operating in the country who found it interesting since it permitted the coordination of actions of various sub-sector players; (iv) in early 2004, the Bank and the Government will organize a round table to present the Initiative and the programme to donors. A workshop will be held during the programme start-up mission and subsequent annual reviews to further mobilize resources; (v) generally, the Agency will routinely coordinate the activities of actors participating in the programme financing.

5.8.2 The Ministry of Finance and Economic Planning will coordinate assistance at the national level through CEPEX which plays a central role in coordinating and programming public investment programmes, improving implementation performance and mobilizing aid. Thanks to its participation in donor and Steering Committee meetings, this interface agency (i.e. CEPEX) will be considerably involved in implementing the programme under consideration.

6. PROGRAMME SUSTAINABILITY AND RISKS

6.1. Recurrent Expenditure

6.1.1 *Agency*: the Agency's operating budget is estimated at FRW 117 million per annum; 74% of the budget is for salaries, 23% for transport allowance and 3% for operating expenses (diesel, insurance, supplies). The Bank will finance this budget until 2009 within the framework of the Initiative's launching phase. After 2009, the Bank, the Government and possibly other donors will jointly fund the budget in line with modalities to be subsequently defined. Since the corresponding amounts are not high (UA 2.5 million over the 2009-2020 period), its financing should not represent a major risk.

6.1.2 *Infrastructure running and maintenance*: Government policy is that the sale of water to the beneficiaries should allow for full recovery of the works operating and maintenance costs. Such costs vary, depending on the type of water scheme. **For developed sources**, the cost mainly involves the remuneration of persons assigned to manage and clean up the water point. An annual flat rate charged to users is enough to cover such costs. Since the source management does not require uninterrupted presence, the managers could run other economic activities. Hence, their monthly remuneration is estimated at FRW 3 000. Assuming that 300 households use the water point, each household would contribute FRW 120 yearly (similar to current tariffs). **For water facilities equipped with stand pipes**, the agency responsible for managing the works has to fund a wide range of expenses particularly with regard to paying its employees (accountants, technicians), stocking up spare parts, maintaining the works, remunerating the water point keepers and saving towards works renewal. Ruhango District's example shows that although the recurrent charges could be covered by income from water sales, cooperative agencies encounter difficulties over renewing investments with their own resources. The community development fund should fill that gap, thanks to the 10% Government budget allocation set aside for development project financing.

6.2. Sustainability

6.2.1 The participatory approach adopted by the programme will bolster feelings of community ownership which will augur well for adequate works maintenance and sustainability. The decentralized policy and institutional framework adopted by Rwanda is favorable to the project. Already, the Community Development Plan (CDP) process enabled the population to experience such participation through the identification of their needs as well as the search for solutions to real problems and planning.

6.2.2 A key sustainability factor resides in the efficiency of DWSS infrastructure management systems. Currently, district DWSS infrastructure systems are managed by the beneficiaries – a factor that guarantees transparency and easy cost recovery (see the example of the Ruhango federation of water user associations in Annex 4). The programme includes a provision to strengthen the management capacity of such federations.

6.2.3 The experience of such projects shows that the availability of spare parts in the local market is a key sustainability factor. Companies operating in the sector could be extended lines of credit by local banks. Moreover, given the works intensity and the programme duration, the market for these products will hopefully be large enough to prompt companies to develop these sectors.

6.3 Critical Risks and Mitigating Measures

6.3.1 The major risk concerns the capacity of local governments. For the programme to succeed, it is important that: (i) the capacity of grassroots communities to plan and manage minor water and sanitation projects as well as conduct procurement procedures be strengthened; (ii) beneficiaries be receptive to sensitization campaigns: in that regard, the social mobilization and hygiene education activities of the DEA will be reinforced, while rural NGOs will be involved in the programme and strengthened through training activities.

6.3.2 Moreover, the Government and its local representatives should not interfere in the selection of beneficiary communities or management of infrastructure. The ongoing decentralization process would be consolidated over time, thus reducing the risk of such interference. Furthermore, measures will be taken to ensure that the district CDCs have no control over accounts of federations of water user associations or, as has been noted in certain cases, use the funds for expenditure not related to DWS network operations.

6.3.3 Donor support for the Initiative is a vital success factor. Donors operating in the country were closely associated with the programme design. Several meetings were held with the World Bank, the UNDP, UNICEF, bilateral donors and NGOs. In general, the donors supported the Initiative in principle and additional actions have already been anticipated with the cooperation of the Netherlands (capacity building) and UNICEF (DWS in social centers). Without any prompting, the UNDP which handles donor coordination in Rwanda, proposed to include the Initiative on the agenda of the next donors' meeting scheduled for January 2004 in Kigali.

6.3.4 The country's absorptive capacity remains weak, limited not only by the availability of counterpart contributions but also by the inability to prepare, design and present sound projects, as well as bear additional debt servicing if most of the financing is obtained as loans. The Government shall undertake to honor its commitments. The framework for doing so already exists, namely the MTEF. In terms of the quality and quantity of projects presented, the programme contains provisions to strengthen capacity at all levels (central government, local government, the CDC, federations, NGOs and consulting firms). Lastly, the share of grants in public development assistance to Rwanda remains significant and recently, the country obtained forgiveness for some of its debt.

6.3.5 The adoption of the legal and institutional framework has been long in coming, as a result of which sector actors (especially donors) are hesitant to make commitments. The Government is encouraged to speed up the update and adoption (before 2005) of the Water Resources Management Edict, the Water and Sanitation Sector Policy Paper and the Sanitation Code.

7. ANALYSIS AND ASSESSMENT OF PROGRAMME IMPACT

7.1. Programme's Social Impact

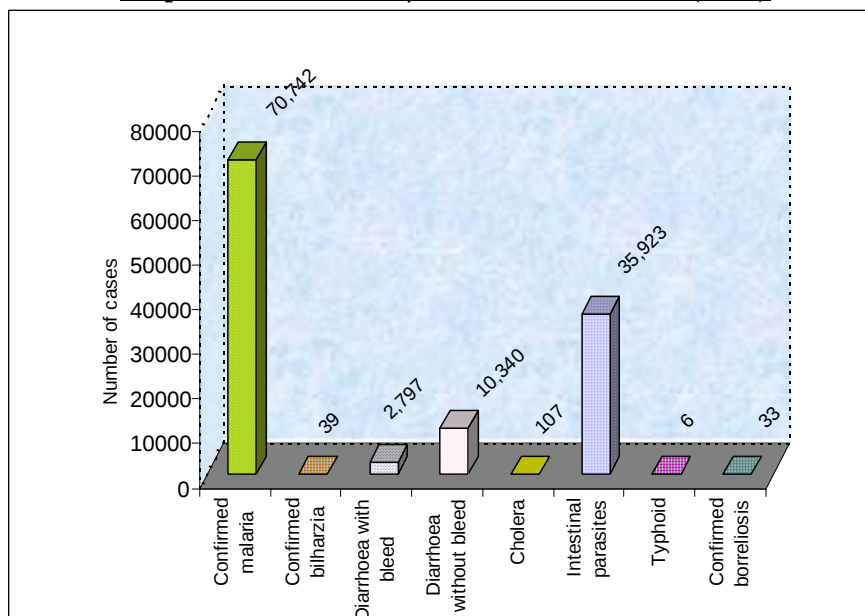
7.1.1. Access by the population to water and sanitation is a poverty reduction indicator. Therefore, sustainable improvement in water and sanitation is essential. Such improvement is necessarily the result of recuperating several hours normally devoted to fetching water, and the positive impact is relatively greater with women and children. Women become freed for other tasks or leisure and children, especially girls, give themselves more readily to

schoolwork. Indeed, it is recorded that a significant percentage of girls (17.2% of female dropouts) abandon school in order to assist their families (mostly with domestic chores, including water searching and fetching). Moreover, 31.2% of households headed by women (compared to 29.4% of those headed by men) more often use water from lakes, rivers and streams. Certainly, access to drinking water for all reduces such inequalities and improves girls' enrolment rate and, at the ergonomic plane, gender equity.

7.1.2. Between 2005 and 2010, the programme will offer nearly 1 775 000 persons access to drinking water and sanitation services in the rural area, in addition to rehabilitating the existing network. Between 2010 and 2015, the population with access to water and sanitation will increase by 2.3 million; another 3.6 million will join between 2015 and 2020. In other words, for the programme to reach the 100% rural population target then estimated at 11 567 035 throughout its duration (2002-2020), a projected 7 671 300 persons will access DWSS services through its activities. The time savings made will enable women to focus on income-generating activities through which they would improve their living standard, health and family well being.

7.1.3. Water-borne diseases occurring in Rwanda and attributable to poor water quality mostly include diarrhea, bilharzia, cholera, typhoid, skin infections, eye infections, etc. Those connected with poor drainage are mainly malaria and parasite diseases (see graph below). For instance, in 2002 Rwanda recorded 431 000 cases of malaria, of which 346 000 in the rural area. During the same year, 1 654 deaths resulted from the disease. Furthermore, due to the poor water quality, diarrhea (with or without bleeding) caused 205 deaths of the 81 142 cases reported. In 1998, a cholera epidemic broke out in areas bordering Lake Kivu in the country's West, leading to the death of 68 people (of the 2 851 cases recorded). Sporadic cases of cholera have been reported ever since (10 deaths in 1999 and 26 in 2000).

Graph 12: Breakdown of Water-borne Diseases (2002)

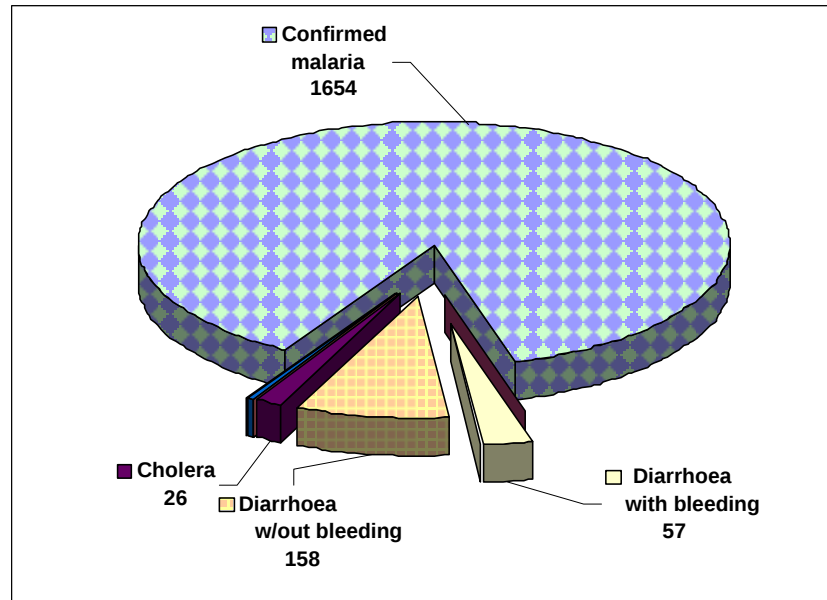


Malaria and intestinal parasites are the most prevalent diseases in Rwanda

7.1.4. The rise in all these diseases is partly attributable to the poor quality of water consumed by a significant section of the population, on the one hand, and the occasional deterioration of the quality of water distributed, on the other hand. The supply of quality

water in enough quantity, thanks to coverage improvement and DWS network rehabilitation, will contribute to significantly reduce the incidence of water-borne diseases. The result should be a general improvement in the people's health, particularly an increase in life expectancy at birth following the fall in the infant morbidity and mortality rate.

Graph 13: Death Caused by Water-borne Diseases (2000)



Water-borne diseases cause an average of 5 deaths daily in Rwanda.

7.1.5. The decline in the incidence of these diseases will have a positive impact on the labor force and enhance productivity due to better health, thus contributing to poverty reduction and improving the people's social well-being. At the social and economic level, a relative fall in private and social costs of health services is expected since expenditure on drugs and healthcare should decline both at household and Government level.



Photos 15, 16: Most of rural Rwanda continues to fetch water from sources of very doubtful quality.

7.1.6. By integrating hygiene and sanitation education into training and extension activities, by encouraging appropriate facilities in households, schools, health centers and other public places, the Programme aims to maximize the project benefits on health. Youths who will grow up within that context will without doubt acquire hygiene reflexes (PHAST approach¹).

¹ / The PHAST participatory approach: "Participatory, Hygiene And Sanitation Transformation"

7.1.7. At the gender front, the channeling of water closer to houses will considerably reduce the water chore (men too should be able to participate in the chore). Since women constitute a significant portion of the vulnerable population, the Programme will be relatively more beneficial to them.

7.1.8. The Programme implementation will create job opportunities in terms of infrastructure works (highly labor-intensive works), management and maintenance. Women family heads and the rural unemployed will find possibilities to improve their earnings, attracted by non-permanent jobs generating income between FRW 63.8 billion and FRW 95.7 billion. Moreover, thanks to activities developed in them, “living spaces” should offer other opportunities for *Imidugudu* inhabitants – catering, market stalls, craft, etc. Each water point or DWS standpipe is managed by a seller, on behalf of the federation or the community, who is remunerated on a *prorata* basis depending on the quantity of water sold. These are all sustainable rural employment opportunities and contribute to its development. It is estimated that such employment will generate an annual income growth of FRW 432 million over the 2005-2010 period, FRW 672 million between 2010 and 2015 and FRW 1.2 billion between 2015 and 2020. The Programme will ensure that priority support is given to women’s activities at all times.

7.2. Impact on the Private Sector

7.2.1. In connection with other activity sectors, it is worth mentioning the increase in the demand for water supplies and equipment which should - at least over the Programme period – favor the revival of companies in the sector’s upstream². At the end of the Programme, the technical skills and expertise of the central and decentralized authorities, NGOs and consulting firms will be reinforced. Moreover, the private sector could participate in the Programme financing by funding lime, pipe and spare part manufacturing units, etc.

7.3. Impact on the Environment

7.3.1. Strategic Environmental and Social Impact Assessment (SESISA) : in accordance with the Bank’s policy, all programmes, policies and plans occasioning environmental and social impacts require an Strategic Environmental and Social Impact Assessment (SESISA). Consequently, provision has been made from the Programme launching phase to have a short-term consultant undertake an SESISA. During the implementation phase, the study will be operationalized by: (i) putting in place per programme phase, environmental management plans which will be based on the detailed environmental impact assessment of various DWSS projects slated for execution; and (ii) monitoring/implementation of such plans by the PCU/Agency in concert with the provincial environmental departments. Furthermore, to constantly monitor the Programme’s environmental impacts, an environmental officer who will be part of the PIU/Agency’s permanent management team will be recruited from the launching phase.

7.3.2. An environmental assessment conducted during the appraisal mission suggests that the negative impacts that might result from the DWSS infrastructure works are limited and could be the subject of mitigating measures integrated into and financed under the launching phase.

² / Particularly plastic companies which currently run below their capacity.

7.3.3. Positive impacts: Programme activities aim at improving the living conditions of the beneficiaries. These positive impacts on the environment include: (i) the sensitization of beneficiaries on environmental protection; (ii) the availability of drinking water for domestic use and consumption; (iii) the reduction in water-borne diseases among users; (iv) the lightening of water chores for women and children and time and energy gains for both, enabling them to focus more on income-generating and school activities; (v) the availability of organic manure resulting from the composting of collected waste; (vi) erosion control through the protection and reforestation of watersheds; (vii) enhanced social status thanks to improved living conditions; and (viii) use of surplus source water to irrigate fields or water market garden crops, especially during drought.

7.3.4 Negative impacts: most of these impacts are limited to the works implementation period, namely: the risk of erosion, clearing of works sites, nuisance from works, mud intrusion into water courses on sites upstream during works and opening of quarries to extract construction materials. Other impacts require follow-up and mitigating measures, especially: (i) the modification of the ecosystem around the watershed; (ii) the prevention of peasants from using certain plots of land around watershed to be developed (such lands have until now been devoted to farming); (iii) the risk of contamination of watersheds by latrines and agrochemicals; and (iv) the risk of water-borne diseases attributable to water stagnation around standpipes and poorly drained water points. The Program will not have a significant negative impact on the ground water table since most extractions will be from surface water resources and shallow tables supplying such sources. These resources are regularly replenished, thanks to the country's high rainfall level.

7.3.5. Mitigating measures: a series of measures to attenuate these negative impacts have been taken into account within the framework of the launching phase, namely: (i) the consideration of environmental criteria when selecting sub-projects to finance; (ii) the incorporation of specific environmental-friendly techniques in the works bidding specifications; (iii) the rehabilitation and reforestation of construction material borrowing areas; (iv) the selection of works sites will be guided by the desire to protect sources from pollution, reduce the clearing areas and limit the loss of farmland; (v) the watersheds will be protected by trenches and protection hedges; (vi) the selection of the watersheds should be done after appropriate biodiversity analyses; (vii) the population drawing water from sources that will be affected during the works will be sensitized well in advance; (viii) the construction of latrines respecting hygienic standards will be generalized to all water point beneficiaries; and (ix) standpipes will be equipped with an adequate system to drain leaking water and water point committees will be trained to regularly clean the fetching areas and change defective taps which are often the source of leaking water.

7.3.6. Furthermore, plans have been made to install systems to monitor the piezometric fluctuations of the ground water table in Bugesera, Kibungo and Umutara Provinces. Appropriate measures will be taken as the need arises. Moreover, since the distance between latrines and pumped sources (220 meters) cannot be respected owing to demographic pressure, it will be necessary to regularly (2 to 3 times every year) conduct quality analysis and propose specific protection measures to guarantee water potability.

7.3.7. There are plans to conduct sensitization campaigns to educate the community in general, and women and children in particular, on the risks of water-borne diseases, their prevention, water conservation, latrine use, cleanliness and hygiene. Provision has also been made for targeted STD/AIDS and malaria control information and prevention campaigns.



Photos 17, 18: The surroundings of water points are often not maintained. Measures have been designed to attenuate these impacts.

7.3.8. At the environmental level, the Programme's launching phase project is classified under Category 2 in view of its health impact, its medium size, its location in a relatively stable area, the numerous environmental and social benefits generated and the environmental impacts easily controllable through the implementation of appropriate measures. The environmental assessment made during the appraisal mission indicates that the negative impacts that could emanate from the DWSS infrastructure works are limited and could be contained by mitigating measures integrated into and financed under the launching phase. Details of the environmental impacts, mitigating measures and the follow-up programme are given as Anne

7.4. Economic Analysis

7.4.1. Drinking water supply and sanitation services make up basic core facilities which, in the rural areas, promote food processing and income-generating activities³, contributing thus to more value added by the rural community. Moreover, the widespread use of latrine systems make composting possible through appropriate evacuation of wastewater which will enable possible increase in organic manure and thus better agricultural productivity.

7.4.2 Concerning the water component, the benefits of the programme are of two types: i) cost savings from the decrease in the use of the traditional source (in time and availability of drinking water); and ii) a higher consumer surplus through an increase in the quantity of water consumed. These benefits are analyzed in detail in Annex 5 which calculates the rate of return for the launching phase.

7.4.3. Despite the considerable investments in the preparation of the subsequent phases, the launching phase financed by the Bank offers a satisfactory economic rate of return. The internal economic rate of return is 22.5%. The economic benefits of water source development projects and major water supply projects are comparable. On the one hand, the rates of return are similar (21% and 23% respectively) and on the other hand, the contributions to net present value are close to the investment shares (28% and 25% for water source development projects).

³ / Mention can be made here of the extraction of passion fruit, pineapple juice, ready to drink.

7.4.4. The sensitivity analysis shows that the project is sound and can withstand deterioration in the assumptions made concerning benefits and costs. The model is not very sensitive to operating and maintenance cost fluctuations. The critical values which could negate the net present value are adequate: it would require a 70% increase in the investment cost, a 50% decrease in the projections for drinking water consumption, a 67% decrease in the estimates concerning the benefits related to the replacement of traditional sources by new equipment.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.1 The rural area drinking water supply and sanitation programme is a priority in the Rwandan Government's investment programme. It contributes to the attainment of the objectives of the poverty reduction strategy and the 2020 Vision in the DWSS sub-sector. The approach used in the programme, which is based on the demand of the grass-root communities, is consistent with the DWSS sectoral strategy and the decentralization policy adopted by the Government. This approach aims at beneficiary participation in the definition of DWSS sub-projects, the creation and management of infrastructure through the decentralized structures that the Government has put in place.

8.1.2 The programme's launching phase will focus on the preparation of sectoral and technical studies, building the capacity of various partners (public, private, beneficiaries), and the development of water and sanitation facilities in provinces considered priority by the Government based on their low access to DWSS services and high prevalence of waterborne diseases. Thus, it will contribute to improving the standard of living of the beneficiaries and thereby to reducing poverty in the rural areas.

8.1.3 The approach advocated favours self-promotion of the rural area and pays special attention to the active involvement of women in all phases of the cycle of DWSS sub-projects. Environmental protection is taken into account in the selection and validation of sub-projects. NGOs and private operators are highly involved in the implementation of the programme and therefore play a leading role as service providers. The programme is in keeping with the Bank's financing strategy in Rwanda. The programme is technically feasible and economically viable. The economic rate of return of the launching phase stands at 22.5%.

8.2 Recommendations and Grant and Loan Approval Conditions

8.2.1 The Board is invited to take note of the Rural Area Drinking Water Supply and Sanitation Programme in Rwanda within the framework of the Millennium Development Goals. This programme will be implemented according to the technical, administrative and financial intervention modalities described in this report.

8.2.2 It is recommended that a loan, not exceeding UA 4 million, and a grant not exceeding UA 9 million out of ADF resources, be granted to Rwanda to implement the launching phase of the programme described in this report, subject to the following conditions.

A. Conditions Precedent to the Entry Into Force of the Loan and Grant

8.2.3 Entry into force of the loan shall be subject to fulfilment by the Borrower of the Conditions stipulated in Section 5.0.1 of the General Conditions. The Grant shall become effective upon signature.

B. Conditions Precedent to the First Disbursement of the Loan and Grant

8.2.4 The Fund will only effect the first disbursement of the Loan and Grant resources, if the Borrower in addition to entry into force of the Loan Agreement, has fulfilled the following conditions to the satisfaction of the Fund:

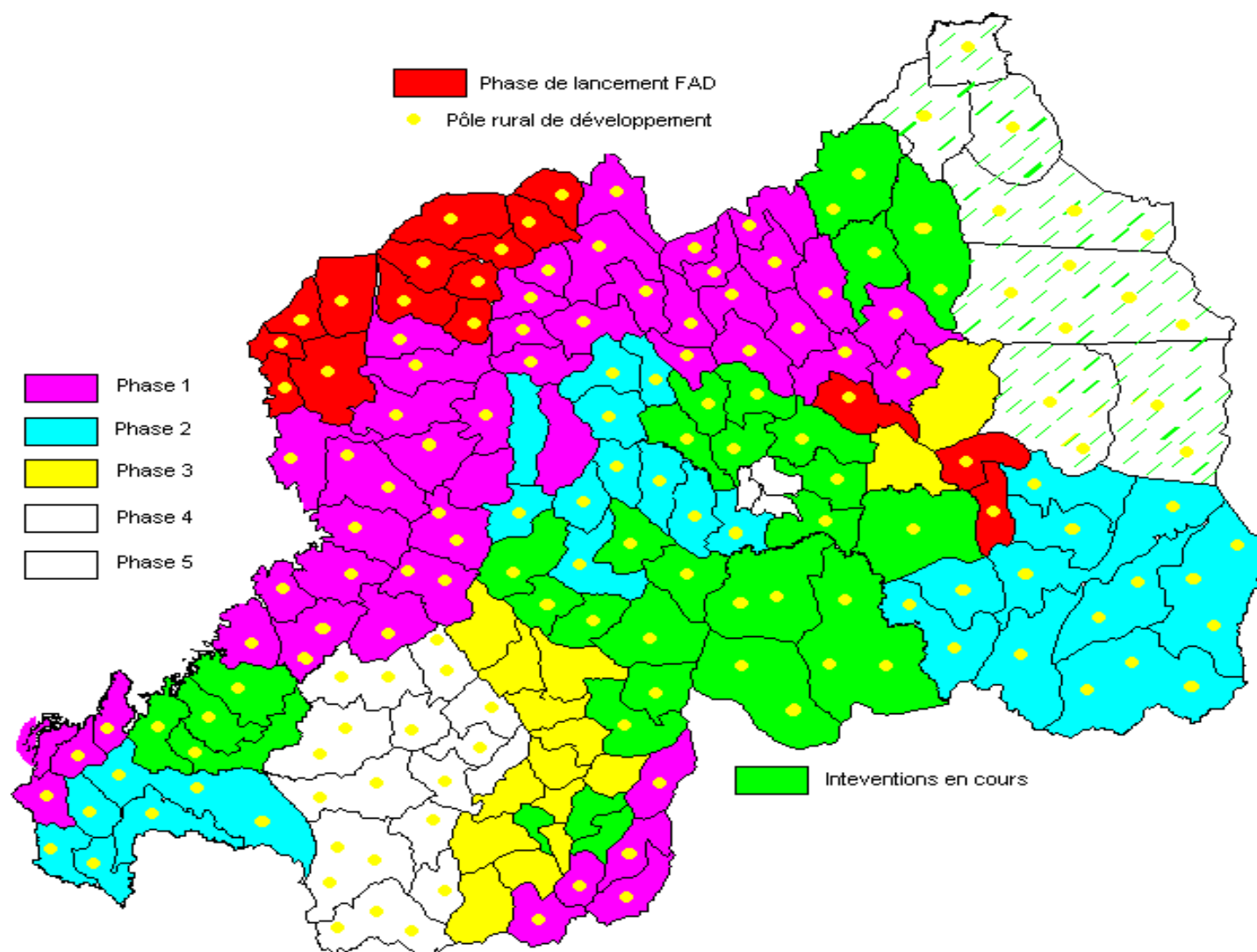
Conditions Precedent to First Disbursement

- (i) Provide the Fund with evidence of the creation of the Programme Coordination Unit (parag. 5.1.2);
- (ii) Provide the Fund with evidence of the recruitment on a competitive basis of the Coordinator and PCU managerial staff (one water engineer, one monitoring-evaluation officer, one procurement officer and one environmentalist), whose CVs shall have been previously approved by the ADF (parag. 5.1.2);
- (iii) Provide evidence that the PCU has been given functional premises (parag. 4.8.1);
- (vi) Provide the Fund with evidence of the creation of the Monitoring Committee comprising various players of the Water and Sanitation sector and representatives of women's associations and of the appointment of its members (parag. 5.1.5);
- (vii) Provide the Fund with evidence of the opening of two special accounts into which the loan and grant resources will be paid (parag. 5.5.4); and
- (iii) Undertake to establish a National Rural Drinking Water Supply and Sanitation Agency (parag. 5.1.3).

Other Conditions

- i) Provide the Fund with evidence of the adoption of all the implementing orders concerning the Sanitation Code not later than 30 June 2005 (parag. 2.3.2);
- ii) Provide the Fund with evidence of the adoption of the law on the management of water resources not later than 30 June 2005 (parag. 2.3.2); and
- iii) Establish, not later than 31 December 2005, the National Rural Drinking Water Supply and Sanitation Agency (parag. 5.1.3).

REPUBLIC OF RWANDA: RURAL DRINKING WATER SUPPLY AND SANITATION PROGRAMME
MAP OF RWANDA AND PROGRAMME PHASING



REPUBLIC OF RWANDA: RURAL DRINKING WATER SUPPLY AND SANITATION PROGRAMME
COMPARATIVE STATISTICS FOR RWANDA

Figure a2.1 : Annual withdrawals in percentage of available water resources

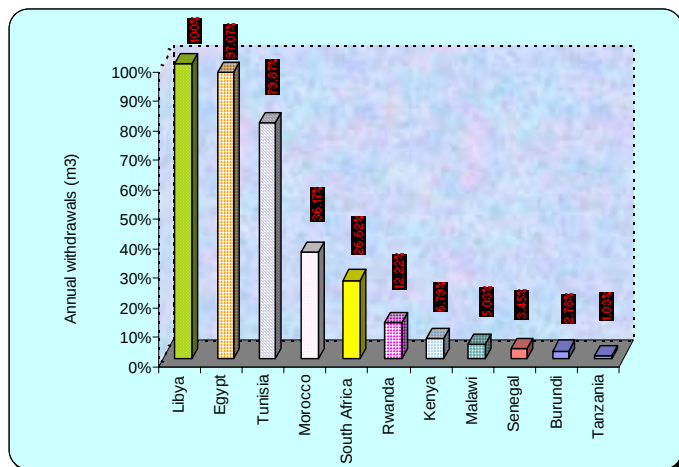


Figure a2.2 : Percentage of population living on less than 1 US\$ per day

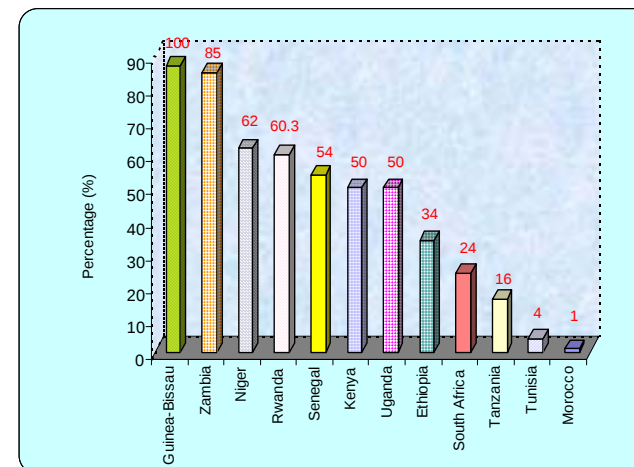


Figure a2.3 : Percentage of population with access to sanitation

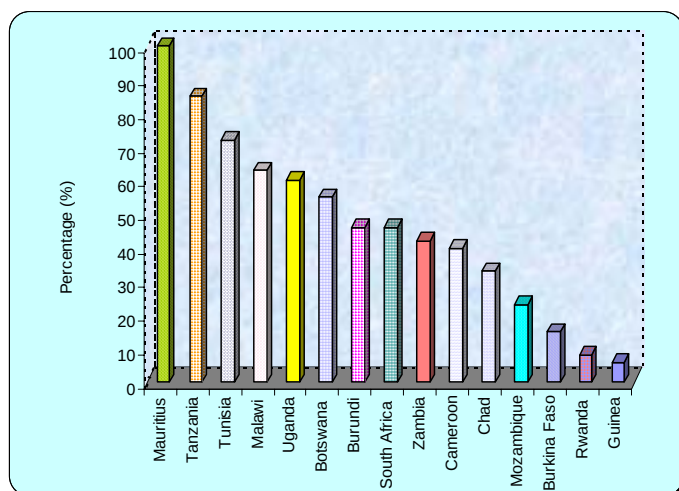
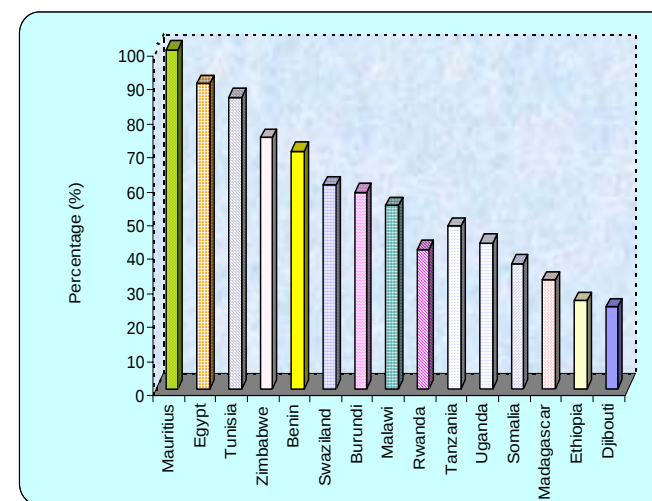
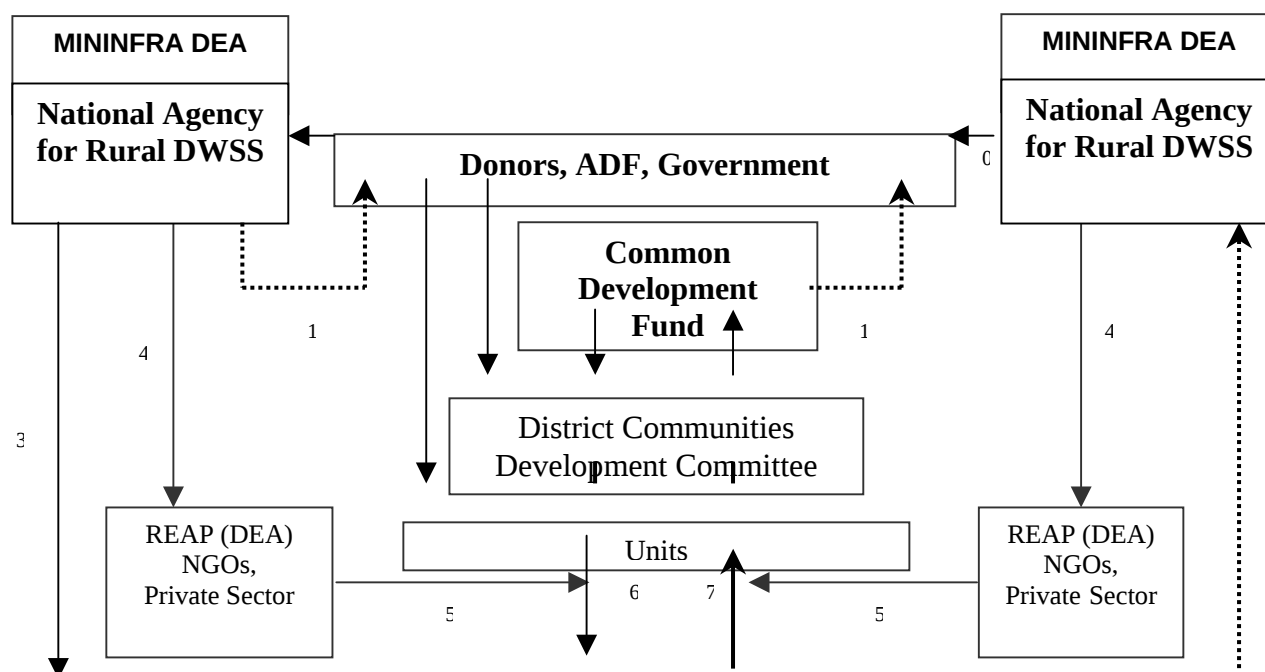


Figure a2.4 : Percentage of population with access to safe water



**REPUBLIC OF RWANDA: RURAL DRINKING WATER SUPPLY AND
SANITATION PROGRAMME**
Organization Chart of the Programme Implementation



DRINKING WATER SUPPLY AND SANITATION PROJECTS

➔ Financing system

0-Major agency mobilization around initiative

1-Reporting

2-Project monitoring and evaluation

3-Implementation of large-scale projects

4-Supervision and training of support structures

5 and 5'- Mobilization, training, sensitization of beneficiaries by the support structures during project design (5) during and after their implementation (5').

6-Implement. followed by management of community project by districts and units

7-Project formulation by units, selection by districts and submission to CDF

REPUBLIC OF RWANDA
NATIONAL RURAL DWSS PROGRAMME

**MANAGEMENT BY THE FEDERATION OF WATER USER
ASSOCIATIONS: CASE OF THE RUHANGO ASSOCIATION**

In 1989, the district of Ruhango built its first water supply system thanks to a DWS project financed by Germany. It was a gravitational system of 18 km. The project's important sensitization component led to the creation of an association responsible for water supply. The facilities were damaged in 1994 then rehabilitated in 1998. The district today has a population of about 40,000 inhabitants.

2. At the level of each water point, users elect a committee comprising three members, one person in charge, one collector and one maintenance officer. All those in charge of water points in a given sector meet to form a sector committee. This Committee selects from among its members a chairman, a vice-chairman and a secretary who represent the sector at district committee level. With seven sectors in the district, the association committee comprises thirty members: the 21 sector representatives, the six standpipe managers and three representatives of private connections. A bureau is elected and comprises a chairman, a vice-chairman and a treasurer. The Association employs full time, an accountant, a standpipe attendant and a watchman.

3. The district boasts 24 standpipes, although the supply pressure can only reach four of them. A tariff scale is applied with the following prices to the m³: 200F, 240F, 260F and 280F respectively for consumption bands of 1 to 5 m³, 5 to 10, 10 to 20 and over 20. The managers of the standpipes pay their consumption 280F/m³ and re-sell the water at 10F per 20-litre jerry can. The meters are read by the treasurer, the accountant issues the bills and treasurer cashes them and issues receipts. Monthly meter statements and the amounts billed are kept in a register. An activity diary is filled daily to record all entries and exits concerning the account. Lastly, a quarterly report sums up the expenditure and income for each month of the quarter. The Association has an account at the Union des Banques Populaires. Any amount debited from this account is subject to the joint signature of the President, Treasurer and Mayor of the City even if the Association enjoys full financial autonomy vis-à-vis the Mayor's Office.

4. The Table attached shows the financial statements of the first two quarters of 2003. Thus, the Board has an average of about thirty consumers. In June, this number fell to 22 because there is a pressure drop in the dry season and water cannot reach some of the water points. Other than that, incomes are regular and the recovery rate of 86% is satisfactory. The payment delays of private clients do not exceed one to two months. Public departments such as the Police and Mayor's Office account for the highest unpaid bills. Expenditures are generally covered by revenue to the tune of 159%, with the exception of June, during which the Association had stop valves installed to block unregulated connections which withdrew water directly from mains upstream of the reservoir triggering thereby major pressure drops on the system. Currently, 20% of expenditures are earmarked for maintenance of the structures, 73% for operations (salaries, fuel, meetings) and 7% for training and sensitization of users. The income generated will adequately repay a FRW 700 000 loan taken from the Union des Banques Populaires to increase the stock of spare parts and premises for the Association. The Association is yet to be audited although provision has been made for an audit mission comprising one representative of the Mayor's Office and one of users to regularly audit its accounts.

5. The system is maintained by fountain-keepers supervised by a district fountain-keeper. Most of these persons practice other activities such as masonry. The NGO COFORWA gave them a one-week training course. For the sensitization component, the Directorate of Water and Sanitation sends its experts on sensitization campaigns in the district to ensure follow-up and contact between the Association and NGOs.

-

6. The Association's financial management is considered satisfactory. Expenditures are contained and revenue collection is acceptable. Resources are nonetheless not enough to enable the Association to acquire the material needed for its proper running and to implement in an independent manner, a sensitization and social mobilization strategy. For instance, it has only one motorcycle for 4 committee members. The motorcycle is in fact in poor condition and the Association spent FRW 76 000 during the semester on its maintenance. The Association lacks indispensable equipment such as an altimeter. Therefore it is vital that the Association develop and increase its sources of income. Fortunately, a number of projects are ongoing. The Association is in the process of developing sources from which water will be delivered at a fixed annual rate of FRW 200 per family. Furthermore, the CDF has granted financing of FRW 43 million to the CDC of the district of Ruhango to install a pumping station, pipes and a supplementary reservoir to increase the capacity of the current gravity system. With these extensions water should be available in the district's 24 standpipes. User consumption will increase and so will the income.

REPUBLIC OF RWANDA
NATIONAL RURAL DWSS PROGRAMME

ECONOMIC ANALYSIS OF THE PROGRAMME'S LAUNCHING PHASE

1. The economic analysis was conducted for the programme's launching phase. The benefits of independent sanitation being difficult to calculate, only the water-related benefits were taken into account. The cost of the components other than those relative to the development of DWS infrastructure were shared between the component "developed sources" and "water supply" proportionate to the amounts of the corresponding physical investments. The programme benefits are of two types: i) savings on the cost from less use of the traditional source; and ii) higher consumer surplus through an increase in the quantity of water consumed.
2. The population for whom the developed sources will be built will profit from benefit 1 because they will no longer need to buy drinking water from retailers (i.e. savings of 5l/d/h at the price of FRW 5 per litre). Benefit 2 cannot be considered in this case as the total quantity of water consumed should not change.
3. The populations for whom the water supply systems will be built, will profit from benefit 1 as they will no longer have to buy drinking water from retailers (i.e. savings of 5l/d/h at the price of FRW 5 per litre) and time saved by women and children who no longer fetch water from the river. Each family will save thirty minutes thanks to the local standpipes. Assuming the cost per hour is FRW 50 (or the average income in the rural area), the time saved is equivalent to FRW 25 per family per day. Benefit 2 implies an increase in consumption from 10 l/d/h to 20 l/d/h valued at the price of FRW 0.5 FRW per litre which is the current price at the standpipes or FRW 5 per day and per inhabitant.
4. The maintenance and operating costs are estimated at FRW 120 per annum and per household for developed sources and at FRW 363 per annum and per household for the water supply systems (see the section on recurrent expenses). The average size of households is 5 persons. Based on these assumptions, the economic rate of return of the developed sources is 84% whereas the rate of return of the water supply systems is 19%. The economic rate of return of the programme's water component is 26%

Table of Assumptions

	Undeveloped source	Developed Sources	DWS
Investment share	none	28%	72%
Average consumption (l/d/h)	10	10	20
Drinking water consumption (l/d/h)	5	10	20
Drinking water retail price by retailers (FRW/litre)	5	None	None
Drinking water retail price standpipe (FRW/litre)	none	none	0.5
Time saved (FRW/family/d)	0	0	25
Operating and maintenance costs (FRW/year/family)	0	120	363

Table of Internal Economic Rate of Return

	IRR	NPV (at 10%) in FRW billion
Developed sources	21%	1.7
Water supply systems	23%	5.5
Total	22.5%	7.2

Table of Investment and Number of Persons Supplied Per Annum

	Investment sources (FRW million)	Investments water supply systems (FRW million)	Total investments (FRW million)	No of persons supplied from the start
2005	1 083	2 754	3 838	
2006	713	1 814	2 527	83 137
2007	703	1 788	2 491	137 886
2008	656	1 669	2 326	191 854
2009	362	920	1 282	242 236
2010				270 000
2011				270 000
2012				270 000
2013				270 000
2014				270 000
2015				270 000
2016				270 000
2017				270 000
2018				270 000
2019				270 000
2020				270 000

Table of Economic Analysis Flows

	Total investments (FRW million)	Maintenance and renewal costs	Benefits	Benefits water supply systems	Balance
2005	3 838				- 3 838
2006	2 527	5	244	681	- 1 607
2007	2 491	7	405	1 129	- 965
2008	2 326	10	564	1 570	- 201
2009	1 282	13	712	1 983	1 400
2010		15	794	2 210	2 989
2011		15	794	2 210	2 989
2012		15	794	2 210	2 989
2013		15	794	2 210	2 989
2014		15	794	2 210	2 989
2015		15	794	2 210	2 989
2016		15	794	2 210	2 989
2017		15	794	2 210	2 989
2018		15	794	2 210	2 989
2019		15	794	2 210	2 989
2020		15	794	2 210	2 989
				IRR	22%

REPUBLIC OF RWANDA
NATIONAL RURAL DWSS PROGRAMME
SUMMARY OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT
PLAN

Country	:	Rwanda
Project Name	:	Rural Drinking Water Supply and Sanitation
No. of Project Info. Sheet	:	P-RW-E00-00-
Department	:	Department of Infrastructure, Centre and West
Division	:	Division n°1 of Public Utilities

1. BRIEF DESCRIPTION OF THE PROGRAMME AND THE MAIN ENVIRONMENTAL AND SOCIAL COMPONENTS

1.1. The programme components are: (i) studies and planning tools; (ii) institution and capacity building of programme stakeholders; (iii) Development of drinking water infrastructure and sanitation; and (iv) Programme management. From the environmental and social standpoint, programme activities will concern the improvement of drinking water supply to the rural populations, waste management and disposal of wastewater and human waste, monitoring implementation of environmental measures, sensitization to environmental protection, STD/AIDS, malaria, environmental protection and management as well as supporting measures to improve the living conditions and environment of the populations.

1.2. From the environmental viewpoint, the project of the programme's launching phase to be financed by the ADF is classified under category 2 owing to the health implications, its average size, its location in a relatively stable area, the numerous environmental and social benefits expected and the environmental implications that are easy to control through appropriate measures.

2. MAIN ENVIRONMENTAL AND SOCIAL IMPACTS

2.1. The programme will contribute to significantly reducing waterborne diseases especially among children. It will also contribute to reducing poverty through a drop in expenses on the household budget and the creation of temporary jobs during works implementation and operation of the structures. A better supply of safe water, especially in rural areas, will relieve women of some of their chores. Children's health will improve and so will their attendance in school.

2.2 The programme will have major positive impacts such as: safer drinking water supply; reduction in the cost of water and erosion control in high-risk areas. The most important social challenge will be the improvement in the health of riparians after the programme's implementation. In fact, malaria, cholera, and gastro-intestinal complications, eye and skin infections and other waterborne diseases will decline significantly. Earthworks during the preparation of the catchment area and grass planted protect the soil and prevent erosion. The grass can be trimmed regularly and used as fodder for stabled animals (calves, goats, etc.). This programme will improve the living conditions of the population and women who are engaged in market gardening will benefit most thanks to the use of excess water for irrigation.

2.3 The utilization of standpipes usually located near homes will relieve women and children of the chore of fetching water. In Rwandan society it is usually their responsibility. The time and energy saved will allow women to engage in other household activities and school children to devote more time to school work. The surplus water will be used for irrigating farms or market garden crops in periods of drought. With better living conditions social status will be enhanced.

2.4 The most likely negative impacts could be: the disturbances that the population will have to endure during works from dust and smoke; the risks of underground water pollution from infiltration where structures have not been made water-tight, hasty clearing of vegetation from the right-of-way of the structures and borrow areas; the risks of soil pollution from liquid and solid waste; the increase in communicable diseases (STDs and especially AIDS) from an inflow of foreign workers; odour nuisance caused by badly located, poorly maintained and managed latrines. Groundwater lowering will be insignificant because the groundwater storage in the region is much higher than the demand.

3. IMPROVEMENT AND MITIGATION PROGRAMME

3.1 The mitigating measures recommended are the following: (i) frequent watering of dusty areas; (ii) regulation of the engines of the earthworks machines; (iii) rehabilitation of borrow areas with the appropriate plant species; (iv) planting of trees around the structures to compensate for trees felled. The water posts will be equipped with rainwater evacuation systems. Latrines will be designed, located and built so as to eliminate any odour nuisance. Their retention capacity, emptying and protection will be taken into account.

3.2 In addition, the programme will install surveillance systems to monitor the fluctuation of the piezometric level of the groundwater table and appropriate measures will be taken if need be. In addition, physico-chemical and bacteriological tests will be carried out by the appropriate departments to ensure water safety. All these concerns should be taken into account and the relevant measures included in the specifications of the contractors for their implementation. All environmental and social measures will be incorporated in the specifications of the enterprise and the latter will be required to implement them carefully.

3.3 The design and catchment technology of the water sources have provided for protective trenches to prevent all forms of contamination by run-off water and any activity likely to pollute the sources (laundry, domestic animals, agriculture, etc.). The catchment area should be chosen following an analysis of the relevance of the biodiversity that will be affected since the forests along the water courses play a role of protection of the natural environment and guarantee the water balance. To conduct the earthworks for the catchment, impact assessments of the activities around the catchment area should also be conducted with a view to preventing possible sources of pollution and adapting the protection area accordingly. These activities may be agricultural, housing, etc.

3.4 The protection infrastructure of the sources (a trench around the catchment area as well as a protection hedge) will be installed by a specialized firm. However, this area must be regularly maintained by the beneficiaries. The work must be

regularly monitored and maintained by the water point committee. In other words, this committee must repair the protection belt and rehabilitate the protection hedges using species that thrive with little water so that they do not dry up the source (ex.: *Euphorbia tirucali*). This work will be carried out with the assistance of a support structure (NGOs and/or national consulting firm).

3.5. Latrines will be designed according to cost and characteristics of the soil. The sites will be chosen taking into account the physical and human environment. The DEA is proposing in its manual on ventilated latrines in Rwanda (1993) a security distance of 220m, between the source and the latrines. Generally, if there are no adequate latrines then there is a risk of contamination of the most important water catchment areas. The programme will help promote latrines countrywide. Since population pressure makes it difficult to respect the 220 m distance between the latrines and the water source it will be indispensable to conduct regular (2 to 3 times a year) quality tests and propose specific protection measures. These measures will entail strengthening the protection belt, disinfecting the distribution chamber of the waterworks and making consumers boil the water they consume. The task will be incumbent on the DEA in particular, the laboratory department and that of sensitization, in collaboration with the health education department of the MINISANTE.

3.6. Before the installation of the infrastructure that will transport water to users, the pipeline route must be determined in consultation with the beneficiaries and community authorities. They will determine the property of the populations affected and the modalities for compensation in compliance with current related practices. In addition, disputes with the population over the placement of water reservoirs are possible. The populations affected by the installation of these reservoirs will be compensated in accordance with the regulations in force.

3.7. Several sensitization campaigns have been scheduled to educate the communities in general and women and schoolchildren in particular on the risks of waterborne diseases and how to prevent them, water conservation, utilization of latrines, cleanliness and hygiene. Plans have also been made for specific and STD/AIDS and malaria prevention campaigns.

3.8. There are no plans under the programme for expropriation from houses or other structures. Nevertheless, there are crops and trees along the pipeworks layout which will be affected. The crops affected will be evaluated and the owners compensated before works start-up.

4. FOLLOW-UP PROGRAMME AND COMPLEMENTARY INITIATIVE

4.1. An environmental expert will be recruited during the launching phase and attached to the PIU/Agency to conduct the SESISA. Another will be recruited in the context of technical assistance to implement the PGES which will result from the SESISA, manage the sites, conduct specific environmental and social works and find solutions to *ad hoc* environmental problems. The indicators for monitoring the biologic and abiotic environment, as well as pollution indicators will be set out by this environmental expert. Furthermore, the Ministry of the Environment will be called upon to help solve major environmental and social problems.

The Government and ADF will examine in detail, implementation of the programme's launching phase. The reports provided should include physical implementation of works, the technical and environmental problems encountered, the solutions envisaged, the effectiveness of environmental and social measures, new problems that will arise, their solution and other related recommendations. Environmental provisions will be specified in the works contract and the award winning enterprise will be required to implement such measures.

5. INSTITUTIONAL PROVISIONS AND CAPACITY BUILDING REQUIREMENT

5.1. Rwanda has a national environmental strategy (SNER) and environmental action plan which was adopted in 1991. The National Environmental Policy, the framework law on environmental protection and management are being finalized and the bill establishing the Rwandan Office for Environmental Management is being discussed. One of the functions of the Office will be to chair any environmental impact assessment. The bill on the environment which provides for the coordination and harmonization of the legislation concerning the environment by a single independent authority will be chaired by the Council of Ministers towards end 2003.

5.2 The Directorate of Environmental Protection (DPE), which is supervised by the Ministry of Land, Resettlement and Environmental Protection has three divisions: (i) Policy, Programmes and Sensitization; (ii) Environmental Impact Assessments and (iii) Inspection and Monitoring. Each division comprises three sections. The SNER offers a framework for the implementation of the national environmental policy. The Monitoring-Evaluation Division of the Environment Directorate of the Ministry of Land, Resettlement and the Environment is responsible for monitoring environmental effects.

5.3 The environmental expert of the works inspection and supervision mission will implement the PGES, manage the sites, conduct specific environmental and social works and seek solutions to *ad hoc* environmental problems. The monitoring indicators for the biologic and abiotic environment will be defined by this environmental expert in consultation with the Directorate of the Environment.

6. PUBLIC CONSULTATIONS

The riparian population, NGOs in the area, the local authorities, village chiefs and institutions concerned were consulted during the programme's design and preparation. All centralised and decentralised structures as well as the populations concerned will be the stakeholders during the works and will ensure that the appropriate attenuating measures are implemented to reduce to the minimum any negative effect that may arise

7. COST ESTIMATE

The cost of mitigating the negative impacts and of the social measures are estimated at UA 950 000 and are factored into the Programme's cost.

8. IMPLEMENTATION SCHEDULE AND REPORTING

The environmental and social measures will be implemented throughout the programme's cycle. The PIU and the Agency will be required to submit quarterly reports to the Bank. Apart from the physical implementation of works, these reports should indicate the effectiveness of the environmental and social measures, the problems encountered and solutions envisaged.

9. GUIDELINES AND NORMS TO CONSIDER DURING THE STRATEGIC ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (SESISA)

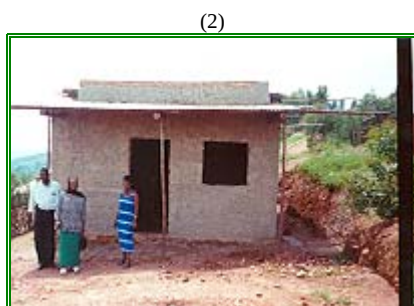
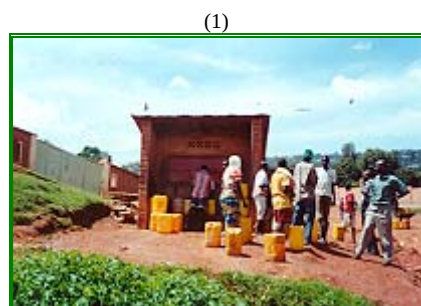
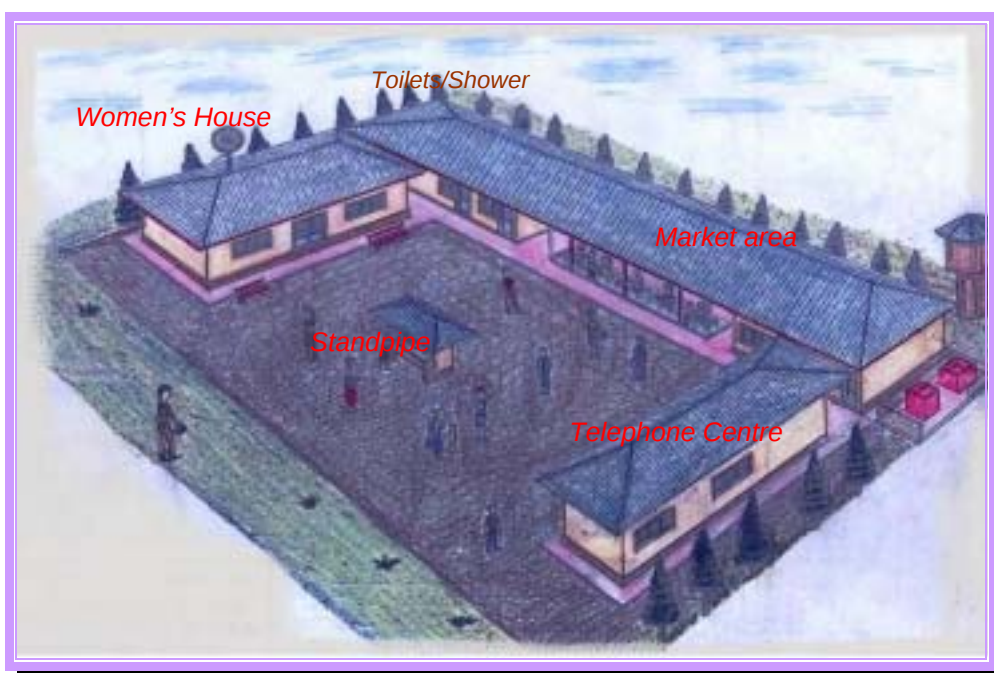
An ESIS is being prepared by the Government. The Bank's format and requirements for the preparation of the ESIS will be followed.

REPUBLIC OF RWANDA
RURAL DRINKING WATER SUPPLY AND SANITATION PROGRAMME

LIVING SPACE CONCEPT

1. These living spaces whose activities centre on a developed water point may be considered as small public places in a rural environment. They comprise houses for women, kiosks, market areas, toilettes, etc. In addition, these sites are a means of promoting new information technologies through the installation of Internet, telephone and fax services
2. These spaces will be fully managed by local groups and will be a factor for social cohesion and integration of women and youths. The maintenance and management of the water points and living spaces will be the responsibility of the beneficiary populations who will be organized in associations. To that end, living space management committees will be set up and trained in the context of these projects. Sensitization to the risks of waterborne diseases and HIV/AIDS will be organized in these living spaces in the houses for women to be built accordingly.

Fig 1: Basic Principle of the Living Space



Photos n°1, 2 and 3 The living space will be the combination of standpipes (1), houses for women and/or youths (2), stores and market areas (3). The front of the dwelling houses are often used as shops

REPUBLIC OF RWANDA
RURAL DRINKING WATER SUPPLY AND SANITATION PROGRAMME

DECENTRALISATION POLICY

1. Rwanda is remarkably advanced in the decentralization process the implementation of which has been entrusted to MINALOC. The unit is a local grassroots authority and represents a group of one hundred to a few hundred people. The units are grouped into sectors and the sectors into districts. The local authorities are managed in a collegial manner by assemblies of representatives elected by the inhabitants. Thus at the head of each local authority is a board and an executive committee (EC).

2. The council is a decision-making body. The unit council is made up of all inhabitants of the unit aged 18 and over. The sector council is made of coordinators of the ECs of the units that make the sector, a representative of the women and youths. The district council comprises the coordinators of the ECs of the units, two representatives of each of the district sectors as well as representatives of women and youths.

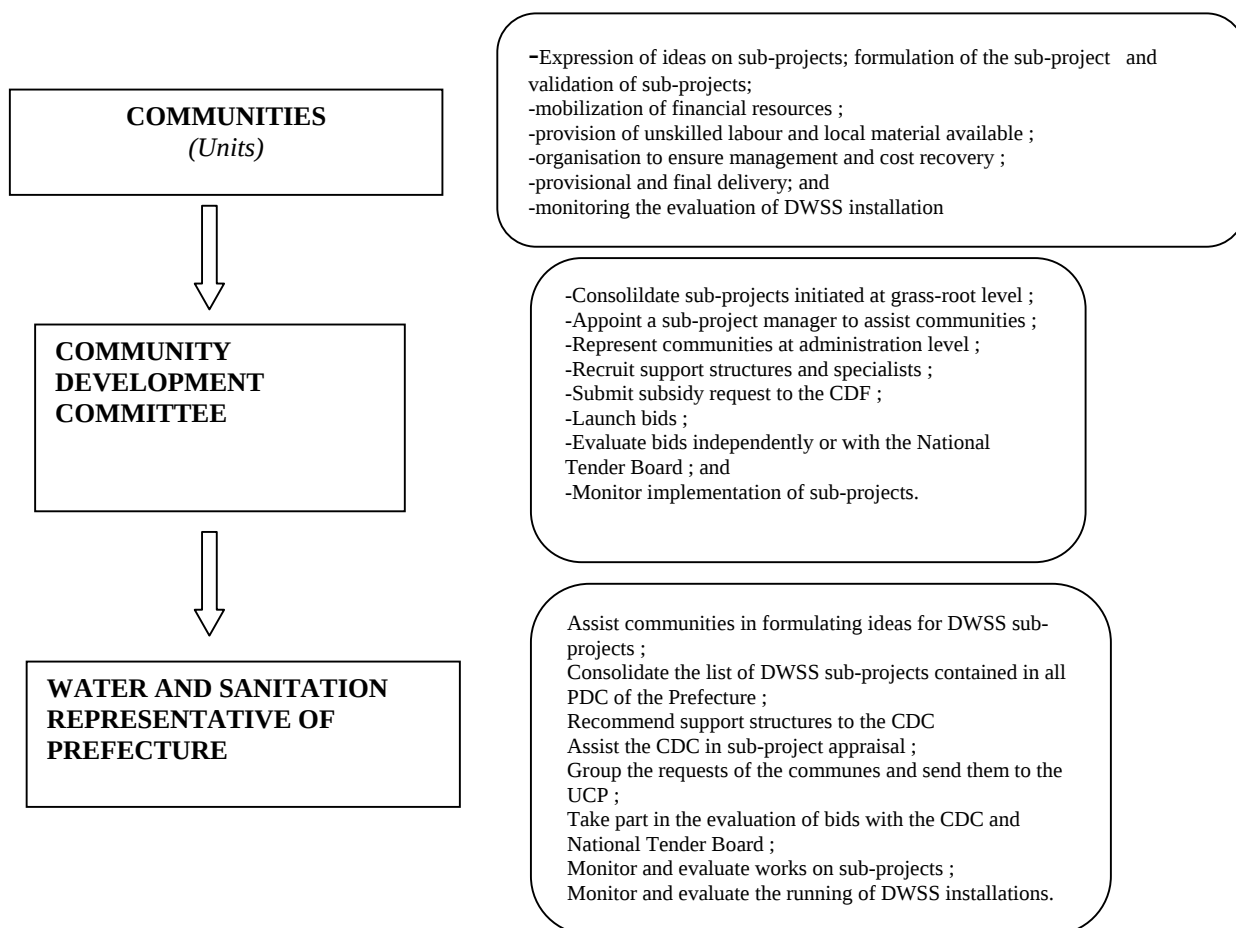
3. At the level of each local authority, the council elects an Executive Committee. At the level of the unit and sector, the EC comprises 10 persons elected by the Council, a coordinator and 9 deputies each responsible for an area. These Executive Committees comprise two sections: firstly the Policy and Administrative Committee, made up of the EC coordinator, his deputy and two elected officers, secondly, the Community Development Committee (CDC) made up of the other members of the EC and managed by the elected officer in charge of development. The CDCs are the focal points for issues relative to the development of the community. The sector CDC consolidates the needs expressed by the unit CDCs and draws a list of priority projects. The district CDC then selects a list of projects which will make up the annual plan of action of the District. In addition, each district has a medium-term action plan of a 5-year duration known as the "community development plan" (CDP). The plan is drawn with a medium-term expenditure for a three-year period. The district ensures that the annual action plan is consistent with the CDP and with the medium-term expenditure framework.

4. The decentralization framework so defined by the present law has major advantages. The beneficiaries are at the centre of all phases of the project cycle. The participatory approach makes it possible to drum up population support for the projects and thus prevent a rejection by the beneficiaries as observed in the past. Since management is the responsibility of the populations, the tariffs are fixed in a more realistic manner and costs better recovered. Generally, the State divests from issues concerning the development and management of local communities and concentrates on planning and follow-up, activities that are more in keeping with the limited means of Government bodies. The territory is divided into 12 administrative districts known as provinces. The province represents the Government at the level of the districts which make it up (9 districts per province on average). Thus, the Directorate of Water and Sanitation is represented at the level of each province by a PWSR (provincial water and sanitation representative). The decentralization process is indeed in place. The local representatives have been formed and about 90% of the

districts have an account replenished by the CDF. The network of popular banks covers the entire country and makes it possible for most CDCs to open accounts there.

On the other hand, the local communities seriously lack material and human resources. The Government and donors are aware that it is crucial to build the capacity of the provinces. In that connection, a national survey was conducted in September 2003 by the decentralization management unit within the MINALOC to determine at length the needs of the districts in terms of infrastructure and capacity building. The findings of this survey will indicate the measures to support implementation of projects designed to build the capacity of the districts. The shortcomings noted are seen in different ways: inadequate level of project preparation and therefore a high rate of CDF rejection. Subsequently, the districts find it difficult to maintain equipment for lack of technicians. In the Muhazi district, the only pipeline available has been out of order for several weeks. As there are no technicians, the reason for the breakdown has not been identified and the populations are forced to get water from the neighbouring lake in dubious hygiene conditions. The lack of financial resources is a major obstacle. To enable the local authorities balance their budget, a fund equivalent to 1.5% of the Government income from the previous financial year is allocated to the running of the districts and 10% of the budget for development projects. These funds are managed by the CDF which replenishes the district accounts in commercial banks. These accounts are known as the Common Development Fund and have sub-accounts that make it possible to isolate donor from other Government support.

Organization Chart 1: Role of the Decentralized Structures in the Programme



REPUBLIC OF RWANDA
NATIONAL RURAL DWSS PROGRAMME I

THE COMMON DEVELOPMENT FUND (CDF)

1. The CDF was established by virtue of Law N° 20/2002 of 21 May 2002 for the purpose of: i) financing the development projects of the Districts and Towns, ii) monitoring the use of the funds allocated to development projects; and iii) serving as intermediary between the Districts and Towns on the one hand and on the other, donors financing in particular the development projects of these entities. The law defines its organization and running. A board of directors is appointed by ministerial decree of 13 August 2002 and counts among its members, top-level representatives of the Ministries of Youth, Banks, the Private Sector, CEPEX, Local Governments, standpipe attendants and civil society. An inspection committee is in charge of the use of CDF's property and its running. It comprises three persons appointed by decree of the Minister of Finance to whom it is accountable.

2. The CDF structure is light, with 13 persons including 2 project analysts. The board of directors meets once a quarter to examine projects submitted for its approval. Although of recent creation, the CDF has to date been very active. Thus as at 30 August 2003, in eight months of activity, it examined 181 projects (including 26 DWSS) from 107 districts and towns therefore from the entire country. The amount financed is FRW 3.841.807.041 of which 20% was channelled into the water sector. The other sectors financed are by decreasing order of production (42%), roads (28.5%), energy (7.8%), a master plan (1%), tourism (0.5%), the environment (0.3%) and capacity building (0.1%).

3. CDF's resources are mainly from: i) registered capital made up at least 10% of Government equity calculated on the basis of revenue from the previous budget year; and ii) grants, legacies and subsidies either from the Government or donors. Being of recent creation, the CDF has not yet had to manage funds from donors, except from Dutch cooperation which financed a procedures manual.

CDF's procedures manual is being prepared but a number of principles have already been defined. The CDF has two accounts in the BNR: the first for the CDF's operating and capital expenditures is credited by national resources. The second is reserved as a Fund for project financing. External funds are put at the CDF's disposal as follows: i) onlent from the Government when the financing in question are loans granted to the Government or else ii) directly by external partners who wish to target their operations. The CDF accounts to donors on the use of funds whose management is entrusted to it. It keeps at their disposal, financial statements and activity reports that it prepares. It keeps accounts that enable accountability of fund utilization and compliance with resource allocation. It is open to audits, supervision missions and other forms of control provided for in the protocol agreements. .

REPUBLIC OF RWANDA
NATIONAL RURAL DWSS PROGRAMME

SUMMARY OF OPERATIONS OF THE AFRICAN DEVELOPMENT
BANK GROUP IN RWANDA - May 2003 (UA million)

	Date of Approval	Date of Signature	Date of Entry into Force	Closing Date	Amount	Amount disbursed
AGRICULTURE AND RURAL DEVELOPMENT						
1. Agricultural Activity Recovery	0.04.09.97	28.05.98	01.04.99	31.12.03	4.20	1.73
2. Marshland Development Study	11.03.98	28.05.98	01.03.99	30.04.03	1.04	0.58
3. Forestry Development Support	14.11.01	20.12.01	01.07.02	31.12.07	8.90	0.62
4. Cattle rearing Development Support	31.10.00	16.01.01	04.07.01	31.12.06	13.50	0.54
BANKS AND INDUSTRY SECTOR						
1. 3 rd Lind of Credit to BRD	16.11.00	16.01.01	23.07.01	31.12.04	6.00	1.16
SOCIAL SECTOR						
1. Technical and Vocational Education Strengthening	20.09.88	20.07.89	11.04.91	31.12.03	6.90	4.7
2. Rehabilitation of Primary Schools and KIST	02.12.98	18.01.99	20.07.00	31.12.05	20.78	0.93
3. Secondary Education and ISAE Emergency Rehabilitation Project	05.06.96	31.07.97	01.12.98	31.12.02	9.00	4.50
4. Health Infrastructure Emergency Rehabilitation Project	05.06.96	31.07.97	31.07.98	31.12.03	4.76	2.39
5. Poverty Reduction in Favour of Women	17.06.98	18.01.99	10.05.00	31.12.04	9.54	2.61
MULTI-SECTOR						
1. Support to the Ministry of Finance and BNR	05.11.97	28.11.97	10.09.98	04.02.03	1.50	0.02
2. CEPEX Capacity Building	14.11.01	20.12.01	21.10.02	31.12.05	2.00	0.00

REPUBLIC OF RWANDA
NATIONAL RURAL DWSS PROGRAMME

DETAILED COST OF THE PROGRAMME

Description	Unit	Quantity	FRW million	UA million
I). General and Preparatory Studies				
A. National Master Plan for Water and Sanitation Infrastructure Development				
National DWSS Infrastructure Inventory Study and Monitoring and Evaluation Study	Lump	1	86.86	0.40
Establishment of Databank on DWSS Infrastructure and PNEAR Monitoring and Evaluation System	Lump	1	202.66	0.50
DWSS infrastructure Development Master Plan Study	Lump	1	289.52	0.40
Sub-total National Water and Sanitation Infrastructure Development Master Plan			579.04	1.30
B. Operational Plans and Donor Seminars	Rapport	5	1,156.87	1.54
C. District water plan study	District	70	810.00	1.08
D. Secondary Centre DWSS Systems Study	Centre	130	1,129.13	1.50
E. Bugesera, Kibungo, and Umutara areas Water Prospection	Lump	1	2,316.16	3.08
F. Second and Third Phase of Programme Preparation	Unit	2	463.23	0.62
G. Environmental and Social Impact Assessments	Rapport	5	464.23	1.62
G. Programme Audits	Lump	16	123.20	0.16
Total I			5,815.16	10.89
II) DWSS Projects of Rural Centres and Social and Economic Infrastructure				
A. Pilot Project for the Utilization of Rain Water, Disposal of Wastewater for biogas and composting of Solid Waste	Lump	1	139.03	0.18
B. Rainwater Utilization in Rural Centres (Imidugudu) and Schools Project	Lump	1	731.83	0.97
C. School Water Supply and Sanitation Project				
1. Other School Institutions Projected				
Water	Unit	150	259.37	0.34
Latrines	Unit	150	324.21	0.43
Sub-total Other School Institutions Projected			583.58	0.78
2. Other Existing School Institutions			0	
Water	Unit	50	76.76	0.10
Latrines	Unit	50	95.95	0.13
Sub-total Other Existing School Institutions			172.72	0.23
3. Secondary Schools Projected			0	
Water	Unit	400	751.48	1.00
Latrines	Unit	400	875.15	1.16
Sub-total Secondary Schools Projected			1,626.63	2.16
4. Existing Secondary Schools			0	
Water	Unit	150	232.99	0.31
Latrines	Unit	150	291.24	0.39
Sub-total Existing Secondary Schools			524.23	0.70
5. Primary School Projected			0	
Water	Unit	4,500	7,781.07	10.34
Latrines	Unit	4,500	9,726.34	12.92
Sub-total Primary School Projected			17,507.41	23.26
6. Existing Primary Schools			0	
Water	Unit	1,600	2,605.24	3.46
Latrines	Unit	1,600	3,256.55	4.33
Sub-total Existing Primary Schools			5,861.80	7.79
Sub-total School Water Supply and Sanitation Project			26,276.37	34.91
D. Social Infrastructure Drinking Water Supply and Sanitation Project				
1. Existing Community Detention Centres				
Eau	Unit	150	232.99	0.31
Latrines	Unit	150	291.24	0.39
Sub-total Existing Community Detention Centres			524.23	0.70
2. Projected Community Detention Centres				
Water	Unit	192	336.06	0.45
Latrines	Unit	192	420.07	0.56
Sub-total Projected Community Detention Centres			756.13	1.00

Description	Unit	Quantity	FRW million	UA million
3. Existing Trading Centres				
Water	Unit	280	429.88	0.57
Latrines	Unit	280	537.34	0.71
Sub-total Existing Trading Centres			967.22	1.29
4. Projected Trading Centres				
Water	Unit	400	700.12	0.93
Latrines	Unit	400	875.15	1.16
Sub-total Projected Trading Centres			1,575.28	2.09
5. Existing Health Centres				
Water	Unit	140	214.94	0.29
Latrines	Unit	140	268.67	0.36
Sub-total Existing Health Centres			483.61	0.64
6. Projected Health Centres				
Water	Unit	208	364.06	0.48
Latrines	Unit	208	455.08	0.60
Sub-total Projected Health Centres			819.14	1.09
7. Existing Churches and other Places of Worship				
Water	Unit	120	184.23	0.24
Latrines	Unit	120	230.29	0.31
Sub-total Existing Churches and other Places of Worship			414.52	0.55
8. Projected Churches and other Places of Religion				
Water	Unit	176	308.05	0.41
Latrines	Unit	176	409.28	0.54
Sub-total Churches and other Places of Worship			717.33	0.95
Sub-total Social Infrastructure Drinking Water and Sanitation Project			6,257.47	8.31
E. Rural Centre Drinking Water Supply and Sanitation				
1. Works Inspection and Supervision	Lump	1	5,867.81	7.80
2. Environmental Mitigation Measures	Lump	1	234.71	0.31
3. Kigali Ngali Sanitation System	Centre	16	8,856.55	11.77
4. Kigali Ngali DWS System	Centre	16	7,351.29	9.77
5. Gikongoro Sanitation System	Centre	13	7,099.83	9.43
6. Gikongoro DWS System	Centre	13	5,893.14	7.83
7. Biyumba Sanitation System	Centre	15	8,392.91	11.15
8. Biyumba DWS System	Centre	15	6,966.45	9.26
9. Gitarama Sanitation System	Centre	16	8,232.37	10.94
10. Gitarama DWS System	Centre	16	6,833.19	9.08
11. Butare Sanitation System	Centre	20	10,537.26	14.00
12. Butare DWS System	Centre	20	8,746.35	11.62
13. Kibuyi Sanitation System	Centre	9	4,794.31	6.37
14. Kibuyi DWS System	Centre	9	3,979.47	5.29
15. Gisensy Sanitation System	Centre	12	6,475.32	8.60
16. Gisensy DWS System	Centre	12	5,374.77	7.14
17. Ruhengery DWS System	Centre	16	7,351.29	9.77
18. Ruhengery Sanitation System	Centre	16	8,856.55	11.77
19. Umutara DWS System	Centre	10	4,373.17	5.81
20. Umutara Sanitation System	Centre	10	5,268.63	7.00
21. Kibungo DWS System	Centre	13	5,893.14	7.83
22. Kibungo Sanitation System	Centre	13	7,099.83	9.43
23. Cyangugu DWS System	Centre	12	5,374.77	7.14
24. Cyangugu Sanitation System	Centre	12	6,475.32	8.60
Sub-total Rural Centre Drinking Water Supply and Sanitation			156,328.44	207.70
Total			189,733.13	252.09
A. Decentralized Structures Human Resource Capacity Building (Ministry, DEA, ARR, UEP et.)	Lump/year	15	2,605.68	3.46
B. Decentralized Structures Human Resource Capacity Building (REAP and CDC and districts) including an evaluation of training and gender training requirements	Lump/year	15	868.56	1.15
C. Training of NGOs, local consultants in participatory techniques and SMEs in simplified procurement procedures and technical assistance during project implementation	Lump/year	15	1,302.84	1.73
D. Capacity building of the F	Lump/year	3	173.71	0.23
E. Training of Water and Sanitation Engineers Abroad	Scholarship	100	1,158.08	1.54
F. Training of Water and Sanitation Engineers in Rwanda	Cohort	5	434.28	0.58

Description	Unit	Quantity	FRW million	UA million
G. Training of Water and Laboratory Technicians	Person	150	433.95	0.58
H. Training of Standpipe attendants and the Association of Water Agencies	Person	200	115.72	0.15
I. Equipment of SMEs and Consulting Firms (line of credit)	Unit	50	4,345.00	5.77
J. Establishment of a Limestone Manufacturing Plant	Unit	1	1,158.30	1.54
K. Establishment, Strengthening and Upgrade of PVC and PEHD factories	Unit	2	583.00	0.77
Total			13,179.12	17.51
A. Rehabilitation of Existing Drinking Water Supply Pipeworks				
Engineering designs and bidding documents	Unit	1	43.58	0.06
Rehabilitation Works	Lump	1	9,552.42	12.69
Works Inspection and Supervision	Lump	1	832.27	1.11
Sub-total Rehabilitation of Existing Drinking Water Supply Pipeworks			10,428.28	13.86
B. Drinking Water Supply in the Lava Region				
Update of bidding documents of the Secondary Network and Distribution	Unit	1	43.58	0.06
Update of the Engineering Designs and Bidding Documents for Packages 6 and 7	Unit	1	43.58	0.06
Rehabilitation and Extension Works	Lump	1	3,628.92	4.82
Development of Living Space	Unit	10	462.05	0.61
Works Inspection and Supervision	Lump	1	182.32	0.24
Sub-total Drinking Water Supply in the Lava Region			4,360.45	5.79
C. Rehabilitation, Extension and Installation of Drinking Water Supply and Sanitation Systems of the Butare-South East Recovery Project				
Preparation of Bidding Documents	Lump	1	26.15	0.03
Rehabilitation Works	Lump	1	223.43	0.30
Works for the New pipelines	Lump	1	228.77	0.30
Development of the Living Spaces	Unit	15	700.74	0.93
Works Inspection and Supervision	Lump	1	44.43	0.06
Sub-total Rehabilitation, Extension and Installation Works for Drinking Water and Sanitation Systems of the Butare-South East Recovery Project			1,223.52	1.63
D. Works on Rural Drinking Water Supply and Sanitation Systems in the Bymba Province				
Update of bidding documents	Unit	1	20.70	0.03
Water Supply Works	Lump	1	1,056.12	1.40
Works Inspection and Supervision	Lump	1	47.95	0.06
Sub-total Works on Rural Drinking Water Supply and Sanitation Systems in the Bymba Province			1,124.76	1.49
E. Works on Rural Drinking Water Supply and Sanitation Systems in the Kibungo Province				
Update of bidding documents	Unit	1	21.23	0.03
Water Supply Works	Lump	1	960.59	1.28
Works Inspection and Supervision	Lump	1	47.95	0.06
Sub-total Works on 2 Rural Drinking Water Supply and Sanitation Systems in the Kibungo Province			1,029.77	1.37
F. Environmental Mitigation Measures	Lump	1	13.33	0.02
Total			18,180.10	24.15
V). Community Water Supply and Sanitation Project				
Drinking Water Source Development Project through the Community Participatory "ubudehe" Process				
1. Province BUTARE				
Works	SA/PM	1,150	2,226.74	2.96
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	106.50	0.14
Sub-total BUTARE Province			2,355.96	3.13
2. BYMBA Province				
Works	SA/PM	775	1,520.64	2.02
Training of Unit Workers	Person	1,575	13.04	0.02
Training of Facilitators	Person	80	3.31	0.00
Formation des Resource Persons	Person	55	7.74	0.01
Training Material	Person	15,625	121.02	0.16
Sub-total BYMBA Province			1,665.75	2.21

Description	Unit	Quantity	FRW million	UA million
3. CYANGUGU Province				
Works	SA/PM	625	1,210.19	1.61
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,825	107.08	0.14
Sub-total CYANGUGU Province			1,339.99	1.78
4. GIKONGORO Province				
Works	SA/PM	725	1,475.24	1.96
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	111.91	0.15
Sub-total GIKONGORO Province			1,609.88	2.14
5. GISENYI Province				
Works	SA/PM	1,150	2,226.74	2.96
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	106.50	0.14
Sub-total GISENYI Province			2,355.96	3.13
6. GITARAMA Province				
Works	SA/PM	1,150	2,340.03	3.11
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	111.91	0.15
Sub-total GITARAMA Province			2,474.67	3.29
7. KIBONGO Province				
Works	SA/PM	1,150	2,398.91	3.19
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	114.73	0.15
Sub-total KIBONGO Province			2,536.37	3.37
8. KIBUYE Province				
Works	SA/PM	1,150	2,226.74	2.96
Training of Unit Workers	Person	1,375b	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	106.50	0.14
Sub-total KIBUYE Province			2,355.96	3.13
9. KIGALI RURAL Province				
Works	SA/PM	1,150	2,282.66	3.03
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	109.17	0.15
Sub-total KIGALI RURAL Province			2,414.55	3.21
10. RUHENGERI Province				
Works	SA/PM	1,150	2,226.74	2.96
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	106.50	0.14
Sub-total RUHENGERI Province			2,355.96	3.13
11. Province UMUTARA				
Works	SA/PM	1,150	2,226.74	2.96
Training of Unit Workers	Person	1,375	11.38	0.02
Training of Facilitators	Person	70	2.90	0.00

Description	Unit	Quantity	FRW million	UA million
Training of Resource Persons	Person	60	8.44	0.01
Training Material	Person	13,750	106.50	0.14
Sub-total Province UMUTARA			2,355.96	3.13
Sub-total Drinking Water Source Development Project through the Community Participatory "ubudehe" Process				
B. Project for the Creation, Completion and Re-vitalization of the Existing DWS Management Systems in Rural Communities				
Creation of Community Agencies	Unit	48	993.50	1.32
Re-vitalization of Community Agencies	Unit	60	496.75	0.66
Finalization of the Community Agencies	Unit	45	558.84	0.74
Sub-total Project for the Creation, Completion and Re-vitalization of the Existing DWS Management Systems in Rural Communities				
C. DWSS of the Lake Kivu Rural Communities				
Detailed Preliminary Sketches and Bidding Documents	Unit	1	13.07	0.02
Water Supply Works	Lump	1	10,422.91	13.85
Works Inspection and Supervision	Lump	1	446.31	0.59
Sub-total DWSS of the Lake Kivu Rural Communities			10,882.30	14.46
D. DWSS for the Rural Populations in the Cyangugu Province				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	653,520	13,684.88	18.18
Individual Sanitation Works	Inhabitant	973,350	8,581.98	11.40
Development of Living Spaces in the Villages	Unit	15	826.59	1.10
Works Inspection and Supervision	Lump	1.	850.34	1.13
Sub-total DWSS for the Rural Populations of the Cyangugu Province Project			23,957.04	31.83
E. DWSS for the Rural Populations of the Gikongo Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	418,080	8,754.70	11.63
Individual Sanitation Works	Inhabitant	606,255	5,345.32	7.10
Development of Living Spaces in the Villages	Unit	20	1,032.19	1.37
Works Inspection and Supervision	Lump	1.	559.07	0.74
Sub-total DWSS for the Rural Populations of the Gikongo Province Project			15,704.52	20.87
F. DWSS for the Rural Populations of the Umutara Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	417,990	8,752.82	11.63
Individual Sanitation Works	Inhabitant	605,010	5,334.34	7.09
Development of Living Spaces in the Villages	Unit	10	484.07	0.64
Works Inspection and Supervision	Lump	1.	537.90	0.71
Sub-total DWSS for the Rural Populations of the Umutara Province Project			15,122.38	20.09
G. DWSS for the Rural Populations of the Ruhengeri Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	891,825	18,675.05	24.81
Individual Sanitation Works	Inhabitant	1,334,895	11,769.71	15.64
Development of Living Spaces in the Villages	Unit	16	804.72	1.07
Works Inspection and Supervision	Lump	1.	1,150.28	1.53
Sub-total DWSS for the Rural Populations of the Ruhengeri Province Project			32,412.99	43.07
H. DWSS for the Rural Populations of the Gisenyi Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	1,167,990	24,458.02	32.50
Individual Sanitation Works	Inhabitant	1,443,600	12,728.15	16.91
Development of Living Spaces in the Villages	Unit	10	484.07	0.64
Works Inspection and Supervision	Lump	1.	1,381.94	1.84
Sub-total DWSS for the Rural Populations of the Gisenyi Province Project			39,065.43	51.90
I. DWSS for the Rural Populations of the Butare Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	409,905	8,583.52	11.40
Individual Sanitation Works	Inhabitant	768,720	6,777.77	9.01
Development of Living Spaces in the Villages	Unit	20	1,032.19	1.37
Works Inspection and Supervision	Lump	1.	605.94	0.81
Sub-total DWSS for the Rural Populations of the Butare Province Project			17,012.65	22.60
J. DWSS for the Rural Populations of the Gitarama Province Project				

Description	Unit	Quantity	FRW million	UA million
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	726,780	15,218.96	20.22
Individual Sanitation Works	Inhabitant	1,114,890	9,829.93	13.06
Development of Living Spaces in the Villages	Unit	15	826.59	1.10
Works Inspection and Supervision	Lump	1.	921.44	1.22
Sub-total DWSS for the Rural Populations of the Gitarama Province Project			26,810.16	35.62
K. DWSS for the Rural Populations of the Byumba Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	845,235	17,699.44	23.52
Individual Sanitation Works	Inhabitant	1,103,535	9,729.82	12.93
Development of Living Spaces in the Villages	Unit	15	826.59	1.10
Works Inspection and Supervision	Lump	0.0667	69.14	0.09
Sub-total DWSS for the Rural Populations of the Byumba Province Project			28,338.22	37.65
L. DWSS for the Rural Populations of the Gikongoro Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	418,080	8,754.70	11.63
Individual Sanitation Works	Inhabitant	606,255	5,345.32	7.10
Development of Living Spaces in the Villages	Unit	12	588.31	0.78
Works Inspection and Supervision	Lump	1.	544.58	0.72
Sub-total DWSS for the Rural Populations of the Gikongoro Province Project			15,246.15	20.26
M. DWSS for the Rural Populations of the Kibuye Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	334,020	6,994.47	9.29
Individual Sanitation Works	Inhabitant	645,765	5,693.68	7.56
Development of Living Spaces in the Villages Development of Living Spaces in the Villages	Unit	8	382.40	0.51
Works Inspection and Supervision	Lump	1.	485.11	0.64
Sub-total DWSS for the Rural Populations of the Kibuye Province Project			13,568.89	18.03
N. DWSS for the Rural Populations of the Kigali Rural Province Project				
Preliminary Sketches, Detailed Sketches and BD for DWSS Works	Unit	0.9996	13.24	0.02
Water Supply Works	Inhabitant	468,990	9,820.77	13.05
Individual Sanitation Works	Inhabitant	1,192,995	10,518.58	13.98
Development of Living Spaces in the Villages	Unit	16	804.72	1.07
Works Inspection and Supervision	Lump	1.	781.41	1.04
Sub-total DWSS for the Rural Populations of the Kigali Rural Province Project			21,938.72	29.15
O. Environmental Mitigation Measures	Lump	1.	334.51	0.44
Total			286,264.10	380.34
VI). Project Management				
A. Technical Assistance (national and international)	PM	180	5,491.27	7.30
B. Equipment for the National Agency				
Vehicle 4x4	Unit	6	522.98	0.69
Computer Equipment	Lot	30	39.22	0.05
Sub-total Equipment of the National Agency			562.20	0.75
C. Salaries				
Head of Agency	PM	180	156.77	0.21
Assistant Coordinator (specialist in social mobilization)	PM	180	119.22	0.16
Socio-economist (monitoring-evaluation officer)	PM	720	387.46	0.51
Water Engineer	PM	360	193.73	0.26
Civil Engineer	PM	180	96.87	0.13
Environmentalist	PD	180	96.87	0.13
Technicians (3)	PM	540	143.06	0.19
Accountant	PM	180	47.69	0.06
Assistant Accountant	PM	180	37.26	0.05
Secretary (4)	PM	720	59.61	0.08
Drivers (3)	PM	900	52.16	0.07
Sub-total Salaries			1,390.70	1.85
D. Travelling Allowances				
Head of Agency	PD	360	8.94	0.01
Assistant Coordinator (specialist in social mobilization)	PD	900	22.35	0.03
Socio-economist (monitoring-evaluation officer)	PD	3,600	89.41	0.12
Water Engineer	PD	5,400	89.41	0.12

Description		Unit	Quantity	FRW million	UA million
	Civil Engineer	PD	2,700	44.71	0.06
	Environmentalist	PD	2,700	44.71	0.06
	Technicians (3)	PD	8,100	100.59	0.13
	Accountant	PD	360	4.47	0.01
	Assistant Accountant	PD	1,800	22.35	0.03
	Drivers (3)	PD	2,700	11.18	0.01
	Sub-total Travelling Allowances			438.13	0.58
	E. Operating Expenses				
	Miscellaneous Expenses	Lump	1	1.99	0.24
	Insurance 4x4 (6)	Lump	6	0.50	0.00
	Supplies	Lump/an	15	44.71	0.06
	Sub-total Operating Expenses			47.19	0.30
Total				7,929.49	10.67
TOTAL GENERAL					671.50