

AFRICAN DEVELOPMENT FUND

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DEMOCRATIC REPUBLIC OF CONGO

**SEMI-URBAN DRINKING WATER SUPPLY AND SANITATION
PROJECT**

APPRAISAL REPORT

WATER AND SANITATION DEPARTMENT

**OWAS
FEBRUARY 2007**

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AFRICAN DEVELOPMENT FUND



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PROJECT INFORMATION SHEET

Date: February 2007

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

1. **COUNTRY** : Democratic Republic of Congo
2. **PROJECT NAME** : Semi-urban drinking water supply and sanitation project
3. **LOCATION** : Kasangulu, Lisala and Tshikapa
4. **BENEFICIARY** : State of Congo
5. **EXECUTING AGENCY** : REGIDESO, 59-63 Boulevard du 30 juin
BP 12599 Kinshasa 1, DRC
6. **PROJECT DESCRIPTION** : The project comprises the following components :
 - (i) Rehabilitation and extension of DWSS infrastructure;
 - (ii) Communication for Change in Behaviour (CCB);
 - (iii) Study of the National RWSS programme ;
 - (iv) Institutional support; and
 - (v) Project management.
7. **TOTAL PROJECT COST**
Total cost : UA 78 million

8. SOURCES AND AMOUNT OF FINANCE FOR THE PROJECT

ADF Grant	:	UA 70 million
Government	:	UA 8 million

9. APPROVAL DATE : May 2007

10. ESTIMATED STARTING DATE : September 2007

11. PROCUREMENT OF GOODS, WORKS AND SERVICES

All Bank-financed works, goods and services will be procured in accordance with Bank rules of procedure for the procurement of goods and works or, as the case may be, with Bank rules of procedure for the use of consultants.

Civil Works: Drinking water supply works and structures will be procured through international competitive bidding (ICB) with prequalification for an amount of UA 37.77 million. The three sites concerned are Lisala (UA 2.61 million) Kasangulu (UA 1.73 million) and Tshikapa (UA 33.43). A single competitive bidding comprising three packages will be issued for the three sites. Environmental protection works amounting to UA 3.53 million will be also be procured through international competitive bidding with prequalification. Considering the distance separating the sites from each other, and in order to ensure implementation of the works within the prescribed time frames, the award of more than one package to the same contractor will not be authorized.

Goods: Contracts for the supply of laptop computers and accessories, printers, scanner, photocopiers, software and network accessories, totalling UA1.57 million, will be awarded through ICB comprising several packages. Awarding more than one package to the same contractor will be authorized. The rolling stock (UA 0.66 million) will be procured through international competitive bidding (ICB). National competitive bidding (NCB) has been chosen for the procurement of furniture on account of the number of suppliers on the market for such items. As concerns the building of latrines, donors' experience shows that, generally, conventional works of below UA 10 million in DRC do not attract foreign bidders.

Consultancy Services and Training: The study on the DWSS sector and works supervision will be procured through prequalification on account of the estimated amount for the missions. Considering the specificity of the regions, languages of communication and problems of access, the short lists for CCB-related activities (training, sensitization, etc...) will comprise only the NGOs present in the areas covered by the project. All the other competitive bidding activities (training of trainers, auditing and good governance, application of Oracle software, training in human resource management, accounting and management, office application, DWS management, techniques and operation, maintenance of production and distribution units, training abroad, etc. will concern consulting firms, with the exception of individual international experts recruited to run the implementation unit, and experts responsible for putting in place the archiving system of REGIDESO (UA 0.016 million) and the hygiene /sanitation database (UA 0.014 million) and for developing the training programme (UA 0.024 million).

CURRENCY EQUIVALENTS
(February 2007)

Currency unit	=	Congolese Franc (Fc)
UA1	=	Fc 665.214
UA1	=	US\$ 1.49015
US\$1	=	Fc 446.407

WEIGHTS AND MEASURES

Metric system

FISCAL YEAR

1 January – 31 December

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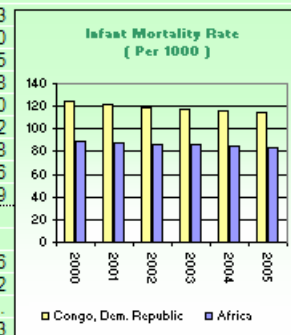
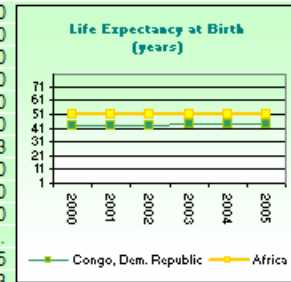
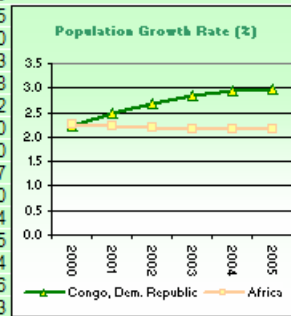
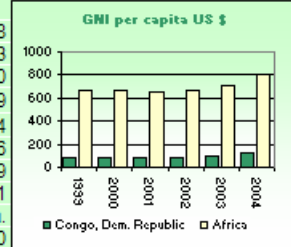
ACRONYMS AND ABBREVIATIONS

ABEDA	:	Arab Bank for Economic Development in Africa
ADB	:	African Development Bank
ADF	:	African Development Fund
BCA	:	Brigades communales d'assainissement (Municipal Sanitation Control Brigades)
CCB	:	Communication for Change in Behaviour
CNAEA	:	National Water and Sanitation Committee
CNE	:	National Energy Board
COPIREP	:	Public Enterprises Reform Committee
DCGOS	:	Department of Management Control, Organization and Strategies
DNH	:	National Directorate for Hygiene
DP	:	Provincial Directorates
DRC	:	Democratic Republic of Congo
DRE	:	Directorate for Water Resources
DWS	:	Drinking Water Supply
DWSS	:	Drinking Water Supply and Sanitation
ESIA	:	Environmental and Social Impact Assessment
EU	:	European Union
GPRSP	:	Growth and Poverty Reduction Strategy Paper
IPS	:	Provincial Health Inspectorate
KFW	:	Kreditanstalt für Wiederaufbau
MDG	:	Millennium Development Goals
MDR	:	Ministry of Rural Development
MECNE	:	Ministry of the Environment, Conservation of Nature and Forestry
MINE	:	Ministry of Energy
MTPI	:	Ministry of Public Works and Infrastructure
NGO	:	Non-Governmental Organization
NPV	:	Net Present Value
OHADA	:	Organization for the Harmonization of Business Laws in Africa
OVD	:	Office des Voiries et Drainage (Road Systems and Drainage Authority)
PARSAR	:	Agricultural and Rural Sector Rehabilitation Support Project in Bandundu and Bas-Congo
PEMU	:	Urban Drinking Water Programme
PIU	:	Project Implementation Unit
PMF	:	Performance Measurement Framework
PMURIS	:	Emergency Multisector Social Infrastructure Rehabilitation project
PMURR	:	Multisector Reconstruction and Rehabilitation Programme
PNA	:	National Sanitation Programme
PSC	:	Project Steering Committee
REGIDESO	:	Water Distribution Board
SGSTEAU	:	Water Sector Sub-working Group)
SNEL	:	National Electricity Corporation
SNHR	:	National Rural Water Service
UA	:	Unit of Account of the African Development Bank Group
UNDP	:	United Nations Development Programme
UNICEF	:	United Nations International Children's Emergency Fund
US	:	United States
VIP	:	Ventilated Improved Pit Latrines
WSP	:	Water and Sanitation Programme

Congo, Dem. Republic

COMPARATIVE SOCIO-ECONOMIC INDICATORS

	Year	Congo, Dem. Republic	Africa	Developing Countries	Developed Countries
Basic Indicators					
Area ('000 Km ²)		2 345	30 307	80 976	54 658
Total Population (millions)	2005	57.5	904.8	5 253.5	1 211.3
Urban Population (% of Total)	2005	31.9	38.9	43.1	78.0
Population Density (per Km ²)	2005	24.5	29.9	60.6	22.9
GNI per Capita (US \$)	2004	120	811	1 154	26 214
Labor Force Participation - Total (%)	2003	41.7	43.4	45.6	54.6
Labor Force Participation - Female (%)	2003	43.2	41.1	39.7	44.9
Gender -Related Development Index Value	2003	0.373	0.460	0.694	0.911
Human Develop. Index (Rank among 174 countries)	2003	167	n.a.	n.a.	n.a.
Human Poverty Index (HPI-1-Value) (%)	2003	41.4	39.5	32.0	20.0
Demographic Indicators					
Population Growth Rate - Total (%)	2005	3.0	2.1	1.4	0.3
Population Growth Rate - Urban (%)	2005	4.1	3.4	2.6	0.5
Population < 15 years (%)	2005	47.3	41.5	32.4	18.0
Population >= 65 years (%)	2005	2.7	3.4	5.5	15.3
Dependency Ratio (%)	2005	99.8	81.4	57.8	47.8
Sex Ratio (per 100 female)	2005	98.4	99.8	102.7	94.2
Female Population 15-49 years (% of total population)	2005	24.4	26.7	27.1	25.0
Life Expectancy at Birth - Total (years)	2005	44.1	51.2	64.1	76.0
Life Expectancy at Birth - Female (years)	2005	45.1	52.0	65.9	79.7
Crude Birth Rate (per 1,000)	2005	49.6	36.8	22.8	11.0
Crude Death Rate (per 1,000)	2005	19.6	15.0	8.7	10.4
Infant Mortality Rate (per 1,000)	2005	114.9	83.6	59.4	7.5
Child Mortality Rate (per 1,000)	2005	202.8	139.6	89.3	9.4
Total Fertility Rate (per woman)	2005	6.7	4.8	2.8	1.6
Maternal Mortality Rate (per 100,000)	2001	1 289	622.9	440	13
Women Using Contraception (%)	2001	31.4	26.6	59.0	74.0
Health & Nutrition Indicators					
Physicians (per 100,000 people) *	2000	5.0	38.2	78.0	287.0
Nurses (per 100,000 people)*	2000	43.5	110.7	98.0	782.0
Births attended by Trained Health Personnel (%)	2001	61.0	43.7	56.0	99.0
Access to Safe Water (% of Population)	2002	84.0	64.5	78.0	100.0
Access to Health Services (% of Population)	2000	59.0	61.7	80.0	100.0
Access to Sanitation (% of Population)*	2002	40.0	42.4	52.0	100.0
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2004	3.8	6.4	1.3	0.3
Incidence of Tuberculosis (per 100,000)	2003	537.0	406.4	144.0	11.0
Child Immunization Against Tuberculosis (%)	2004	78.0	78.2	82.0	93.0
Child Immunization Against Measles (%)	2004	64.0	68.8	73.0	90.0
Underweight Children (% of children under 5 years)	2003	71.0	39.0	31.0	...
Daily Calorie Supply per Capita	2003	1 606	2 439	2 675	3 285
Public Expenditure on Health (as % of GDP)	2002	1.1	2.7	1.8	6.3
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2001/02	84.1	96.7	91.0	102.3
Primary School - Female	2001/02	79.0	89.3	105.0	102.0
Secondary School - Total	2001/02	35.8	43.1	88.0	99.5
Secondary School - Female	2001/02	13.0	34.6	45.8	100.8
Primary School Female Teaching Staff (% of Total)	2000	21.0	44.1	51.0	82.0
Adult Literacy Rate - Total (%)	2005	31.9	35.0	26.6	1.2
Adult Literacy Rate - Male (%)	2005	21.8	26.9	19.0	0.8
Adult Literacy Rate - Female (%)	2005	41.7	42.9	34.2	1.6
Percentage of GDP Spent on Education	2000	4.6	4.7	3.9	5.9
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2005	0.1	6.0	9.9	11.6
Annual Rate of Deforestation (%)	2000	0.4	0.7	0.4	-0.2
Annual Rate of Reforestation (%)	2000	10.0	10.9
Per Capita CO2 Emissions (metric tons)	2005	0.06	1.0	1.9	12.3



Source : ADB Statistics Division databases; UNAIDS; World Bank Live Database and United Nations Population Division; Country Reports

Notes: n.a. Not Applicable ; ... Data Not Available. * : latest data available within 1995-2000

FRAMEWORK OF STRATEGIC PROJECT OUTCOMES

HIERARCHY OF OBJECTIVES	EXPECTED OUTCOMES	SCOPE (Beneficiaries)	PERFORMANCE INDICATORS	OBJECTIVE INDICATORS AND DEADLINES	ASSUMPTIONS/RISKS
<p><u>SECTOR GOAL (Theme of GPRSP)</u></p> <p>Contribute to improvement of health conditions and quality of life of the Congolese populations</p>	<p><u>LONGER TERM OUTCOMES BY YEAR 2015</u></p> <p>Achievement of MDGs set by the country for DWS, that is, access rate of 49% Achievement of MDGs set by the country for sanitation, that is, access rate of 45% Infant and child mortality rate reduced to less than 73‰ Poverty index reduced to 45% at least</p>	<p>Population of the DRC, that is, approximately 70 million in 2015</p>	<p>(1) Drinking water access rate for 2015 (2) Sanitation access rate for 2015 (3) Mortality rate of children aged below 5 years (4) Poverty index <i>Sources:</i> Case studies of provinces. Reports of the Ministry of Health. GPRSP monitoring report. <i>Methods:</i> Surveys and studies</p>	<p>(1).The drinking water access rate, which was 22% in 2005, rises by 27% and reaches 49% in 2015, that is, 15.93 million more people (2) Adequate sanitation services access rate, which was 9% in 2005, rises by 36% and reaches 45% in 2015, that is, 21.24 million more people (3) Mortality rate of children aged below 5 years estimated at 215‰ in 2004 will be reduced to 73‰ in 2015, that is, - 142‰. (4) The poverty incidence, which was 71% in 2005, reduces to 45% at least.</p>	<p>(i) Return and consolidation of political stability in DRC ; (ii) Sustained implementation of GPRSP</p>
<p><u>PROJECT OBJECTIVE</u></p> <p>Provide a sustainable drinking water and sanitation service</p>	<p><u>MEDIUM-TERM OUTCOMES</u></p> <p>(1). Improved rate of access to drinking water and adequate sanitation services, and reduced prevalence rate of water-borne diseases and infant mortality rate</p> <p>(2) Restoration of a quality drinking water and sanitation service which is accessible to the populations</p> <p>3) Availability of a national rural drinking water and sanitation programme, investment plans for all the Provinces and start of implementation.</p>	<p>Populations of the towns of Kasangulu, Lisala and Tshikapa, that is, a total of 1 556 698 people</p>	<p>1.1. Drinking water access rate 1.2. Adequate sanitation services access rate 1.3.) Mortality rate of children aged below 5 years</p> <p>2.1 Operation and management indicators of the three REGIDESO centres: water losses, DWS systems stoppage rate, collection rate, maintenance costs, maintenance of latrines</p> <p>3.1 Updated reports of the National Rural and Semi-Urban DWSS Programme 3.2 Reports of Provincial Investment Plans for all the Provinces <i>Sources:</i> REGIDESO and PIU reports. National statistics and reports of the Ministry of Employment. Survey by the Ministry of Health among populations of districts in the 3 Centres. <i>Methods:</i> Surveys and studies</p>	<p>1.1 At end 2011, about 1.556 million more people have access to drinking water, average drinking water access rate rises from 22% to 27%, that is a 5% increase 1.2 At end 2011, 0.944 million more people have access to adequate sanitation, average adequate sanitation access rate rises from 9% in 2005 to 15%, that is, a 6% increase 1.3. The percentage of mortality among children aged below 5 years as a result of lack of drinking water and adequate sanitation drops from 215‰ in 2004 to 149‰, that is, a 66‰ drop at end 2011</p> <p>2.1 Network water losses reduce from 44% in 2005 on average to 38% in 2011, the stoppage rate which is on average 90 days in 2005 will not exceed 30 days in 2011, the bills collection rate in the three centres rises from less than 50% currently to 70% in 2011; the latrines are drained and cleaned regularly</p> <p>3.1 National Rural and Semi-Urban DWSS Programme available at end 2009 3.2 Provincial Investment Programmes available for all Provinces at end 2011</p>	<p>Government's commitment to (i) implementing recommended and validated DWSS sector reforms; and (ii) settling the debt owed to REGIDESO</p> <p>Effective capacity building for structures involved in the project implementation (REGIDESO, PNA, SNHR and OVD)</p> <p>Commitment of the other donors besides the Bank to financing the Provincial Investment Plans</p>

HIERARCHY OF OBJECTIVES	EXPECTED OUTCOMES	SCOPE (Beneficiaries)	PERFORMANCE INDICATORS	OBJECTIVE INDICATORS AND DEADLINES	ASSUMPTIONS/RISKS
<p>ACTIVITIES / INPUTS</p> <p>(1). Rehabilitation and extension of DWSS infrastructures</p> <p>(2). Communication for Change in Behaviour</p> <p>(3) Study on the National Rural DWSS Programme in DRC</p> <p>(4). Institutional Support</p> <p>(5). Project Management</p> <p>FINANCIAL RESOURCES:</p> <p>GVT : UA 8.0 million ADF Grant : UA 70.0 million ----- TOTAL : UA 78.0 million</p>	<p>SHORT -TERM OUTPUTS</p> <p>(1). The DWS networks of the 3 Centres as well as latrines in public places are built</p> <p>(2) The entire population of the project area is sensitized</p> <p>(3) A National Rural and Semi-Urban DWSS Programme is available, as well as Provincial Investment Plans for Bas Congo, Equateur and Kasai Occidental</p> <p>(4) The management and monitoring capacities of DWSS sector bodies, such as REGIDESO, SNHR and PNA, are strengthened</p>	<p>Populations of Kasangulu, Lisala and Tshikapa (1 556 698 inhabitants)</p> <p>SMEs, NGOs and community-based associations</p> <p>Consulting firms, enterprises and State structures concerned with DWSS</p>	<p>1.1 DWS networks of Kasangulu, Lisala and Tshikapa 1.2 Institutional latrines (in schools, health centres and markets) built in the three centres</p> <p>2.1 Number of persons sensitized 2.2 Plan of action for gender mainstreaming in DWSS management</p> <p>3.1 Reports of the National DWSS programme estimates 3.2 Reports of Investment Plans for Bas Congo, Equateur and Kasai Occidental</p> <p>4.1 Number of persons trained in water-related trades; 4.2 Office and computer equipment made available</p>	<p>1.1 In Kasangulu: 1 catchment structure will be rehabilitated, 1 treatment unit will be rehabilitated, 1 tank will be constructed, 8.49 km of network will be laid, 841 meters will be placed, 3 public fountains will be rehabilitated, and 39 new ones built. In Lisala: 1 spring water tapping facility will be provided, 4 boreholes will be equipped, 1 water tower will be built, 19.93 km of network will be laid, 3 public fountains will be rehabilitated, and 54 others put in place. In Tshikapa: 1 raw water catchment structure will be built, 1 water treatment plant will be built, 199.41 km of network will be laid, 1 1.5 MW electricity production unit will be constructed, 294 public fountains will be constructed and 13,500 private connections carried out in 2010 1.2. In addition, 222 latrines will be built at Kasangulu, 262 latrines in Lisala and 670 latrines in Tshikapa, and 3,114 wash basins will be provided in the three centres in 2010</p> <p>2.1 1 556 698 people sensitized on the use of drinking water, hygiene and sanitation in 2009 2.2 Plan of action for gender mainstreaming in water and sanitation management in 2008</p> <p>3.1 Reports of the national DWSS programme estimates available at 30 September 2008 3.2 Reports of Investment Plans for Bas Congo, Equateur and Kasai Occidental available at 30 September 2008</p> <p>4.1 1 984 persons trained in water trades 4.2 Health zones, the offices of CONDIFA, EAD will be equipped with 8 computers, 5 photocopiers, 8 12 motorcycles, communication equipment, miscellaneous furniture in 2009 4.3 1 minimum package for HIV/AIDS prevention in project health zones, 200 STI drugs treatment kits, insecticide impregnated mosquito nets in 2009 2.3 Sundry technical equipment for REGIDESO, SNHR PNA and CNAEA 3.3 Strengthening of SIG EAU and training of water managers in the SIG in 2008</p>	<p>Improvement of procedures for procurement, disbursement, and project monitoring in REGIDESO.</p> <p>The security of persons and goods is maintained in the project area.</p>

EXECUTIVE SUMMARY

1. Project Background

Within the context of the political and military situation that prevailed in the Democratic Republic of Congo (DRC), the country's socio-economic indicators became extremely alarming, very often falling below international standards. These indicators include access to drinking water and adequate sanitation services, which are among the lowest and cause approximately 80% of the diseases. In accordance with the Bank's operational strategy in the DRC, an agreement was reached with the authorities on priority actions to be taken to strengthen access to drinking water and sanitation. A water and sanitation sector identification mission went to the DRC in July 2005. The Bank and the Government agreed on the design of a National Rural DWSS Programme and the rehabilitation of DWSS systems in accessible semi-urban centres, where the rates of access to water and sanitation are among lowest and where technical studies are available. Lisala, Tshikapa and Kasangulu centres were selected, technical update studies were conducted, and the drinking water supply and sanitation project for these three centres was appraised in February 2007.

2. Purpose of the Grant

The purpose of the grant is to finance the rehabilitation and extension of the drinking water supply and sanitation infrastructures in Kasangulu, Lisala and Tshikapa centres. It also aims at providing institutional support to REGIDESO, PNA, SNHR, and CNAEA, as well as assisting the Government in preparing a National Rural DWSS Programme.

3. Sector Goal and Specific Objective

The sector goal of the project is to contribute to improving the sanitary conditions and quality of life of the Congolese populations. Its specific objective is to provide a sustainable drinking water supply and sanitation service to Kasangulu, Lisala and Tshikapa.

4. Project Description

The five project components are:

- (i) Rehabilitation and extension of DWSS infrastructures;
- (ii) Communication for Change in Behaviour (CCB);
- (iii) Study on the National Rural DWSS Programme
- (iv) Institutional Support; and
- (v) Project Management.

5. Project Cost

The project cost, net of taxes and customs duties, is estimated at UA 78 million, comprising UA 50.21 million in foreign exchange and UA 27.79 million in local currency.

6. Sources of Finance

The project will be financed by the ADF for an amount of UA 70.0 million, that is, 89.74 % of the total project cost, net of taxes and customs duties. The rest of the financing will be provided by the Congolese Government, which is 10.26% of the project cost.

7. Project Implementation

Project activities are expected to span 48 months, as from effectiveness of the grant scheduled for the third quarter of 2007.

The Executing Agency of the project will be REGIDESO. A Project Implementation Unit (PIU) will be set up within the Executing Agency and placed under the direct authority of the Managing Director-General of REGIDESO.

8. Conclusion and Recommendation

Conclusion

The project is technically feasible, socially justified, economically viable and consistent with the priorities of the Government of the Democratic Republic of Congo as regards water and sanitation sector development. Its implementation will strengthen the capacities of DWSS systems, and relieve the populations of Kasangulu, Lisala and Tshikapa from the lack of drinking water and sanitation services. It will also strengthen the institutional capacity of services responsible for the water and sanitation sector, and provide the Government with a National Rural DWSS Programme. The economic rate of return of the project stands at 27.62 for the baseline scenario of calculations carried out, thus demonstrating the appropriateness and economic viability of the project.

Recommendation

It is recommended that a grant not exceeding UA 70.0 million be extended to the DRC to enable it to finance and implement the Semi-urban Drinking Water Supply and Sanitation Project (PEASU) as described in this Appraisal Report.

I INTRODUCTION

1.1 Within the context of the political and military situation that prevailed in the Democratic Republic of Congo (DRC), the country's socio-economic indicators remain a cause for concern, very often falling below international standards. More than 80% of the population live on less than one dollar a day, and the life expectancy is about 51 years. Approximately 45% of adults are illiterate, and only 22% of the population have access to drinking water and 9% to adequate sanitation services. According to the human poverty indicator, the probability for children born between 1995 and 2000 to die before the age of 40 is estimated at 34%. About 30% of the population live in chronic malnutrition. In general, the population is vulnerable to diseases, notably water-borne diseases which account for 80% of all the diseases, as well as HIV/AIDS, with a prevalence rate sometimes reaching 20%. Access to health and education facilities is also very limited. Gender parity is not respected. At the national level, it is estimated that women, who account for 52% of the total population and 40% of the working population, receive only 10% of the national income.

1.2 To come out of this alarming situation, the Congolese authorities had, since January 2001, embarked on dialogue with the international community for an enhanced interim programme, covering the June 2001 to March 2002 period. Thereafter, with World Bank support, they designed the Emergency Multi-sector Rehabilitation and Reconstruction Programme (PMURR) covering the 2002-2005 period. Several donors, including the Bank, supported the implementation of the PMURR. It is within this context that in 2002, the Bank granted the DRC a loan of UA 27 million to finance the ongoing Emergency Multi-sector Social Infrastructures Rehabilitation Project (PMURIS), which covers drinking water, sanitation, environmental protection, health and education.

1.3 The new authorities have defined their priorities for the next 5 years, in which the water and sanitation sector occupies a prominent place. This priority was confirmed in the Growth and Poverty Reduction Strategy Paper (GPRSP) of the country for 2006-2008, and the drinking water and sanitation sector is among the five projects of the Congolese Head of State.

1.4 In line with the Bank's operational strategy in the DRC, an agreement was reached with the authorities on priority actions to be carried out to strengthen access to drinking water and sanitation in semi-urban centres, where poverty increased significantly during the crisis, as a result of rural exodus, looting and deterioration of drinking water supply facilities. A water and sanitation sector identification mission went to the DRC in July 2005. The Bank and the Government agreed on the design of a National Rural DWSS Programme and the rehabilitation of DWSS systems in accessible semi-urban centres, where the rates of access to water and sanitation access are among the lowest and where technical studies are available. Lisala, Tshikapa and Kasangulu centres were selected, technical update studies were conducted, and the drinking water supply and sanitation project of these three centres was appraised in February 2007.

II THE WATER SECTOR

2.1 Characteristics of the Sector

2.1.1 The water sector is characterized by several-tier development as follows: (i) an urban DWS sub-sector that is dynamic and structured under the responsibility of REGIDESO and is currently facing serious technical and financial difficulties; (ii) a rural but motivated rural DWS sub-sector evolving within an inappropriate institutional framework, and (iii) a sanitation sub-sector (purification of domestic and industrial effluents, drainage of storm water, and treatment of solid waste) that is virtually non-existent in the country.

2.1.2 Water Resources: The country has abundant ground and surface water resources. In view of insufficient data on the geometrical and dynamic characteristics of aquifers, the use of these resources for major water supply systems is very limited. Conversely, as regards rural water supply, the many available sources are being put to use. With respect to surface water resources, they come from the vast system of rivers and lakes which account for 52% of overall reserves of the continent and cover approximately 86, 080 km² representing 3.5% of the country's surface area. The Congo River Basin covers 3.8 million km², ¾ of which are in the DRC. In terms of flow (39,500 m³/s on average), the river ranks 1st in Africa and second in the world. The chemical characteristics of raw surface waters in the DRC, except in cases of localized pollution, make them completely fit for consumption after treatment.

2.2 Organization of the Sector

2.2.1 Laws and Regulations: The main instruments governing the water and sanitation sector in the DRC are: (i) the Ordinance of 1 July 1914 on the contamination of springs, lakes and rivers, which provides for the demarcation of protected areas for the collection of drinking water; (ii) the Decree of 6 May 1952 on the award of concessions and administration of water and determining the rights of way of ground waters, lakes and waterways, as well as their use; (iv) Ordinance No. 52-443 of 21 December 1952 on measures to protect springs, water tables, lakes and waterways, to prevent water pollution and wastage, and to controlling the exercise of user rights and conceded rights of occupancy; (v) Ordinance No. 071-079 of 26 March 1971 defining State action as regards storm and waste water; (vi) Ordinance No. 74/345 of 28 June 1974 on hygiene measures in built-up areas, as supplemented by Inter-Ministerial Decree No. 120/89 of 6 September 1989 on public health protection measures in cities and urban, commercial, industrial, agricultural, and mining centres, as well as rural built-up areas; (vii) Ministerial Decree No. 0014/DPT-MINER/86 of 2 September 1986 prohibiting the use of natural water other than that supplied by REGIDESO; and (viii) Decree No. SC/073 of 22 April 2005 on sanitation and public hygiene measures in the city of Kinshasa.

2.2.2 It seems that most of these instruments which date back to the colonial period, have become null and void and need to be revised. The legislation focuses on the protection of water sources and waterways, and remains incoherent as regards the legal framework for exploitation of these resources. It is thus urgent to prepare and promulgate new laws and regulations on the management of water resources, in particular water quality standards, as well as rules and principles of checking potability and pollution control. Furthermore, it is necessary to adapt the legal framework to the provisions of the new Constitution, which stipulates that water is managed exclusively by the Provinces (Article 204, §20). Similarly, it is necessary to adopt new laws and regulations for urban water production and distribution within the current context of increasing challenge of REGIDESO monopoly.

2.2.3 With the support of development partners, the Government has embarked on strengthening the legal and institutional framework and implementing reforms in order to ensure a balanced development of the urban drinking water supply (DWS) sub-sector. The entire water sector will be governed by the unified Water Code under preparation and which should be tabled before the National Assembly for adoption before end 2007. This Law will define the basic principles and general conditions for ensuring rational and sustainable management of water resources. Moreover, by Decree No. 136/2002 of 30 October 2002, the President of the Republic set up a Steering Committee for the Reform of State-owned Enterprises (COPIREP), which is divided into sub-working groups, including the Water Sector Sub-Working Group (SGSTEAU) responsible for the water sector and chaired by the representative of the Ministry of Energy (MINE).

2.2.4 The Institutional Framework of the sector is marked by the involvement of seven ministries and several organizations in its management, resulting in overlapping and conflicts of jurisdiction. It is the governmental responsibility of the Ministry of the Environment, Nature Conservation and Forestry (MECNE) to manage the water resources as provided by Ordinance No. 75-231 of 22 July 1975 which lays down its duties. Indeed, MECNE is responsible, in particular, for (i) urban sanitation through control of the harmful effects of air, soil and water pollution; and (ii) creating and managing integral natural reserves, catchment plants and water ecosystems. The Ministry also has a Water Resources Directorate (DRE) responsible for implementing the water resources policy, and the PNA which is responsible for wastewater, solid waste, and vector control.

2.2.5 The Ministry of Energy (MINE) comprises a Department of Water and Hydrology (DEH), and has supervisory authority over the Water Distribution Agency (REGIDESO), a State-owned corporation that provides urban DWS services. The DEH is responsible, in particular, for coordinating the Global Water Resources Assessment Programme at the national level. Lastly, mention should be made of the National Energy Board (CNE), set up to grant concessions for raw water withdrawal. Its key source of finance is the income from raw water withdrawal. This position is, however, challenged by the other stakeholders given the non-exclusive mandate of MINE on the management of the country's water resources.

2.2.6 The Ministry of Rural Development (MDR) is charged with formulating, implementing and monitoring rural and semi-urban DWS projects. The MDR intervenes in the sector through SNHR, which is in charge of making an inventory of water resources in rural areas, constructing drinking water structures, and training the population in servicing and maintenance of the said structures. Several NGOs also operate in rural areas, but only a few (ICRC, OXFAM, ADIR, etc.) are efficient and play a key role alongside rural health zones. In 2007, MDR plans to organize a symposium during which a new institutional framework for rural DWS development could be defined, clearly specifying the role of SNHR.

2.2.7 The Ministry of Public Works and Infrastructure (MTPI) is responsible for the drainage of storm and sewers waters in non-housing sectors, as well as erosion prevention measures. The Roads and Drainage Authority (OVD), placed under the supervisory authority of this Ministry, intervenes in storm water drainage, wastewater disposal, and erosion control. However, owing to lack of adequate resources, its activities are generally limited to major highways. The Ministry of Public Health (MSP) is also present in the DWSS sector, notably through the National Directorate of Hygiene (DNH) which is responsible for formulating the hygiene policy, including public health, vector control and communication. At the

decentralized level, the Provincial Health Inspectorate (IPS) and its Hygiene Brigades of the health zones are in charge of household inspection for the drainage of wastewater and excrement, as well as vector control in the council areas.

2.2.8 By Ordinance No. 81-023 of 14 February 1981, as amended and supplemented by Ordinance No. 87-105 of 3 April 1987, the Government set up the National Water and Sanitation Action Committee (CNAEA) which is an Inter-Ministerial Structure for the orientation and coordination of DWSS activities. CNAEA is under the supervision of, and is chaired by, the Minister of the Plan (MINPLAN), and the Managing Director General of REGIDESO provides technical secretariat services. CNAEA, with support from the German Co-operation, is currently preparing the Water Code and developing a water sector policy and development strategy.

2.3 Sector Development Constraints

2.3.1 The development of the water sector is faced with institutional, technical and financial *constraints*. These constraints include: (i) a multitude of stakeholders in the water and sanitation sector, often with unclear roles, overlapping of functions, and total absence of coordination; (ii) the state of degradation of infrastructures or their under-utilization; (iii) inadequate funding; and (iv) water sector institutions weakened, with an unmotivated staff whose skills have been eroded. Thus, the urban drinking water service rate is only 35%, as against 70% in 1990, while the service rate in rural areas stands at 17%, as against 24% in 1991. REGIDESO is facing serious financial difficulties due to insufficient production and very low collection rates. The sanitation policy is non-existent. The current resources of SNHR and CNAEA are extremely limited, making it impossible for them to play their roles.

2.3.2 Furthermore, the sanitary degradation of the environment is not due to lack of legal instruments applicable to the protection of natural resources, since efforts are being made to improve all the laws. It is rather due to lack of the will, on the part of the public authorities, to enforce existing regulations, take recommended remedial measures, and check the illegal and destructive exploitation of renewable and non-renewable natural resources.

2.3.3 In the DWS sub-sector, the key challenge is how to harness the country's immense water resources to ensure that they are clean and distributed to the population. Indeed, though endowed with abundant water resources, the population has limited access to drinking water. Poor water quality-related diseases are among the leading causes of mortality, notably among children. Sanitation is not well developed. The water structures are partly inherited from the colonial period. During the 70s and 80s, the DRC made remarkable efforts to develop water sector infrastructures with active support from the international community, enabling it to double the drinking water access rate. This effort was interrupted in the early 90s, with the suspension of co-operation programmes. Most of the water distribution networks are in the urban and semi-urban areas.

2.4 Government Policy and Strategy

2.4.1 Reconstruction of the water and sanitation sector constitutes one of the priorities of the growth and poverty reduction strategy. In the short term, this sector will be given special attention by the Government so as to provide the people with daily quantity of water that meets the standards and allows for a healthier living environment. The sector goal, as contained in the GPRSP approved by the Government in July 2006, is to increase: (i) the drinking water service rate from 22% in 2005 to 26.9% in 2008 and 49% in 2015, and (ii) the sanitation service rate from 9% in 2005 to 15% in 2008 and 45% by 2015.

2.4.2 Consequently, the existing infrastructures will be rehabilitated to facilitate access by the greatest number of users, increase the capacities of water production units, improve the management of water points by promoting community and private sector participation, strengthen the existing sanitation programmes and extend them nationwide. The actions will consist of: (i) reforms in the water and sanitation sector, (ii) an inventory of urban and rural water requirements, (iii) preparation of the Water and Sanitation Code, which should include, in particular, aspects concerning the protection and integrated management of water resources, definition of the roles of private operators of the sector, and clarification of their areas of action: large and average cities, small semi-urban centres and rural areas, and (iv) creation of a water and sanitation development fund.

2.4.3 To that end, in the medium term, under the urban and semi-urban water sub-sector programs for 2006- 2015, efforts will be made to: (i) implement the REGIDESO Ten-Year Plan and the Kinshasa Water Supply Master Plan; (ii) open up the water and sanitation sector to civil society initiatives, private operators, NGOs and associations, and the beneficiaries themselves; and (iii) implement the Kinshasa city sanitation Action Plan. As such, the impacts of the strategy should be noticed only as from 2009. For the semi-urban and rural areas, there are plans to put in place autonomous community management systems under the decentralization and rural development policy, as well as local public works and engineering enterprises. These policies will be accompanied by the search for and promotion of appropriate technologies, while popularizing good practices in community management of the autonomous facilities. A training programme will be developed in order to strengthen the operational capacities of the technicians of the sector, as well as health workers of the zone, including sanitary engineers, field workers, and drinking water and sanitation tradesmen.

2.5 Donor Operations

2.5.1 Besides the Bank, the key donors in the DWSS sector are the European Union (EU), the French Development Agency (AFD), the World Bank (BM), the Belgian Co-operation, Kreditanstalt für Wiederaufbau (KfW) and the Department for International Development (DFID) (see details in Anex 11). Under the PMURR, the World Bank has financed the DWS system in Kinshasa (rehabilitation of the catchments of modules 1 and 2 of the Ndjili plant and construction of a new module) and DWS studies in seven towns including Tshikapa, as well as the study on the Kinshasa DWS Master Plan. It should be recalled that through its budget support, the World Bank settled the State's US\$ 10 million water bill for 2005, thereby enabling REGIDESO to finance the completion of works on the Lukaya water treatment plant, and facilitating access by the people of Southern Kinshasa to drinking water. Again, with World Bank financing, COPIREP in January 2007 launched a diagnostic study on the institutional efficiency of REGIDESO. The results of this study are expected in 2007, and should make specific proposals for revival of this company, improvement of the laws and regulations, and consideration of the possibility of partial or total privatization of REGIDESO. Lastly, in collaboration with the WSP, the World Bank is currently preparing the Urban Drinking Water Programme (PEMU) which aims at providing eight towns with DWSS systems, three of which will be covered during the first phase at a total cost of US\$ 100 million.

2.5.2 The EU is pursuing its assistance to the water sector under the DWS Rehabilitation Support Programme (PAR II) with the following components: (i) institution building of REGIDESO; (ii) reduction of leaks on the tertiary and secondary networks of Kinshasa; and (iii) construction of new boreholes in the semi-urban area of Kinshasa. The EU is

concentrating its activities in the sector on the REGIDESO network in Kinshasa with the objective of strengthening its operation in the most promising districts in terms of collection for more effective sales management. The AFD had also made this issue a precondition for an investment of 20 million Euros in Kinshasa. Discussions between the AFD and the Government have not yet been concluded. Belgian Co-operation activities primarily concern the construction of minor DWS networks in semi-urban areas. The Belgian Co-operation has often financed private community-managed DWS in partnership with REGIDESO (Bukavu, Uvira, and Mbuji-Mayi).

2.5.3 In 2004, KFW awarded a grant of 24 million Euros for a DWS systems rehabilitation project in secondary centres, including sensitization of users and strengthening of REGIDESO. Furthermore, with financing from the German Co-operation, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) is currently providing technical assistance to CNAEA to enable it produce the Water Code and prepare an institutional reform of the water sector. Lastly, under its 2008-2010 programme, UNICEF intends to continue putting in place community-managed DWS systems in the semi-urban areas of some twenty towns, as well as the development of the integrated concept of "*sanitized village*" in 200 rural health zones. The objective is to reach more than 2 000 000 beneficiaries at the end of three years. DFID plans to invest 10 million Euros in the said "*sanitized village*" programme.

2.5.4 The key lessons learnt from donor operations centre on three points. Firstly, it should be noted that most of the activities are located in the Kinshasa area and the semi-urban areas of some hinterland towns. Most of the donors work with REGIDESO. To date, private sector outputs have only concerned a few small-scale gravity DWS systems generally initiated by NGOs or UNICEF in co-operation with SNHR. Secondly, there is good coordination of the activities of development partners, either through the Water Management Sector Sub-Group chaired by the Minister of Energy, or in meetings of the Water and Sanitation Thematic Group set up to monitor the GPRSP. Lastly, it should be noted that some bilateral donors prefer to co-finance joint projects often implemented by the Belgian Technical Co-operation (CTB).

Table 2.1
Characteristics of Donor Operations

Donors	Type of Operation	Urban DWS	Rural DWS	Urban Sanit.	Rural Sanit..	Project Area	Total amount
ADB	Rehabilitation	Active		Active		Kinshasa, Provinces	\$25 M
World Bank	Rehabilitation, Extension, Capacity Building, Budget Support	Active		Active		Kinshasa, Provinces	\$80 M
Belgian Coop	Rehabilitation	Active	Active			Kinshasa	€2 M
German Coop	Rehabilitation	Active				Provinces	€8 M
European Union	Rehabilitation	Active				Kinshasa, Provinces	€1 M
ABEDA	Rehabilitation	Active				Provinces	\$14 M
UNICEF	Rural Water, Sanitation and Hygiene Programme		Active		Active	Provinces	\$6 M

III DRINKING WATER AND SANITATION SUB-SECTOR

3.1 Characteristics of the Sub-Sector

3.1.1 Access to Drinking Water: In Urban Areas: Currently, about 8 million city dwellers have access to drinking water, representing 37% of the total urban population in the DRC and 15 % of the total population of the country. Water in this sector is distributed primarily by REGIDESO. The situation varies from one town to another. For instance, the town of Mbuji Mayi, with 3 million inhabitants, does not have a drinking water service and represents nearly 30% of the unserved people¹. In Bukavu, with a population that currently exceeds one million inhabitants as a result of the influx of refugees, the situation is also problematic. In Tshikapa, the diamond producing town, 1% of the population is served.

3.1.2 In rural areas, drinking water supply in the DRC was, until independence in 1960, provided by the “Fonds Belge Indigène” (FBI). After independence, the activities of FBI were taken over by a Belgian NGO (AIDR) until 1964. From 1964 to 1977, some NGOs and churches constructed certain specific drinking water structures in rural areas. With its 17 stations established nationwide, SNHR has since its creation in 1983 up to 2004, constructed 5,084 developed springs, 543 rehabilitated wells, 659 boreholes equipped with pumps, and 65 simplified water supply systems serving a total population of 2,451,200 inhabitants, representing about 8% of the rural population. The water points constructed with the assistance of the other actors cover 9% of requirements. Thus, only 17% of the rural population have access to drinking water.

3.1.3 Urban sanitation has underdeveloped physical infrastructures and regional administrative structures. Concerning wastewater, the few collective networks in big towns have not been maintained, and most of them are clogged. All the treatment plants are out of service or have disappeared. Individual sanitation is left to private initiative, which very largely dominates this sector. It however uses techniques that are not controlled, and most often very rudimentary, owing to users’ lack of means.

3.1.4 The drainage of septic tanks is a market shared between the private sector and PNA in Kinshasa, the only town where PNA is operational. Operators discharge waste products in disregard of any rules, generally into rivers flowing within the country. Concerning household refuse collection, only Kinshasa, Lubumbashi and, to a lesser extent, Kisangani, have a minimum collective service. There has been no in-depth reflection on cost recovery. However, there are ongoing initiatives supported by NGOs to develop household refuse collection systems whereby the populations of the country can be self-reliant. Concerning storm water, the drainage networks are degraded. While severe flood problems are relatively rare, those of erosion due to poor drainage, on the other hand, are frequent and dramatic. Generally speaking, the fundamental problem of urban sanitation is mainly institutional; it concerns the lack of sound management of urban space in terms of its use and generation of resources required for its operation (territorial organization, and overall and operational urban policy). The same applies to inadequate organization of disease vector control and health education. A pilot study on these aspects will be conducted under the PMURIS for Kinshasa and Boma.

¹ The largest city in Sub-Saharan Africa in this situation. ABEDA and CTB are identifying a DWS project in the semi-urban areas of Mbuji-Mayi with community-managed boreholes

3.1.5 Regarding Rural Sanitation, it is difficult to evaluate the current status of facilities due to lack of information. It however seems that all the physical investments are virtually private. At the institutional level, this sub-sector is not covered by a specific body, and is shared primarily between MECNE (through PNA) and MSP. The key public missions involve activities relating to monitoring, guidance, education, training, sensitization, and financing assistance. The sub-sector does not seem to feature among the priorities of technical and financial partners (TFP). Only the health zones obtain assistance from aid programmes. There is also a gulf between sanitation service requirements and supply. Available data shows that access to appropriate excreta disposal system is limited. Overall access to sanitation services is estimated at 9%. Sanitation is not yet considered a priority by the population.

3.1.6 As regards achievement of the MDGs, the financial requirements of the DWSS sector in the DRC for the 2005-2015 decade were estimated² at US\$ 1.71 billion, that is, about US\$ 214 million per year, with US\$ 171 million for drinking water and US\$ 43 million for sanitation. This substantial financing should allow for an average access rate of 49% for DWS and 45% for sanitation. It is still to be evaluated to what extent the Congolese economy, the institutional system of the sector, and the contributions and pledges of donors can finance such a programme. However, it should be noted that the link between development of the sector and the central planning and budgeting process is fragile. The establishment of suitable financial mechanisms is severely hampered by the existence of fragmented systems, typical dependence on projects, and lack of coordination of the actions of various stakeholders operating independently.

3.2 Institutions of the Sub-Sector

REGIDESO

3.2.1 Legal Framework: Set up by Royal Order in 28 March 1933, the Water Distribution Agency (REGIDESO) is a State-owned technical, industrial and commercial corporation, endowed with legal status by Law No. 73-026 of 1973. According to its articles of association laid down by Ordinance No. 78-197, the corporation's role consists mainly in: (i) the operation of water distribution systems and related facilities, water collection, supply and treatment; and (ii) study and construction of water distribution systems and related facilities.

3.2.2 Organization and Management: The Corporation is placed respectively under the administrative and technical supervision of the Ministries for Portfolio and Energy. It is managed by a Board of Directors and a Management Board chaired by a Managing Director General (ADG). REGIDESO is bound to the State by a performance contract. The corporation was reorganized in 2004 with a redefinition of the missions and functions of the operational departments. The organization chart of the corporation is presented in Annex 2 of this report. At the operational level, REGIDESO comprises, in addition to Kinshasa and its five sales departments, 10 provincial directorates which serve 94 centres, 44 of which have stopped operating for the past several years. That is due mainly to the country's post-conflict situation, which has resulted in obsolete facilities, the isolation of certain centres during the crisis, and the suspension of international co-operation which blocked the development of investments. Moreover, the frequent and invasive interferences of the supervisory authority in the decision-making process of the corporation create serious governance problems. The

² According to a study conducted by the Water and Sanitation Programme (WSP) of the World Bank

ongoing COPIREP study on the institutional efficiency of REGIDESO should, by end 2007, lead to important decisions by the Government, which should remove most of the aforementioned structural and organizational constraints.

3.2.3 Staff and Training: REGIDESO staff trend is as follows:

Table 3.1
REGIDESO Staff by Category

	2001	2002	2003	2004	2005	2006	2007
Senior executive staff	211	210	239	264	256	230	218
Executive staff	967	1096	1116	1176	1171	1377	1402
Supervisory staff	2244	2107	2096	2093	2068	2014	2029
Line staff	1151	1216	1190	1126	1126	1222	1253
Total	4573	4629	4641	4659	4621	4843	4902
Variation %		1.2%	0.3%	0.4%	-0.8%	4.8%	1.2%

3.2.4 The organizational problems have resulted in an abnormal rise in the number of senior staff (33% of staff). Furthermore, women are under-represented with only 13.6% of the overall staff strength and less than 3% of senior executives. Moreover, the high average age of staff is also a cause for concern, with about 44% of employees being due for retirement in the next 10 years, as there is no clear replacement policy. Several audit reports have underlined the overstaffing compared to output, with a ratio of 56 subscribers to one employee. This is due to the fact that the corporation does not have a full grasp of staff management despite the apparent management autonomy granted it by the performance contract. In spite of the lack of training during the years of crisis, it is noted that the technical staff has already proven its capacity to carry through several network rehabilitation and extension projects and to operate existing DWS systems in a relatively acceptable manner. Since 1973, the company has two training centres in Kinshasa and Lubumbashi, and it prepares training plans each year. However, the discontinuation of co-operation with international partners in 1992 dealt a blow to the development of training activities both at home and abroad and to collaboration ties between vocational training organizations and institutions. For nearly 10 years, it has been unable to provide appropriate employee training. Hence, the urgent need for REGIDESO to revitalize vocational training in water trades.

3.2.5 Accounting and Auditing: Accounting is computerized in Kinshasa with a real time integrated management system set up in 2005 with PMURR funding. In the centres, the commercial and accounting data are still processed manually for the most part, with all the risks of errors and embezzlement involved. The financial statements of the corporation are nevertheless audited yearly by an independent audit firm selected by the Board of Directors for a six-year period. On the whole, the computer equipment is largely insufficient and only a few offices at the Head Office are connected to the Internet. The Department of Management Control, Organization and Strategies (DCGOS) and the Department of Internal Audit are in charge of controlling and monitoring the performance contract, on the basis of monthly reports sent by the Provincial Directorates (DP) and commercial data. It should be noted that in the centres, there is virtually no routine inspection of activities. It is necessary to envisage, in the short term connecting the DPs to the Head Office to allow for real time monitoring of the performance of the centres and timely detection of irregularities.

3.2.6 Billing and Collection: Although the corporation has well-established procedures to control this function, there are certain deficiencies in the system. The marketing policy of REGIDESO normally aims at promoting general use of private connections. However, less than one-third of the active connections are equipped with a meter. Subscribers are generally billed at a fixed price, and this leaves room for abuses and illicit water sale. A recent study by the World Bank showed that, for the corporation, this situation generates technical losses (unrecorded water) estimated at about 60%, as against an average of 38% for sub-Saharan Africa. As a result, private household customers, with 56% of sales in volume, generated only 27% of the turnover in 2005. Faced with this problem, REGIDESO plans to provide meters to all subscribers capable of paying their bills and to increase the number of public fountains in areas with weak purchasing power. The corporation is increasingly entrusting the management of public fountains to the private sector. Public fountain water is paid for in cash, and the proceeds are paid daily to REGIDESO. In some areas, public-private partnership has proved to be effective and deserves to be sustained.

3.2.7 The water consumption of Government Services (IO) represents 43% of the turnover. Accumulated water bill arrears of the IOs (80% of unpaid bills) constitute a major obstacle to the corporation's sustainable development. Moreover, the said IOs are not all equipped with meters, or are not currently billed on the basis of real consumption since the monthly fixed price of US\$ 450 000 currently paid by the budget does not cover its real consumption. There are plans to move to payment on the basis of actual consumption when REGIDESO places meters in all the IOs. Within the framework of ongoing economic reforms, the State has undertaken to stop increasing its arrears further as from 2007.

3.2.8 Retrospective Financial Analysis: A summary of the audited operating accounts for the 2001-2005 period is presented in Annex 3. The following is an extract of these accounts:

Table 3.2
Summary of REGIDESO Operating Accounts for 2001-2005 (in million Fc)

	2001	2002	2003	2004	2005
Turnover	14 871	29 124	35 481	47 635	49 721
Gross value added	10 248	21 027	24 823	34 567	34 466
Operating income	-4 747	4 420	7 153	-3 102	5 640
Net income	-49 807	-14 865	-11 667	-35 157	-4 475
Operating cash-flow	116	12 257	13 459	11 776	15 024
Ratios : Rise in turnover		75.5%	30.5%	38.3%	-0.4%
Value added/turnover	68.9%	72.2%	70.0%	72.6%	69.3%
Operating income./turnover	-31.9%	15.2%	20.2%	-6.5%	11.3%
Net income/turnover	-334.9%	-51.0%	-32.9%	-73.8%	-9.0%

3.2.9 The turnover increases on average by 35.2% per annum over the period. The sales in volume increase only by 2.1% per year, which shows that the rise in turnover is due mainly to the tariff adjustments to take into account the depreciation of the Congolese franc. The operating costs increased by 24%, but personnel costs increased faster (+134%) following the readjustment of wages. Financial expenses increased only by 0.25% during this period following the co-operation freeze in the 90s. In addition, the cost of energy and the inputs swell operating costs given the use of generating sets and collection of surface water requiring costly chemical treatment. This often causes water distribution stoppages in these centres in case of supply shortages. The net income is negative throughout the period, however with a clear improvement in 2005.

Table 3.3
Summarized balance sheets of REGIDESO 2001-2005 (in million Congolese Francs)

	2001	2002	2003	2004	2005
Total fixed assets	56 812	65 196	62 947	66 520	83 255
Total current assets	19 279	33 978	45 102	58 386	64 572
Equity	8 552	4 394	-5 807	-32 146	-25 109
Long and medium term liabilities	34 594	40 776	42 430	85 017	79 984
Short-term liabilities	32 721	53 244	69 478	57 881	73 018

3.2.10 REGIDESO has an unbalanced financial structure with a negative net position and a chronic deficit of the working capital. The credits to the State, which stand at US\$ 326 million, are paid to the tune of 72%, thus depriving the corporation of resources for financing its development. The restoration of an improved financial position is essential for REGIDESO to significantly raise its service level. In this light, the State should take appropriate measures for the financial restructuring of the corporation and payment of its water bills. As envisaged, the study on the institutional efficiency of the corporation must make clear recommendations to the Government, relating in particular to: (i) the reorganization of its management for greater administrative and business efficiency; (ii) the promotion of good governance values; and (iii) adoption of an appropriate tariffing system and financial arrangements to restore the corporation's profitability and improve its balance sheet.

3.2.11 Within the corporation, strong action should be taken to improve its management, adopt good governance principles, as well as a development strategy based on the objectives of operational viability. To that end, REGIDESO should limit interference by the supervisory authority in the MDG's decision-making and strive to ensure more autonomous management, in accordance with its articles and with the obligations of the annual performance contract. Among the financial management objectives, special emphasis should be laid on collection and allocation of operating income to cover operating expenses as a matter of priority. Furthermore, it should start generating surpluses to replenish the working capital, and ensure the maintenance of its fixed assets and routine renewals. In order to restore balance sheet equilibrium, all new investments should preferably be financed by grants, and the corporation should control its cash resources.

Other Institutions of the Sector

3.2.12 SNHR was set up in 1983, and is under the supervisory authority of MDR. Its role is to: (i) make an inventory of water resources in rural areas; (ii) construct drinking water supply structures for the rural populations; and (iii) train the population in the servicing and maintenance of the drinking water structures constructed. SNHR has 17 stations countrywide, and in addition to its usual activities, it has since 1998, constructed irrigation structures. Its action is limited by its weak financial resources, and emphasis is laid on the construction of structures to the detriment of programming and maintenance. SNHR generally uses contractors for its operations. It is subject to the constraints and red-tape of public administration, whereas its field activities require utmost flexibility in management and decision-making.

3.2.13 SNHR faces several types of constraints including: (i) institutional dysfunctioning due to the multiplicity of supervisory authorities and weakness of the water institutional framework; (ii) inadequate financial resources; and (iii) high staff turnover with the departure

of many highly qualified staff to the private sector or NGOs. Since 2001, the following weaknesses are noted: (i) several officers have been replaced by unqualified and inexperienced staff; (ii) complete lack of logistics and technical means; (iii) lack of planning and coordination of actions; (iv) inadequate number of operational stations to conveniently cover the whole country; and (v) weak technical and human capacities (lack of skills, information and training at all the levels). It should, however, be noted that the institutional framework of SNHR needs to change, and reflection is ongoing within MDR to redefine its missions which should lay more emphasis on coordination and supervision of the DWSS sector in rural areas.

3.2.14 PNA which is placed under the supervisory authority of MECNE, was set up by Executive Enactment No. 081 of 2 July 1988. Its role includes: (i) the planning and coordination of environmental health activities; (ii) vector control, in particular insect pests control in all its forms; (iii) cleaning, collection and disposal of household refuse and garbage; (iv) sensitization of the population on environmental hygiene; (v) drainage and cleaning of collector and ground sewers; (VI) control of water portability; (vii) treatment and disposal of excrement; (viii) prevention and control of pollution; and (ix) domestic and industrial hygiene.

3.2.15 PNA is active only in Kinshasa, where it collects solid waste, an activity for which it received Bank support under the PMURIS project. It has only limited presence in the provinces, mainly through the Municipal Sanitation Brigades (BCA). These brigades are understaffed and under-equipped. In general, PNA suffers from certain institutional weaknesses, in particular inadequate and underqualified technical staff, lack of a means of coercion to control cleanliness, and lack of appropriate equipment for its missions.

3.3 Gender and Socio-economic Development Issues

3.3.1 Article 14 of the new Constitution of the DRC, devoted to women's advancement, provides that: "The authorities shall ensure the elimination of all forms of discrimination against women and the protection and promotion of their rights". However, the literacy rate of adults aged above 15 is 65% on average, as against 52% for women. Moreover, 61.2% of women live below the poverty line, due mainly to the low productivity of their work as a result of difficult access to factors of production, such as land and credit. The enrolment rate is lower for girls than for boys (49% against 55% in 2001). The school drop-out rate is higher for girls (10.4%) than for boys (5.2%). The illiteracy rate of women (48%) is higher than that of men (24.8%). Women are disadvantaged on the labour market, which is marked by wide disparities. For instance, the proportion of women without access to economic opportunities is estimated at 44% as against 22% for men. The rate of representation of women in positions of power and decision-making is estimated at 10% country-wide and only 5% in Kinshasa.

3.3.2 In all provinces, 70 to 98% of the population must cover from 3 to more than 15 km to have access to drinking water. This chore, which is generally done by women, affects their health and productivity. According to a 1995 survey by ENSEF-ZAIRE, women in the DRC, occupy only 1.3% of gainful employment in the secondary sector. This rate is 6.7% in Kinshasa and 2.5% in Katanga. The rate of women in positions of responsibility in the economy (large public and private enterprises) hardly exceeds 2 to 3%.

3.3.3 To reduce gender inequalities and ensure women's advancement, the National Programme for Congolese Women's Advancement has defined strategic objectives consistent

with the orientations of Beijing and the priorities identified in the GPRSP. It is essentially a question of promoting gender equality by 2010 in order to achieve gender parity, while ensuring the application of all the legal instruments in favour of women, notably the CEFDAW, and improving the legal environment of 50% of the women through training, information and the creation of a legal aid mechanism.

3.4 Constraints and Opportunities of the Sub-Sector

3.4.1 Institutional Constraints: In rural areas, the DWSS Master Plan 1991-2010 was based on objectives aimed at providing drinking water coverage rate of up to 80% and 100% so as to ensure access to hygienic sanitary facilities by year 2000 and 2010 respectively. These objectives are currently being reviewed under the MDGs. Rural DWSS has so far benefited from bilateral donor support (about US\$ 28 million in 1985-1990 and 13.4 million in 2001-2004), as well as revitalization by SNHR for the promotion of the sub-sector. Though encouraging, these gains remain very fragile in the absence of a clear policy and a national strategy whereby a long-term action plan can be developed to generate its own internal resources and mobilize external assistance for financing infrastructures in the sub-sector. Furthermore, it is important to clearly define the missions of SNHR to ensure that it gradually abandons its current operational functions and assumes the status of coordinator for more efficient management of the sub-sector. In this light, SNHR needs to be strengthened both at the central level and in the provinces.

3.4.2 As regards sanitation, there are no regulations on solid and liquid waste disposal (domestic, industrial and biomedical), as well as on storm water drainage, notably those relating to the design of facilities. The existing instruments are outdated, and the structures in charge of their implementation have either disappeared or, where they exist, lack adequate capacities to really force the polluters to reduce their nuisances and mitigate them. Moreover, the functions of the institutions responsible for preparing these laws are not defined.

3.4.3 Management and Maintenance-related Constraints: Access to quality DWSS services has dropped considerably since the 90s following plundering and political and military unrest, leading to stoppage of investments, degradation of facilities and weakening of the managerial capacities of the sub-sector entities. The key management-related constraints are those faced by these entities (REGIDESO, SNHR and PNA) as described in Section 3.2 above. Hence, the dire need for rehabilitation of existing infrastructures and replacement of those which were destroyed. The means of communication are degraded, making it difficult to supply inputs, materials and spare parts.

3.4.4 Economic and Financial Constraints: The DRC is emerging from a long period of political turmoil and war. With the assistance of the international community and donors, a strategic partnership framework for the 2004–2007 period has been put in place, through the Minimum Partnership Programme for Transition (PMPTR). The PMPTR evaluated the financial needs for all community development actions (Rehabilitation of minor DWS infrastructures, support to non-agricultural income-generating activities, supply of basic social services, support training services, etc.) at US\$ 60 million. Assuming an allocation of about 50% of these funds to the rural DWSS sub-sector, the investment capacity of the sector for implementation of the first phase of the programme (2005-2007) accounts for only about 16% of the financing requirements expressed, which represents a substantial financing deficit that needs to be covered to achieve the MDGs. This low rate is largely due to institutional constraints, lack of an attractive legal framework which has so far not allowed for the

involvement of donors and the private sector in the management and financing of the sub-sector. The resources required for developing the rural DWSS sub-sector could be mobilized only after putting in place appropriate reforms, an essential aspect of which should concern strengthening the decentralization of service delivery.

3.4.5 Opportunities: Located at the very centre of Africa and straddling the Equator, the DRC is among the wettest countries in the African continent: it records high rainfall all year round, which is 1,200 mm/year on average. With a mean flow of 42.000 m³ per second and minimal and maximum flows of 23 000 and 80 000 m³ respectively, the Congo River ranks 1st in Africa in terms of its catchment surface area (3 822 000 km²) and its mean flow and 2nd in the World after the Amazon (6 300 000 Km² and 100 000 m³/sec). The Congo River is 4,700 km long and has around twenty tributaries; some on the right bank and others on the left bank. It is 2nd in Africa after the Nile, and 5th in the World in length. In terms of quantity, drinking water supply in the DRC is less a problem of availability of fresh water resources than that of their harnessing and their rational and planned exploitation.

3.4.6 On the basis of ongoing reform efforts and given donors' interest in poverty reduction actions in the country, there are real opportunities for developing this sector which is vital to the economy. Indeed, water has always been a priority in the Development Plans implemented in the country during the first three decades after independence. The new authorities reaffirmed this priority and the unified Water Code as well as the Development Strategy of the sector could be adopted before end 2007. Moreover, the study financed by COPIREP on the institutional efficiency of REGIDESO and water sector reform should be completed by October 2007, with concrete recommendations for the reorganization of this State-owned corporation, the improvement of its management, and the consolidation of its financial position. Several donors, including the World Bank, are awaiting the conclusions of this study to programme more significant institutional support to REGIDESO. Concerning the payment of the State's water bills, appropriate measures are envisaged to ensure that the stock of unpaid bills does not increase any further as from 2007. A study has been conducted to determine all the Government Services (IO) financed by the State Budget. REGIDESO will have to equip all of them with meters, and the State's water bill payments will be in cash and based on actual consumption.

3.4.7 Furthermore, the World Bank will soon launch a study on governance in the urban and semi-urban drinking water sub-sector. This study should facilitate analysis of the perception and opinion of the populations and civil society on REGIDESO and reform of the sector. The objectives of this study include the measurement of the propensity of users to pay for water, as well as the level of ownership and the place of governance in the management of the sector, and the identification of bottlenecks and the opportunities offered by the reform of the sector. All these measures also reflect the determination of the Government, stakeholders and partners to improve the situation in the sector and achieve the goals set by the Government within the framework of the MDGs.

IV THE PROJECT

4.1 Design and Rationale

4.1.1 There is very little or no satisfaction at all of drinking water and sanitation service needs in Kasangulu, Lisala and Tshikapa centres. The DWS system in Tshikapa town dates back to the 50s, and was designed for a far smaller population than it currently has. Rehabilitation/extension studies had already been conducted on it, but had not been implemented as a result of the plundering of 1991. The REGIDESO network serves only part of the town centre in Kanzala Council, that is, less than 1% of the population. Out of 650 subscribers in 1990, only 100 remain active (of which 16 are institutional). There are only two functioning public fountains throughout Tshikapa; almost all of the town's 1.5 million inhabitants fetch water from sources threatened by erosion, and use methods that reduce water quality. In Lisala, all the water infrastructures were destroyed in 1997 and the inhabitants of this town currently have no access to drinking water. Consequently, nearly 80% of the diseases in these centres are water-borne. In Kasangulu, the drinking water access rate is 12.5%, which is well below the national rate of 25% in urban and semi-urban areas. This project is designed to remedy this situation on a long-term basis.

4.1.2 In the three centres, the households with access to safe water buy on average 2 to 4 basins of water of 25 litres per day, that is, the equivalent of 50 to 100 litres of water per day intended for drinking and cooking. This population buys water either directly from the source or from water retailers. The price of a basin of 25 litres ranges from FC 20 to 200 depending on the season and supply method, that is, between FC 800 and FC 8000 per m³. The project is designed to enable the people to have more regular access to drinking water and at lower cost.

4.1.3 The three centres of the project face problems of erosion, soil degradation and various kinds of pollution related to uncontrolled urbanization. The absence of sanitation services constitutes a serious public health problem. Indeed, there are no controlled solid waste dumps, or water pollution control measures in these centres. In addition, the Decentralized Administrative Entities (EAD) have inadequate solid waste collection and management capacities. There is no draining of septic tanks. In these project areas, refuse collection is either non-existent, or not in conformity with environmental standards, and domestic waste is generally dumped directly on roads and parcels of land. They have no latrines, not even the traditional types. Domestic effluents are poured into the streets or on the parcels. All these negative impacts require appropriate environmental protection measures to mitigate uncontrolled exploitation and poor space management. The project will help to remedy this shortcoming.

4.1.4 The project is based on technical studies conducted by REGIDESO and updated with Bank support in 2006. The adopted technical solutions are those which were deemed most suitable in comparison to other alternatives. Thus for the drinking water supply, surface waters were chosen as supply sources for Tshikapa and Kasangulu, while groundwater will be tapped in Lisala. Hydroelectric energy will be used in Tshikapa and Kasangulu to help reduce water production costs. On-site wastewater treatment was selected on account of the easy maintenance and cost-effectiveness of the structures.

4.1.5 The project design incorporated several other elements to strengthen and sustain the quality of DWSS service: improvement of water supply management through delegation of operation of public fountains to the private sector, capacity building at all the levels of the chain of water and sanitation management, and sensitization on hygiene and health.

4.2 Project Area and Beneficiaries

4.2.1 The project area covers Kasangulu in Bas Congo Province, Lisala in Equateur Province, and Tshikapa in Kasai Occidental. In 2005, the population was estimated at 27, 916 inhabitants for Kasangulu, 71 266 inhabitants for Lisala and 1 467 516 inhabitants for Tshikapa, making a total of 1 556 698 inhabitants. The female population is 14 463 in Kasangulu, 36 804 in Lisala and 784 745 in Tshikapa, making a total of 896 012 women (54% of the total population of the project area). With an average growth rate estimated at 3% per year for each locality, the beneficiary population of the project area should reach 1.7 million inhabitants in 2010 at the end of the project.

4.2.2 The economic activities the project area concern the primary, secondary and tertiary sectors. In Kasangulu, corn, cassava, plantains, yam, sweet potato, paddy rice, etc. are cultivated. The industrial crops comprise coffee, cocoa, oil palm and rubber. Agriculture is supported by a Bank-financed project known as the Support Project for the Rehabilitation of the Agricultural and Rural Sector in Bandundu and Bas-Congo Provinces (PARSAR). At the moment, there is no agricultural produce processing facility. Tertiary sector activities are also limited. Agriculture occupies nearly 70% of the population in Lisala, and the food crops are dominated by cassava, corn, plantains and yam. There is no industrial manufacturing unit in Lisala. Agriculture is almost non-existent in Tshikapa, unlike the other centres. The main activity of the town is the small-scale extraction of diamond, which sustains the bulk of the population.

4.2.3 Kasangulu has a referral hospital, 21 health centres, 20 health posts, 1 maternity, 14 primary schools and 10 secondary schools. Lisala has two hospitals, 38 health centres, 18 health posts, 37 primary schools and a significant number of secondary schools. Tshikapa town has a medical district comprising three health zones, fifty health centres, and 209 health posts. Three referral hospitals are operating in the Tshikapa health district. In addition, various public and private health centres have been opened there. Two Higher Medical Training Institutes provide training in health. Despite the absence of reliable statistics on the health status of the project area as a whole, it is estimated that over 80% of the diseases are water-borne. This situation is worsened by the clear inadequacy of DWSS services in Kasangulu (12.5% drinking water access rate) and the almost total absence of these services in Tshikapa and Lisala (1% and 0% DWS access rates respectively). Malaria remains the leading cause of morbidity and mortality among the population in general, and in particular among children aged 13 and below. The HIV/AIDS prevalence rates are higher than the national rate of 4.6%.

4.3 Strategic Context

4.3.1 The project falls within the Government's development strategy, mained primarily at promoting strong growth and poverty reduction. The project will help to develop access to basic social services, which is one of the priorities of the Government's strategy. Indeed, to achieve the set goals, the GPRSP adopted by the Government in July 2006 is centred on the following priority actions in the water and sanitation sector: (i) rehabilitation of existing

infrastructures; (ii) implementation of development programmes of the sector to increase access by the greatest number to drinking water and sanitation services; (iii) increasing the capacities of water production units; (iv) improvement of the management of water points through promotion of community and private sector participation; and (v) strengthening of the existing sanitation programmes and their extension nationwide. This project will contribute to the achievement of the MDGs in the DRC as regards water and sanitation, the objective of the GPRSP in the DWSS sector being to increase the drinking water service rate from 22% in 2005 to 26.9% in 2008 and 49% in 2015, and the sanitation service rate from 9% in 2005 to 15 % in 2008 and 45% by 2015.

4.3.2 The project is consistent with the Bank's strategy in the DRC as defined in the Results-Based Country Strategy Paper (RBCSP 2005-2009). Indeed, it falls within the scope of the first pillar of this strategy which aims at "*... improving the socio-economic conditions of the rural and semi-urban poor populations*". Bank assistance under this pillar will focus on the development of the agricultural and rural sector and improvement of basic infrastructures. With respect to the latter, the Bank will contribute to the rehabilitation and extension of DWSS infrastructure to support economic recovery and improve drinking water access to a larger part of the population. These actions will improve the living environment of the populations through supply of suitable DWSS services. Future Bank operations in this sector will strengthen the impact of ongoing actions by helping the Government, in particular, to formulate and implement a national rural drinking water policy.

4.4 Project Objective

The sector goal of the project is to contribute to improving the health conditions and quality of life of the people. Its specific objective is to provide sustainable DWSS service to Kasangulu, Lisala and Tshikapa.

4.5 Detailed Description of Project Components

4.5.1 The project will ensure: (i) the rehabilitation, extension and strengthening of drinking water supply systems in Kasangulu, Lisala and Tshikapa; (ii) the construction of latrines and public fountains in all the schools and health centres in these three localities; (iii) the establishment of a solid waste collection system; (iv) the establishment of an erosion control system (v) sensitization and training of the populations on drinking water and sanitation; (vi) the availability of certain drugs in health centres; (vii) capacity building for the management structures of the DWSS sector (REGIDESO, SNHR, PNA; OVD) as well as of the beneficiary populations. Besides providing DWSS infrastructures, the components are designed to strengthen the capacities of the structures responsible for the sector for better implementation of the project, which must make available sufficient good quality drinking water through regular controls.

4.5.2 The project is centred on the following components:

- A. Rehabilitation and extension of DWSS infrastructures;
- B. Communication for Change in Behaviour (CCB);
- C. Study on the National Rural DWSS Programme (PNEAR)
- D. Institutional Support; and
- E. Project Management.

COMPONENT A: Development of DWSS infrastructures

4.5.3 Works: To sustainably improve drinking water service to the project area populations, the project will finance the supply and installation of DWS equipment in Kasangulu, Lisala and Tshikapa centres. These works range from intake to treatment, backflow, storage, distribution and operation. The works in Kasangulu concern: construction of an intake and a raw water pumping plant, rehabilitation of the treatment plant (capacity raised to 80 m³ /hr), operating buildings and the treated water pumping facility, which will be reinforced for an additional flow of 40 m³ / h. There are also plans to build a new reservoir of 1000 m³, provide and lay 8.49 km of pipes (diameter from 40 to 200 mm), replace 841 meters, rehabilitate three public fountains and install 39 new ones. In Lisala the works will involve: (i) construction of the Djongobono spring catchment structure and installation of a pumping station there; (ii) drilling of a new borehole in Kaba and equipment of the four existing ones; (iii) building of an intermediate tank (2 200 m³ capacity); (iv) building of a 1 200 m³ water tower; (v) providing and laying 1,993 km of pipes; and (iv) rehabilitation of three public fountains and building of 54 others. Finally in Tshikapa, there are plans to: (i) build a raw water intake and treatment plant (capacity: 50 000 m³/j); (ii) construct a lowland and a highland distribution network (overall length: 199.41 km); (iii) build six tanks (total capacity: 9 500 m³; and (iv) construct an electric power production unit (capacity: 1.5 megawatt hour) for the energy requirements the towns DWS system. Also, 294 public fountains and 13 500 private connections will be provided.

4.5.4 The project also envisages the construction of 1154 institutional latrines (222 in Kasangulu, 262 in Lisala and 670 in Tshikapa). The works will be carried out according to technical standards approved by PNA. In each selected health centre, a block of latrines with two rooms will be constructed for men, and another for women. It is envisaged that in each school, there will be a block of latrines with three rooms for boys and a block of latrines with three rooms for girls, a latrine with one room for male teachers, and a latrine with one room for female teachers. Finally, each market will have a block of latrines with three rooms for men and a block of latrines with three rooms for women. 3114 wash basins will be installed in these latrines. Similarly, a consignment of minor maintenance equipment (brooms, brushes, gloves, wheelbarrows, etc.) as well as a starting stock of soap for the washbasins and cleaning products (disinfectants, etc.) will be provided. Their costs are included in the construction costs.

4.5.5 Goods: Each DWS network will be equipped with an appropriate electric power supply system, as well as back-up operating equipment. In Kasangulu, this will entail procuring a new transformer and an electrical cabinet of 200 kVa, water analysis laboratory equipment, electromechanical workshop equipment, a four-wheel drive vehicle, two motorcycles and a welding unit. In Lisala, three generating sets (of 500 kVa, 100 kVa and 80 kVa), water analysis laboratory equipment, electromechanical workshop equipment, a four-wheel drive vehicle, two motorcycles and a welding unit will be supplied and installed. Finally in Tshikapa, two new transformers and two electrical cabinets of 630 kVa, three transformers on poles of 250 kVa, water analysis laboratory equipment, electromechanical workshop equipment, a four-wheel drive vehicle, two motorcycles and a welding unit will be supplied and installed.

4.5.6 Services: A consulting engineer firm will be recruited to monitoring and inspect all the DWSS works. It will carry out: (i) all investigations necessary for the construction of compliant infrastructures (hydro-geological surveys, geophysical studies, preparation of

bidding documents); (ii) the control and supervision of construction works. It will also be responsible for geophysical works both during prospecting and borehole drilling and logging so as to better define catchment areas and control borehole drilling quality in Lisala.

COMPONENT B: Communication for Change in Behaviour (CCB)

4.5.7 CCB activities will be carried out by qualified NGOs with the support of structures present in the field, namely: the National HIV/AIDS Control Programme (PNLS), the National Multi-sector HIV/AIDS Control Programme, health zones, CONDIFA offices, the EAD (Kasangulu, Lisala and Tshikapa Councils) and REGIDESO. Under this component, the project will strengthen the capacities of these structures through logistic support and training in participatory techniques. Local radios will be used for sensitization on hygiene.

4.5.8 Goods: The five health zones will be provided with computer equipment (eight computers) and office automation equipment (five photocopiers and eight electric typewriters) as well as office furniture and motorcycles (12 units) with a degressive allocation of equipment fuel over the four years of project implementation. The local offices of CONDIFA and the Women's Advancement Centres (CPF) of the seven Councils of the project area will receive logistic support comprising: 21 workstations, 7 photocopiers, communication material for the promotion of hygiene and sanitation, software, furniture and various materials (see details in Annex 6, page 2). Moreover, 86 local NGOs in Lisala and Kasangulu will each receive one bicycle, as well as education and sensitization materials. For the control of diarrhoeal diseases, there are plans to acquire a consignment of drugs (zinc) and sachets of oral rehydration salts (SRO).

4.5.9 Prevention of Water-borne Diseases and HIV/AIDS: The project will finance in the five health zones: (i) activities concerning minimum package on syndromic management of Sexually Transmitted Infections (STI) including the training of 60 of health workers in 20 health centres (CS) and 5 general hospitals; (ii) prevention of mother-child transmission in twenty (20) maternities; and (iii) support to 20 voluntary screening centres (VSC). The project will finance the procurement of 200 kits of STI treatment drugs (50 kits of drugs per year for a total of 25 health structures). Moreover, the project will procure reagents/tests for 20 health structures. Regarding malaria control activities, the project will contribute to the purchase of insecticide-treated mosquito nets and drugs (ACT) for the prevention and treatment of pregnant women (5% of the population) and for children aged 0-5 years (20%) and school children aged 5-13 years (5.6%). These purchases will cover 30.6% of the project area population with insecticide-treated mosquito nets and malaria treatment drugs throughout the project. The project will finance teaching aids/education and sensitization materials comprising, in particular, idiot boxes, fliers, megaphones, etc.

4.5.10 Services: They concern the CCB communication strategy, as well as promotion of hygiene and basic sanitation activities. The communication plan will be directed to all sub-sector stakeholders present in the localities of the project (Government Ministries, technical and political policy makers, technicians, mayors and municipal staff, private sector and communities). Communication tools will be developed to make the framework for dialogue functional at all the levels. Public awareness campaigns will be carried out on the use of clean water as the only drinking water, the improvement of its conservation, good hygiene around homes and in public places, promotion of household drainage systems, washing of hands with soap, etc. CONDIFA offices and health zones will receive financial support for better field monitoring of sensitization and outreach activities. CONDIFA and the National

Directorate of Hygiene at the central level will receive financial assistance to enable them to ensure appropriate monitoring and evaluation of CCB activities.

4.5.11 **Training:** The training programme of this component will be developed by the consultant in charge of the CCB strategy. It will be directed to project stakeholders and young water retailers. Teachers will undergo training on cross-cutting issues, education for hygiene and HIV/AIDS control and water-related diseases to enable them to convey sensitization messages at school. Indicative topics of the training are detailed in the table of costs in Annex 6.

COMPONENT C: Study on the National Rural DWSS Programme

4.5.12 A consulting firm will be recruited to conduct a sectoral study that should carry out a diagnosis in the initial phase, and to prepare a National Rural DWSS programme in the second phase. The study will concern: (i) an inventory of water structures in the country and strengthening of the data base available at CNAEA, the creation of a Geographical Information System "SIG-EAU" as well as the training of officers of management structures of the sector in the use of System (ii) updating of the rural DWSS Master Plan; (iii) preparation of the National Rural DWSS Programme in the DRC in conformity with the principles of the Bank Initiative; and (iv) preparation of provincial investment programmes, based on the responsible requests of the populations of Equateur, Bas Congo and Kasai Occidental Provinces. A summary of the draft TORs of the sector study is in Annex 10.

4.5.13 Provincial Water and Sanitation Action Committees (CPAEA) will coordinate the study. Also taking part will be representatives of SNHR, PNA as well as individual consultants, who will be recruited to fill up the standard teams to be mobilized for each Province. These teams, which are three in number, will each comprise: (i) a hydraulics engineer; (ii) an expert on institutional affairs, and (iii) a financial expert. On the basis of the existing water and sanitation master plan and information available in the field, the teams will prepare provincial diagnoses, and will identify all the actions to be undertaken for the development of the drinking water and sanitation sector in each Province. The study should be conducted in close coordination with the other donors, notably, the World Bank, UNICEF, and DFID and will receive support from the Belgian Technical Co-operation (CTB) present in the Provinces for its implementation.

COMPONENT D Institutional Support

4.5.14 **Works:** These concern the construction of the drinking water infrastructures management and operations building in Tshikapa, rehabilitation of REGIDESO buildings in Kasangulu and Lisala, rehabilitation of the buildings for the project in Kinshasa, rehabilitation of the REGIDESO training centre and rehabilitation of the PNA water quality control laboratory.

4.5.15 **Goods:** The detailed list of the goods, by beneficiary structure, is shown in Annex 6. *REGIDESO* will be provided with: (i) computer and office automation equipment (103 PC³ and accessories, 8 laptop computers, 82 printers, eight scanners, 24 photocopiers and two software), telecommunication by VSAT satellite to equip the training centre (CFO) as

³ Distributed as follows : data processing depts (06), accounting(06), cash (04), DDR(06), DRH (04), Audit (10), DCGOS(04), and DFO (27); legal affairs service (03); the PDs of Matadi (06), Mbandaka (06) & Kananga (06); Kasangulu (06), Lisala (06) & Tsikapa (08).

well as the three provincial directorates and the three centres concerned by the project, the installation of a local area computer network within the said DP and CFO; (ii) furniture and technical and teaching equipment for the rehabilitated buildings of the training Centre (offices, lecture rooms, rooms for tutorials, dormitories, refectories, residences, kitchens, storerooms) (iii) means of transport including: 05 four-wheel drive vehicles for REGIDESO centres (two in Tshikapa, one in Lisala, and one in Kasangulu) and a minibus for the Training Centre, as well as 8 motorcycles (four in Kasangulu and Lisala, ten in Tshikapa); (iii) office furniture for each centre. An outboard motorboat will be procured to be used in districts inaccessible by road in Lisala.

4.5.16 The equipment to be procured for *capacity building of the other structures (PNA; SNHR and CNAEA)* includes: (i) computer equipment, namely PC and accessories (54 units), laptop computers (10 units), printers (42 units), scanners (12 units), a software for interpretation of the physicochemical water analyses, database management software (2 units) and photocopiers (16 units); (ii) a batch of water analysis equipment for the PNA analysis laboratory, as well as scientific and technical equipment for SHNR and CNAEA to enable them to make the inventories; and (iii) a four-wheel drive vehicle, motorcycles (28 units) and bicycles (200 units) to SNHR to enable it to effectively participate in coordinating, monitoring and evaluating the rural DWSS study .

4.5.17 As regards sanitation, the project will partially finance the establishment of a solid waste collection system in the seven Councils of the project area. The following will be procured from the ADF grant resources: fourteen (14) pre-collection buckets and seven (07) refuse collection vehicles in order to equip them. Lastly, annual financing is envisaged for institutional support beneficiary structures for the purchase of: (i) chemical reagents and other inputs; (ii) public fountain spare parts; (iii) computer consumables and office supplies; and (iii) fuel and spare parts for municipal solid waste management units.

4.5.18 Services: This item concerns consultancy services, training and other services (Internet subscriptions and maintenance of SNHR vehicles and motorcycles). *Technical assistance* is aimed at restoring and strengthening the capacities of REGIDESO in planning, implementation, management and monitoring and evaluation of DWS projects. It comprises the recruitment of: (i) a project management expert to serve as Assistant Coordinator for a four-year period (48 months); (ii) an expert in administrative, financial and accounting management for two years (24 months); (iii) two procurement experts, respectively for three years (36 months) and one year (12 months); (iv) a monitoring and evaluation expert for two years (24 months); (v) an expert environmentalist for two years (24 months); and (vi) an expert internal auditor for two years (24 months). These experts will come to reinforce the Project Implementation Unit (PIU), which will manage the project, and PEMU. Accordingly, the Government and the World Bank agreed that the technical assistants in financial and accounting management, procurement, environment and audit will be common to the two projects. The division of the costs of these experts will be the subject of an agreement between ADF and IDA.

4.5.19 Other Consultancy Services to REGIDESO concern: (i) development of a new manual of administrative, accounting and financial procedures and training in its use; (ii) the establishment of a document filing and archiving system, including the supply of software; (iii) the audit of the information system, precedent to pursuing the computerization of REGIDESO; (iv) creation of a Website and an Intranet system; (v) harmonization of

REGIDESO accounting system with that of OHADA⁴, in view of the DRC's adhesion to the OHADA treaty in 2008; (vi) development of the training programme of the project; (vii) establishment of a core of trainers in the Kinshasa CFO; and (viii) strengthening of the organization and management system of the DPs in Matadi, Mbandaka and Kananga to take into account their connection by VSAT to the Head Office and real-time processing of their operations.

4.5.20 *Training:* Local training sessions will be organized within the premises of the renovated centre or, when necessary, in conjunction with credible services of training institutions located in the DRC. It should be reiterated that at the start of implementation, a consultant will be recruited to prepare a comprehensive training programme (2008-2010) taking into account the human resource capacity building requirements of all institutional support beneficiary structures (REGIDESO, PNA; SNHR, CNAEA). The programme will specify the objectives, contents and expected outcomes of each training course, as well as the profile of the participants and the implementation conditions. A detailed list of tentative training themes is given in the table in Annex 6. Furthermore, the grant resources will finance short courses abroad for the training of senior staff (60 in Africa and 48 outside Africa) as well as field trips for 60 employees of the structures concerned.

COMPONENT E: Project Management

4.5.21 REGIDESO will be the Executing Agency of the project, and will set up within itself, a Project Implementation Unit (PIU), which will be charged with the day- to-day management of the project. At each REGIDESO centre, a branch of the PIU will be created. At the field level, there will be a CCB sub-component managed by a Municipal Monitoring Committee in each Council of the localities served, which will be supported by an outreach and hygiene awareness officer based at REGIDESO and by health zone officials, as well as by the local offices of CONDIFA. Under this component, the ADF will finance the following activities: (i) support to the Project Implementation Unit in the form of equipment and consumables; and (ii) annual auditing of the project.

4.5.22 *Goods:* Under management of the project, computer and office automation equipment, rolling stock and consumables will be procured. They comprise: computers (25 units) and accessories, including equipment for setting up a network (20 stations), laptop computers (06 units), management software (01 unit), overhead projector (02 units), vehicles (03 units), of which a minibus for local transport of staff and consultants, VSAT satellite communication equipment (01 unit), photocopiers (05 units), office furniture (one package) and one package of fuel and consumables.

4.5.23 *Operating Costs:* The operating costs will cover incentives granted to national staff seconded to the PIU and the other overheads (insurance, water, electricity, maintenance, sundry management expenses, etc....), which will be borne by the Unit.

4.5.24 *Project Audit:* This activity concerns the financial audit of the project. An external audit firm will be recruited to check the project accounts and the corresponding bank accounts once a year. The audit expenses will be financed by the ADF grant.

⁴ The Organization for the Harmonization of Business Law in Africa (OHADA) has established a business law and an accounting system common to the 17 member countries.

4.6 Production, Sales and Tariffs

4.6.1 REGIDESO produces and distributes water in 94 centres of a nominal production capacity of 354.6 million m³, a level well below demand. These centres cover the main urban towns, as well as the small built-up areas and outskirts of the towns. Kinshasa and Lubumbashi alone represent 76% of the activities of REGIDESO, showing that the investment policy favoured the major population centres to the detriment of the less profitable centres or those with difficult access. As a result, REGIDESO services could not extend to the sprawling districts that have developed around the large towns as well as fast-growing agglomerations, such as Tshikapa. Total water production was 361.28 million m³ in 2006. The water sales reached only 144.37 million m³ in 2006, representing a network output of approximately 40 %.

4.6.2 The table below shows the breakdown of REGIDESO sales by type of subscriber for the year 2005:

Table 4.1
REGIDESO water sales and turnover in 2005

Category	No. of subscribers	Consumption 10 ³ m ³	in %	Turnover in Fc	in %	Average SP Fc
Public fountains	853	662	0.48%	305	0.73%	461.0
Household	244 133	76 562	55.86%	11 060	26.56%	144.5
Intermediate	2 116	1 889	1.38%	1 175	2.82%	622.4
Business	3 383	3 583	2.61%	3 810	9.15%	1063.3
Industrial	550	7 729	5.64%	6 907	16.59%	893.8
REGIDESO service	273	1 617	1.18%	427	1.03%	263.9
REGIDESO staff	2 878	2 250	1.64%	385	0.92%	171.1
S/total private	254 186	94 291	68.80%	24 070	57.81%	255.3
State	3 546	42 761	31.20%	17 569	42.19%	410.9
TOTAL	257 732	137 052	100%	41 639	100%	303.8

4.6.3 On the basis of an evaluation of the needs of the population of the project area, the following table shows the situation, in 2006, of drinking water demand and availability in the three towns:

Table 4.2
Determination of needs and access rate in the project area in 2005

Town	Demand per inhabitant in litres	Population (X1000 inhabitants)	Requirements(X1000 m ³)	Production (X1000 m ³)	Sales (X1000 m ³)	Access rate
Kasangulu	33.9	27.9	345	235	43	12.5%
Lisala	33.6	71.3	874	0	0	0%
Tshikapa	31.3	1 457.5	16 625	ND	166	1.0%
Total	31.4	1 556.7	17 844	0	209	1.2%

4.6.4 Tariffing: Since 1998, water and electricity tariffs are fixed by the drinking water and electricity selling prices and Tariffs Monitoring Committee (COSU). The principle of progressivity of social categories as well as the application of several tariff levels according to social standards of the districts served is adopted. There is a tariff based on the dollar exchange rate applied to industry, and which is welcomed by enterprises. It should be noted

that the authorities have frozen tariffs in Kinshasa since 1997 as concerns the social bands, which explains the low average tariff level (Fc144.5/m³). In the hinterland, the tariffs negotiated with COSU differ from one centre to another, and are in general tailored to production costs. Under the PEMU, a tariff study will determine a tariff grid which takes into account the operation and exploitation requirements of the sector, as well as the elasticity of demand.

4.6.5 In the three centres of the project, at least 40% of drinking water will be distributed to the populations through public fountains. In Tshikapa, the number of private connections will be high (13 000 connections), since part of the population has a relatively higher purchasing power in the town. Currently in the three centres, a 20- litre water can is sold for between Fc 20 and Fc 200, that is, between Fc 800 and Fc 8000 m³, depending on the distance from the source and the availability of water. To take into account the low purchasing power of the populations, who have water supply through public fountains, under the project, a price of 5 Fc per can of 20 litres will be applied, which is equivalent to a price of Fc 250 /m³. This price is comparable to that applied by other DWS systems, constructed and operated in public-private management partnership, set up with the support of the European Union (Béni DWS, for example). Furthermore, the system of cash payment for public fountain water improves the collection rate, with a significant impact on the financial standing of each centre. Production and sales forecasts are shown in Annex 9. The table below summarizes the sales by centre for the year 2011:

Table 4.4
Structure of Water Sales by Customer Segment and by Centre in 2011

Description	Breakdown in %	Selling price Fc/m ³	Sales in thousand m ³				Turnover Fc million ⁵
			Lisala	Kasang	Tshikapa	Total	
Good level connection	5%	660	18.3	8.7	447.8	474.8	313.38
Average level connection	40%	562	146.1	70.0	3582.5	3798.6	2 134.8
Low level connection	15%	450	54.8	26.2	1343.4	1424.5	641.01
Supply by standpipe	40%	250	146.1	70.0	3582.5	3798.6	949.65
Total	100%	425.3	365.4	174.9	8956.2	9496.5	4 038.8

4.7 Environmental Impact

4.7.1 In view of the components defined above and the potential impacts which will be generated, the project is classified in environmental and social category 2. Indeed, the DWSS works, which will be undertaken in semi-urban areas (construction of pumping and water treatment stations, water towers, intermediate tanks, trenches for water supply networks, networks of public or private toilets, etc.), will not generate any uncontrollable impact. The works will not affect any noteworthy or protected ecosystem, or archaeological or religious site. The project sites are in such a state of degradation that the project can only improve their physical, natural and human conditions. As regards the feasibility study on the project, an environmental and social impact assessment (ESIA), accompanied by (i) an Environmental and Social Management Plan (ESMP), (ii) an Implementation Plan of the Information and Consultation Programme for the target public, and (iii) the draft principles of a Relocation Plan have been prepared by a consultant. Supplementary studies were conducted thereafter to better specify the scope of the social aspects. The conclusions of these different environmental and social assessments are summarized in the ESMP in Annex 10.

⁵ Fc million

4.7.2 Positive Impacts: The project will have significant positive impacts on securing an adequate supply of disinfected drinking water. The incidence of water-borne diseases will reduce drastically, resulting in substantial financial savings for households and health centres, as well as less absenteeism from work and school. The socio-economic impacts will be felt quickly. The abundance of water will create new income-generating activities and new jobs, as well as develop mining, food and other industries.

4.7.3 Negative Impacts: The environmental and social assessments show that the negative impacts of the project in the three centres are similar on the physical, natural and human environment. The works will cause only minor damage to the ecosystems of the affected semi-urban areas; they will entail mostly earthworks causing localized soil structure disturbances, cuts of herbaceous and woody vegetation which will be replanted or regenerated at the end of the works, oil leakages, fuel and gas emissions on the soil from project site machinery, etc. This will result in minor risks of surface or ground water pollution depending on the soil characteristics (permeability, transit speed, etc). The laying of pipes along the road systems will require the felling of only a few ornamental trees (shaded walks and avenues) and the aesthetic impact will be negligible and short-lived (replacement planting).

4.7.4 No cultural heritage will be affected by works which could cause disturbances following the displacement of certain community facilities. The majority of these negative impacts were considered minor and reversible. The land aspect of works will have the most obvious potential negative impact. However, this impact will be insignificant given that REGIDESO is the owner of some of the land on which the extensions of the facilities will be established (new water towers, public fountains, water intakes, catchment areas, and impluviums, etc.) and that the rehabilitation works will not be done outside their rights of way. On the other hand, the choice of catchment area site (Tshikapa) will require land acquisition. Hence, such sites will definitely call for involuntary displacement of the populations affected by the project. A detailed study on involuntary displacement and relocation of the populations was conducted in order to determine the number of homes or households to be moved.

4.7.5 The mitigating measures proposed in the ESMP concern above all the restoration of all the project and work sites, appropriate disposal of liquid effluents, erosion control, complete protection of impluviums and catchment areas, maintenance of a minimum flow of the streams supplied by the harnessed sources; the project machinery under normal work conditions should not generate much noise, or emit excessive combustion gas or have fuel or oil leakages. REGIDESO will strictly monitor the chlorination of water, and its laboratory will monitor water quality regularly (heavy metal concentration, microbiology). PNA will carry out the necessary control according to its institutional prerogatives. Any expropriations, forceful removal, land requisition, damage to crops, lost earnings for shops, etc will be covered by involuntary displacement and compensation. The families concerned will be compensated prior to the organization of work. A participatory approach to all of the problems of the project will be organized before it starts, but also, as far as possible, at the end of the works in order to enable prospective beneficiaries to make their comments on the implementation of the project and the operation of the new networks.

4.7.6 Cost Estimates: The project will contribute to drinking water supply to the three centres, comprising seven (07) semi-urban councils and thirty-six (36) districts of a population of about 1.6 million inhabitants, and will help to increase the drinking water

access rate of the three centres from 1.2% in 2006 to 41% in 2011. The cost of the negative impact mitigating measures, including the costs of erosion control measures, environmental surveillance and monitoring, is estimated at US\$ 7,661,000, including a provision of about US\$ 5 million for erosion control and US\$ 500 000 for any expropriations and compensation financed by the Government.

4.8 Project Cost

Total project cost, net of taxes and customs duties, is estimated at UA 78 million, equivalent to approximately US\$ 116.23 million. This cost includes a 10% provision for physical contingencies and 3% and 6% per year for price escalation in foreign currency and local currency respectively. The project cost was estimated on the basis of volume of work to be carried out and the unit prices of similar ongoing projects. Below is the project cost breakdown by component and expenditure category:

Table 4.5
Project Cost by Component

Components	US\$ Million			UA Million			As % of
	FE	LC	Total	FE	LC	Total	Total
A. Rehab. & extens. DWSS infrastruc.	46.56	16.92	63.48	31.25	11.34	42.59	54.6%
DWS 3 semi-urban Centres	38.54	9.38	47.92	25.87	6.29	32.16	41.2%
Construct latrines 3 semi-urb Centres	3.90	2.60	6.50	2.62	1.74	4.36	5.6%
Environmental protection	0.00	4.94	4.94	0.00	3.31	3.31	4.2%
Studies. Supervision & Insp. of works	4.12	0.00	4.12	2.76	0.00	2.76	3.5%
B. Comm. for Change in Behaviour (CCB)	2.31	1.56	3.87	1.55	1.05	2.60	3.3%
C. National rural DWSS study	4.1	1.2	5.29	2.78	0.77	3.55	4.5%
D. Institutional Support	13.80	4.44	18.24	9.26	2.98	12.24	15.7%
D. Project management and audit	1.64	7.15	8.79	1.10	4.80	5.90	7.6%
Project management	1.54	7.15	8.69	1.03	4.80	5.83	7.5%
Project audit	0.10	0.00	0.10	0.07	0.00	0.07	0.1%
Total basic cost	68.44	31.22	99.66	45.94	20.95	66.88	85.7%
Physical contingencies	5.43	1.71	7.14	3.64	1.15	4.79	6.1%
Provisions for inflation	4.88	4.55	9.43	3.27	3.06	6.33	8.1%
Total Project Cost	78.75	37.48	116.23	52.85	25.15	78.00	100.0%

Tables 4.6 and 4.7
Project cost by Expenditure Category

Expenditure Category	US\$ Million			UA Million			% in FC.
	FE	LC	Total	FE	LC	Total	
GOODS	9.58	0.22	9.80	6.43	0.14	6.57	8.4%
WORKS	44.53	20.05	64.58	29.88	13.46	43.34	55.6%
SERVICES	14.06	3.80	17.86	9.44	2.55	11.99	15.4%
<i>Of which : CONSULTANTS</i>	<i>7.98</i>	<i>0.96</i>	<i>8.94</i>	<i>5.36</i>	<i>0.64</i>	<i>6.00</i>	<i>7.7%</i>
<i>TRAINING</i>	<i>1.45</i>	<i>1.61</i>	<i>3.06</i>	<i>0.97</i>	<i>1.08</i>	<i>2.06</i>	<i>2.6%</i>
<i>OTHER SERVICES</i>	<i>4.63</i>	<i>1.23</i>	<i>5.86</i>	<i>3.11</i>	<i>0.82</i>	<i>3.93</i>	<i>5.0%</i>
OPERATION	0.27	7.15	7.42	0.18	4.80	4.98	6.4%
Total basic cost	68.44	31.22	99.66	45.93	20.95	66.88	85.7%
Physical contingencies	5.43	1.71	7.14	3.64	1.15	4.79	6.1%
Provision for price escalation	4.88	4.55	9.43	3.28	3.05	6.33	8.1%
Total Project Cost	78.75	37.48	116.23	52.85	25.15	78.00	100%

Expenditure Category	US\$ Million			UA Million			% in FC
	FE	LC	Total	FE	LC	Total	
GOODS	10.47	0.27	10.74	7.02	0.18	7.20	9.23%
WORKS	50.88	25.29	76.16	34.14	16.97	51.11	65.53%
SERVICES	17.09	3.43	20.52	11.47	2.30	13.77	17.66%
<i>Of which : CONSULTANTS</i>	13.70	1.03	14.72	9.19	0.69	9.88	12.67%
<i>TRAINING</i>	1.55	1.72	3.27	1.04	1.16	2.20	2.82%
<i>OTHER SERVICES</i>	1.85	0.68	2.53	1.24	0.46	1.70	2.18%
OPERATING COSTS	0.32	8.49	8.81	0.22	5.70	5.92	7.58%
Total cost	78.75	37.48	116.23	52.85	25.15	78.00	100.0%

4.9 Sources of Finance and Expenditure Schedule

4.9.1 The project will be financed jointly by the Bank and the Government. The Bank will finance 97.93% of the project costs estimated at UA 52.85 million in foreign currency. This amount represents approximately 67.75% of the estimated project cost, net of taxes. The Bank will also contribute to the financing of the costs in local currency for an amount of UA18.25 million. The contribution of the Government will be UA 8 million or 10.26 % of estimated project cost, as well as any taxes and customs duties. The Government's contribution will be used to finance: (i) expropriations and economic losses; (ii) part of the local costs of the study on the Rural DWSS Programme; (iii) rehabilitation and construction of buildings; (iv) vehicles; and (v) part of the operating costs, including salaries of seconded staff and national counterpart staff. The financing plan of the project by source is thus as follows:

Table 4.8
Financing Plan by Source

Sources	In US\$ million			In UA million		
	FE	LC	Total	FE	LC	Total
ADF	77.12	27.19	104.31	51.75	18.25	70.00
Government	1.63	10.29	11.922	1.10	6.90	8.00
TOTAL	78.75	37.48	116.23	52.85	25.15	78.00
Percentage	67.75%	32.25%	100.0%	67.75%	32.25%	100.0%

4.9.2 Tables 4.9 and 4.10 below summarize the expenditure schedule by component and by source of finance:

Table 4.9
Expenditure Schedule by Component (in UA million)

Components	2008	2009	2009	2010	Total
A. Rehab. & extens. DWSS infrastruc	9.94	16.58	16.57	7.93	51.03
DWS 4 semi-urban centres	7.20	12.25	12.81	6.28	38.53
Sanitation infrastructures	0.99	2.02	2.08	0.14	5.22
Environmental protection	1.13	1.35	0.70	0.78	3.97
Studies, Supervision & Insp & mon.&eval	0.62	0.96	0.99	0.74	3.31
B. Comm. for Change in Behaviour (CCB)	1.68	0.88	0.21	0.18	2.95
C Studies DWSS Programme	0.53	1.04	1.07	0.91	3.55
D. Institutional Support	7.19	3.57	2.01	0.87	13.64
E. Project management and audit	1.78	1.57	1.64	1.84	6.82
Project management	1.76	1.55	1.62	1.83	6.75
Project audit	0.02	0.02	0.02	0.01	0.07
Total Project Cost	21.12	23.64	21.51	11.73	78.00

Table 4.10
Expenditure Schedule by Source (in UA million)

Source	2008	2009	2010	2011	Total	En %
ADF	17.65	19.46	18.00	14.89	70.00	89.74%
Government	2.72	2.85	1.79	0.63	8.00	10.26%
Total	20.37	22.31	19.80	15.52	78.00	100.0%

4.9.2 The financing plan of the project by component is as follows:

Table 4.11
Financing Plan by Component (in UA million)

Components	ADF	Gov't	Total
A. Rehab. & extension of DWSS infrastructures	50.59	0.44	51.03
DWS 3 semi-urban centres	38.53	0.00	38.53
Construction latrines 3 semi-urban centres	5.22	0.00	5.22
Environmental Protection	3.53	0.44	3.97
Studies, Supervision & Insp. & mon. & evaluation	3.31	0.00	3.31
B. Communication for Change in Behaviour (CCB)	2.95	0.00	2.95
C Studies Rural DWSS Programme	3.20	0.35	3.55
D. Institutional Support	9.57	4.07	13.64
E. Project Management and Audit	3.69	3.13	6.82
Project Management	3.62	3.13	6.75
Project Audit	0.07	0.00	0.07
Total Project Cost	70.00	8.00	78.00

4.9.3

4.9.4 The financing plan of the project by expenditure category is as follows :

Table 4.12
Financing Plan by Expenditure Category (in UA million)

Expenditure Category	ADF	Government	TOTAL
Goods	6.88	0.32	7.20
Works	46.60	4.51	51.11
Services	13.42	0.35	13.77
Operation	3.10	2.82	5.92
Total	70.00	8.00	78.00

V PROJECT IMPLEMENTATION

5.1 Executing Agency

5.1.1 The Executing Agency of the project is REGIDESO which has in the past, displayed proper mastery of the implementation of DWS projects several of which were financed by international donors, including the Bank. However, the long period of suspension of international co-operation (1992-2001) has contributed to seriously undermining its capacities of implementation and management of megaprojects. Nevertheless, since the resumption of external assistance in 2001, notably through support from KFW, ABEDA and from the World Bank and ADB, REGIDESO is gradually regaining its project implementation capacities. Besides this project, the PEMU under preparation comprises a major aspect of technical assistance and targeted institutional and human capacity building actions. It is realistic to consider that a combination of all these factors should enable REGIDESO to carry through all the project activities.

5.1.2 A Project implementation Unit (PIU) will be set up within REGIDESO, directly attached to the MDG. In agreement with the World Bank and REGIDESO, the PIU will be responsible for implementing this project and the PEMU. Moreover, for purposes of economies of scale, efficiency and sustainability, the PIU will be also charged with the implementation of other projects financed by development partners. The proposed management structure is aimed at ensuring, within the corporation, sustainable ownership of institutional capacities and project management, given that the PIU has to be sustained through gradual integration into REGIDESO.

5.1.3 The PIU will be based in Kinshasa with a branch in each centre (Kasangulu, Lisala and Tshikapa) of the project. Functional premises will be prepared to house the PIU and the said branches. The “institutional support” aspect of the project envisages rehabilitating, where necessary, functional buildings for the PIU. A focal point will be appointed in each of the other beneficiary structures of the project (PNA, OVD, SNHR and CNAEA) with the responsibility of planning activities, preparing bidding documents, and monitoring the implementation of their respective activities. The PIU, in close collaboration with the focal point officials, will be charged with: (i) coordination, planning and good performance of the components; (ii) monitoring and evaluation and control of the activities; (ii) administrative, financial and accounting management; (iv) competitive bidding and procurements; and (v) secretarial services of the Consultative Monitoring Committee of the Project (CCS).

5.1.4 The organization chart of the PIU is shown in Annex 4 of this report. Within the Unit, there will be created: (i) a "procurement" unit; (ii) an "environment" unit; (iii) a "monitoring and evaluation" unit and (iv) an "administrative, financial and accounting management" unit; and (v) an "internal audit" unit. In the "institutional support" component, seven technical assistants will be recruited to support the PIU and to run the units and train national officers. They are: (i) a project management expert to perform the functions of Assistant Coordinator; (ii) two procurement experts; (iii) a monitoring and evaluation expert; (iii) an environmentalist; and (iv) two internal auditors. The technical assistants, as well as some of their national counterparts, will be assigned both to this project and to the PEMU. Their terms of reference are approved by ADF and IDA, which will share the costs of their services when the PEMU starts. To ensure sustainability of the transfer of technical skills, the national staff required for implementation of the project will be seconded by REGIDESO, SNHR and the PNA to the PIU throughout the project. Proof of creation of the PIU is a condition precedent to the first disbursement of the ADF Grant.

5.2 Institutional Arrangements

5.2.1 The PIU will be headed by a Coordinator, who will be seconded by REGIDESO. He/she must be a hydraulics engineer or of similar background with work experience deemed acceptable by the Bank in the DWSS domain, as well as a good knowledge of project management. He/she will be assisted by an Assistant Coordinator, who will be an international expert having relevant experience in project management. The Assistant Coordinator will be recruited through competitive bidding by expression of interest, and will be remunerated from ADF Grant resources. The short list of candidates will be subject to Bank approval. The Assistant Coordinator will be responsible, in particular, for the exclusive management of this project and should countersign all the cheques, disbursement requests, contracts, as well as any document committing the PIU.

5.2.2 For the duration of the project, the PIU will also comprise: (i) at head office in Kinshasa : three (03) engineers (urban DWS, rural DWS and sanitation), seven (07) national counterparts of the technical assistants (two environmentalists, two procurement specialists, a monitoring and evaluation expert, and two internal auditors), an administrative assistant, an accountant as well as support staff (four secretaries, two drivers, two messengers); and (ii) at each branch in the three centres: a hydraulics engineer, an electro-mechanical technician, a civil engineering technician, accounting assistant, and a gender expert to support the public fountains and latrines management boards. The national experts seconded for implementation of the project will undergo initial training to upgrade their capacities. Furthermore, the national counterparts of the international experts will benefit from skills transfer. The Government will first submit the CVs of the proposed national experts to the Bank for approval. Evidence of the appointment of the PIU experts, whose experience and qualifications shall have been deemed acceptable by the ADF, is a condition precedent to the first disbursement of the Grant.

5.2.3 The coordination, monitoring and orientation of project activities by all stakeholders will be carried out by a Consultative Monitoring Committee of the Project (CCS). It will comprise twelve (12) members representing: MINPLAN, MINE, MECNE, the Ministry of Finance, the Ministry of the Interior and Decentralization, MOH, CONDIFA, REGIDESO, PNA, CNAEA, SNHR and the civil society (2 members). It will be chaired by the representative of MINE, and its secretarial services will be provided by the project Coordinator. The CCS will meet each quarter and whenever necessary to monitor the

implementation of the project. Evidence of the signature of the Ministerial Decree creating the Consultative Monitoring Committee (CCS) and the appointment of its members is a condition precedent to the first disbursement of the ADF Grant. Lastly, it should be pointed out that the PIU will sign a performance contract with the Government the terms of which will have to be approved beforehand by the ADF. This contract will include performance indicators such as: physical implementation rate, disbursement rate, water production in the three centres, rate of loss on the network, collection rate (connection, public fountains, IO), submission activity and audit reports as scheduled, implementation of the recommendations of supervision and audit missions, etc.

5.3 Implementation Schedule

5.3.1 The project will be implemented over a period of 48 months, as from the date of approval of the Grant. With respect to monitoring the implementation, the Bank will conduct a launching mission, as well as regular supervision missions at sufficiently close intervals, in accordance with the provisions in force, to accelerate the effective start of the project. The tentative implementation schedule of the project is summarized below:

Table 5.1
Summary of Project Implementation Schedule

Tasks	Responsible	Starting Date
• Grant approval	ADF	July 2007
• Signature grant MOU	GVT/GVT	September 2007
• Effectiveness	ADF/GVT	September 2007
• Establishment of the Unit	REGIDESO/ADF	July 2007
• Recruitment of technical assistants	REGIDESO/ADF	November 2007
• Recruitment of the Consultant Engineer(CE) for Works inspection and Technical Assistance	GVT/REGIDESO	December 2007
• Publication notices of prequalification for works	GVT/REGIDESO	February 2008
• Bidding, bid evaluation, award of building contracts	REGIDESO/ADF	
• Beginning of works	CE/Bidders	March 2008
• Training, outreach, education and sensitization	CE/REGIDESO/Contractors	June 2008
• 1 st project audit	REGIDESO	June 2008
	REGIDESO/Consultant	September 2008

5.4 Procurement Arrangements

5.4.1 The procurement arrangements are summarized in Table 5.2 below. All Bank-financed works, goods and services will be procured in accordance with the Bank Rules of procedure for the procurement of goods and works or, as the case may be, with the Bank Rules of procedure for the use of consultants, using the appropriate standard bidding documents of the Bank.

5.4.2 Advance procurement actions (APA) will be undertaken in view of the critical socio-sanitary conditions due to the lack of basic drinking water and sanitation services in the project area. This stems from the need to prequalify construction companies and quickly operationalize the Project Implementation Unit, which must be consistent with the PEMU preparation activities.

Table 5.2
Procurement Arrangements

DETAILED TABLE OF GOODS AND SERVICES PROCUREMENT (IN UA MILLION)						
Project Components	ICB	NCB	Other	Short List	Finance other than ADF (DRC Gvt)	Total
WORKS						
DWSS Works- Tshikapa, Lisala, Kasangulu	37.77 (37.77)					37.77 (37.77)
Construction 1,154 Latrines		5.12 (5.12)				5.12 (5.12)
Environmental Protection Erosion control, site protection and treatment	3.53 (3.53)					3.53 (3.53)
Construction & Rehab. : Training Centre , Buildings 3 Centres, Laboratory PNA and PIU					4.07	4.07
GOODS						
Computers & accessories, photo. & network equipment	1.57 (1.57)					1.57 (1.57)
Dump trucks and refuse collection vehicles + Spare parts	0.66 (0.66)					0.66 (0.66)
Vehicles					0.32	0.32
Sundry procurements			3.30(3.30)			3.30 (3.30)
VSAT	0.19 (0.19)					0.19 (0.19)
Furniture		0.20 (0.20)				0.20 (0.20)
CONSULTANCY SERVICES						
Study DWSS Prog.				3.55 (3.20)		3.55 (3.20)
Works Supervision				3.31 (3.31)		3.31 (3.31)
Audit and computerized auditing				0.10 (0.10)		0.10 (0.10)
Other Studies: Various studies, preparation of training scheme, putting in place of archiving system, Website, harmonization with OHADA etc..				0.30 (0.30)		0.30 (0.30)
Training personnel in accounting and management, human resources, office autom. DWS techniques and operation, management of sanitation infrastruct. etc..				1.33 (1.33)		1.33(1.33)
CCB Activities training programmes in rural areas (solid waste management, hygiene and sanitation, standpipe maintenance, sensitization etc..), CCB communication etc..				0.91 (0.91)		0.91 (0.91)
International Experts				2.42 (2.42)		2.42 (2.42)
MISCELLANEOUS						
Expropriation and economic losses					0.44	0.44
Staff						
Allowances of staff seconded to PIU			1.98 (1.98)			1.98 (1.98)
Other allowances (Collecting agents, Billing officer etc..)					0.48	0.48
Monitoring and Evaluation of CCB, HZ coordination			0.14 (0.14)			0.14 (0.14)
Sundry costs: Fuel, Internet subscription, per diem, vehicles maintenance, water, electricity, communication costs, study trips etc..			1.29 (1.29)			1.29 (1.29)
Local travel, Internet and communication costs, maintenance and miscellaneous					0.86	0.86
TOTAL	43.72 (43.72)	5.32 (5.32)	6.71 (6.71)	11.92 (11.57)	6.17	73.84 (67.32)
Total with provisions for contingencies						78.0 (70.0)

5.4.3 **Civil Works:** Drinking water supply works and facilities will be procured through international competitive bidding (ICB) with prequalification for an amount of UA 37.77 million. The three sites concerned are Lisala (UA 2.61), Kasangulu (UA 1.73) and Tshikapa (UA 33.43). A single competitive bidding comprising three packages will be issued for the three sites. Environmental protection works amounting to UA 3.53 million will be also be procured through international competitive bidding with prequalification. Considering the distance separating the sites from each other, and in order to ensure implementation of the works within the prescribed time frames, the award of more than one package to the same bidder will not be authorized.

5.4.4 **Goods:** Contracts for the supply of PC/laptop computers and accessories, printers, scanner, photocopiers, software and network accessories, totalling UA 1.57 million, will be awarded through ICB comprising several packages. Awarding more than one package to the same bidder will be authorized. The rolling stock (UA0.66 million) will be procured through ICB. NCB has been chosen for the procurement of furniture on account of the number of

suppliers on the local market for such items. As concerns the building of latrines, donors' experience shows that, generally, conventional construction works below 10 million in the DRC do not attract any foreign bidders.

5.4.5 Sundry items, such as teaching aids, technical books for the library, generators, etc. will be procured through other procurement methods as indicated below:

Table 5.3
Goods procured through other methods (in UA million)

Procedure	Goods
International shopping (IS)¹	1. Teaching aids (0.19) 2. Diarrhoea and malaria control package (1.17) 3. Public fountain spare parts (0.18) 4. Scientific and Lab. Equip. CCB (0.28) 5. Chemical inputs (0.41)
Local shopping (LS)³	1. Generators (0.07) 2. Air conditioners (0.02) 3. Motorcycles and bicycles (0.29) 4. Consumables (0.64) 5. CCB equipment, television set, and refrig. (0.03) 6. Outboard motorboat (0.01)
Private negotiation²	Sundry costs + Mechanical typewriter (1.29)

1. IS: The products are not available locally or are supplied by a very limited number of local firms
2. Private contracts concern minor activities spanning a given period (two and half years for certain fuels carburant (UA 0.63), study trips (UA 0.28), maintenance motorcycles and vehicles (UA 0.18), attendance allowance (UA 0.01), insurance (UA0.14), subscription Internet provider (UA 0.04).
3. LS: There are sufficient suppliers locally guarantee competition

5.4.6 **Consultancy Services and Training:** Consultancy services and training as presented in detail in Table 5.3 will be procured in accordance with the Bank Rules of procedure as concerns the use of consultants. In addition to the short list, the selection procedure will be based on the technical assessment with consideration of the price.

5.4.7 The study on the DWSS sector and Monitoring of works will be procured through prequalification considering the estimated amount for the missions. On account of the specificity of the regions, languages of communication and problems of access, the short lists for CCB-related activities (training, sensitization etc...) will involve only NGOs present in the localities affected by the project. All the other competitions (training of trainers, audit and good governance, application of Oracle software, training in human resource management, accounting and management, office automation application, management, DWS techniques and operation, maintenance of production and distribution units, training abroad etc. will require consulting firms except for the individual international experts recruited to run the project implementation unit and the experts charged with setting up the REGIDESO archiving system (UA 0.016), the creation of the hygiene and sanitation database (UA 0.014) and the development of the training programme (UA 0.024).

5.4.8 **National Laws and Regulations:** The public procurement system in the DRC is governed by the Ordinance-Law No. 69-054 and Ordinance No. 69-279 of 5 December 1969. The provisions of these laws concentrate most of the decision-making powers in a single body, the Bidding Authority. In the past, this encouraged the practice of awarding negotiated contracts. Conscious of this situation, the Authorities initiated reforms of the system in 2003 with support from the World Bank and Canada. All the regulatory instruments and standard bidding documents are now available, and only the approval of the Government and the Decrees of implementation are pending. The putting in place of the new institutions and the appointment of officials are envisaged for end 2008.

5.4.9 **Executing Agency:** Meanwhile, the Bank has decided, for the implementation of this project, on the creation of a Project Implementation Unit (PIU) within REGIDESO, the Executing Agency. The PIU will comprise several units, of which the unit in charge of project procurements. This unit will be supervised by two international procurement experts, who will be recruited according to the Bank Rules of procedure for the use of consultants. Their role will be to put in place the unit, process all related procurements and activities according to the PIU Procedures Manual, train local staff in procurement techniques and finally, serve as focal point for the Bank on all project procurement issues. This unit, staffed and equipped, will be provided with the necessary expertise, resources and experience to act in accordance with Bank standards.

5.4.10 **General Procurement Information Note:** The text of a General Procurement Information Note (GPI) will be jointly adopted with REGIDESO and issued for publication in Development Business once the Grant proposal is approved by the Board of Directors.

5.4.11 **Examination Procedures:** The following documents will be submitted to the Bank for consideration and approval before publication:

- Specific Procurement Information Notes
- Prequalification documents (where applicable)
- Bidding documents or invitation letters to consultants
- Evaluation reports on the bids submitted by contractors, suppliers or consultants and including recommendations for the award of contracts, and
- Draft contracts, if those enclosed with the bidding documents are modified.

5.5 Disbursement Arrangements

The disbursements will be made in accordance with the provisions of the Disbursement Manual of the Bank. They will be released by direct payment to suppliers and service providers, or by deductions from the special accounts of the project. The opening of two special accounts is envisaged, one to receive the Grant resources and the other for the Government's counterpart funds. These two accounts will be funded and operated under conditions approved by ADF. The special account of the Grant will be used to pay for expenditures relating to the operation of the Project Implementation Unit, training, and sensitization campaigns. Evidence of the opening of the two special accounts in a Bank deemed acceptable by ADF is a condition precedent to first disbursement of the Grant. Disbursements concerning the implementation of works, supply of equipment, as well as consultancy services (DWSS studies, technical assistance, monitoring of works and auditing), will be released by direct payments to the suppliers concerned. The PIU will check the conformity of the works, goods and services of the various suppliers of the project with the specifications, and will prepare disbursement requests which it will submit to the Bank.

5.6 Monitoring and Evaluation

5.6.1 The Project Implementation Cell Unit (PIU) will monitor and evaluate the project and the Monitoring and Coordination Committee. To this end, the monitoring and evaluation capacities of the Executing Agency (REGIDESO) will be strengthened, through technical assistance financed by Grant resources. It should be recalled that CONDIFA and the health zones will also receive financial assistance to enable them to carry out adequate monitoring and evaluation of activities relating to sensitization and management of the public fountains and latrines (CGBL). At the national level, CONDIFA and the National Hygiene Directorate will receive financial assistance to enable them to carry out adequate monitoring and evaluation of CCB activities. The Government and ADF will be regularly informed through quarterly activity reports from the PIU, according to a format agreed upon with the Bank. These reports will provide: (i) the status of the physical outputs of the project, problems encountered during their implementation, as well as the solutions envisaged; (ii) a financial position of the project providing the details of disbursements by component and by expenditure category and source of finance; (iii) an analysis of environment-related problems; and (iv) monitoring of the indicators and outputs of the components financed by the ADF Grant. The Coordinator will also transmit to the Bank the reports of meetings of the Steering committee for which he/she provides secretarial services. REGIDESO will submit to the Bank the Completion Report of the project within no more than six (6) months of the end of the project.

5.6.2 Furthermore, the project impacts will be monitored and evaluated by REGIDESO using indicators to be defined within the context of the detailed performance measurement framework (PMF)⁶ of the project. Indeed, at the start of the project, a monitoring and evaluation system and a performance measurement framework (PMF) of the project will be produced by the PIU with the support of the consultant recruited to strengthen the capacities of REGIDESO. This PMF, which will form an integral part of the performance contract, will constitute the PIU's commitment to REGIDESO to achieve the objectives and outcomes of the project. On its part, the Bank will monitor the implementation of the project through field supervision missions, which will be organized in coordination by Headquarters and Country Office in the DRC according to the following calendar:

⁶ The project performance measurement framework (PMF) is a tool used for measuring output and the level of attainment of outcomes and for planning the systematic collection of data.

Table 5.4
Schedule of Supervision Activities

Tentative Dates	Activity	No.	Speciality	Structures Responsible	Personnel Staff/weeks
2007	Launching mission	1	Water & Sanitation Engineer Jurist Procurements Officer Disbursements Officer	HQ + DCFO	8
	Supervision mission	1	Water & Sanitation Engineer Procurements Officer Financial analyst	DCFO	6
2008	Supervision missions	2	Water & Sanitation Engineer Financial analyst	1 by HQ 1 by DCFO	8
2009	Supervision mission	1	Financial analyst Expert Environmentalist	DCFO	6
	Supervision mission	1	Water & Sanitation Engineer Financial analyst	HQ	4
2010	Supervision mission	2	Water & Sanitation Engineer Financial analyst	1 by DCFO 1 by DCFO	8
2011	Completion mission	1	Water & Sanitation Engineer Financial analyst	HQ+DCFO	6

5.7 Financial Reporting and Auditing

5.7.1 The PIU will keep separate project accounts from REGIDESO, which must identify and monitor expenditure by component, expenditure category and financing source. The accounts will be audited once a year by an audit firm, which will be recruited on the basis of short list and which will be remunerated by the ADF funds. The audit reports, in conformity with ADF requirements, will be transmitted within no more than six (06) months of the end of the preceding financial year. Furthermore, to ensure effective implementation and monitoring of expenditures, financial and accounting management software will be procured at the start of the project, allowing for the installation of a private-type accounting system compatible with the PIU project activities. The system shall take into account the components, expenditure categories and sources of finance. The PIU shall conform to the administrative, financial and accounting procedures manual and keep complete registers presenting the expenditure by component, category and source of financing. The procurement of the financial and accounting management software as well as the development of the procedures manual will be financed by the ADF Grant.

5.8 Donor Coordination

5.8.1 This project was prepared in close coordination with the donors present in the DRC. Indeed, during the preparation mission, the Bank held in-depth discussions with the representatives of the World Bank, European Union, French Co-operation, Belgian Co-operation, DFID and UNICEF. These discussions made it possible to give a progress report on their respective operations in the DWSS sector in the DRC. The design of the project thus took into account not only the ongoing investments financed by these donors, but also the projects and the studies under preparation in the sector with the support of these partners. Within this context, the appraisal team worked in close cooperation with the World Bank with constant exchange of information in order to harmonize the activities and strategies. The discussions between the delegations of the two institutions during the appraisal mission thus led to the adoption of a common institutional arrangements approach, with the creation of a single Coordination Unit for the projects financed by the two donors. Similarly, the communication strategy of the CCB component of this project will be coordinated with the communication plan which the World Bank will develop for REGIDESO.

5.8.2 Consultations with the other donors will continue during the processing of the documents at Headquarters. Furthermore, there are several ongoing initiatives to strengthen synergy and complementarity of donor operations in the DRC, notably through regular meetings of the Water and Sanitation Thematic Group coordinated by MINPLAN, and also through the DWSS sector development road map, an initiative which is supported by all the partners. The opening of the National Office in Kinshasa will enable the Bank to play a more active part in the activities of this group.

VI PROJECT SUSTAINABILITY AND RISKS

6.1 Recurrent Costs

6.1.1 DWS-related recurrent costs comprise mainly personnel expenses, energy for the pumping and treatment stations, inputs for the treatment and purification plants, as well as expenses on spare parts purchases and routine repairs. The proceeds from water sales in these three centres should generate sufficient financial resources to cover these costs which will range from US\$ 3.35 million in 2011 to US\$ 7.23 million in 2015. However, as concerns current cash management practices by REGIDESO, steps must be taken to ensure that the receipts of the centres are allocated to the settlement of their respective expenditures as a priority. With regard to the personnel of the three centres, their recruitment is envisaged under the project and the Government's contribution will be used for their remuneration throughout the project. At the end of the project, it is expected that that this personnel will join the staff of REGIDESO, which will cover this recurrent cost with operating receipts. Similarly, allocations will be granted to the structures supported by the project to cope with certain recurrent costs (fuel, consumables, spare parts, etc.). These annual allocations will be decreasing from 100% in the first year to 25% at the end of the project, to enable a gradual coverage of the recurrent costs by the budgets of the structures concerned.

6.1.2 In the three centres where public latrines will be built, the on-site wastewater treatment systems will be maintained by the beneficiary populations and schools. This is already an ongoing practice with latrines financed by UNICEF under the "sanitized village" scheme, and will be duplicated within the framework of "sanitized neighbourhoods".

6.2 Project Sustainability

6.2.1 Project sustainability will be ensured through the pursuance of the Government's efforts with the assistance of development partners, to implement reforms in the sector in accordance with the strategic orientations contained in the GPRSP. These actions should result in: (i) the reform of the laws and regulations with a better definition of the missions and roles of stakeholders; (ii) the putting in place of an integrated and concerted management framework for the water and sanitation sector; (iii) adoption of more viable mechanisms of participation of the populations in the management and maintenance of the structures in rural areas on the basis of the conclusions of the ongoing study; and (iv) the operationalization of the institutional reform of REGIDESO. The institutional reform under way constitutes an element of sustainability of the outputs of the project, insofar as, by reaffirming the economic and participatory character of the water management, it places good governance and decentralization at the centre of the development strategy of the sector and refocuses the State on its coordinating and regulatory role. Furthermore, it offers good prospects for increased operational effectiveness of REGIDESO, and creates room for public-private partnership in the management of DWS systems.

6.2.2 Furthermore, the financial viability of the project will be ensured through application of appropriate tariff structures and levels. Indeed, the tariff adopted for the sale of water at public fountains is sufficiently low to encourage the most disadvantaged populations to access the DWS services of the project. It should be recalled that this price was fixed at Fc 5 per can of 20 litres, whereas in Lisala and Tshikapa unsafe water is currently sold at between Fc 50 and Fc 200. The objective of the project is not only to provide drinking water at an affordable price, but also to strengthen the technical and institutional capabilities of REGIDESO in order to ensure appropriate maintenance of the infrastructures and maximize the viability of the DWS systems, as well as the use of latrines by households through sensitization and training. The financial justification of the project was evaluated on the basis of a graduated tariff structure approach, making it possible to protect the capacity of the most needy consumers to have access to water and, to obtain proceeds from those that are able to increase their expenditure on this item. The fairly reasonable proposed tariff increase of 5% every two years will enable REGIDESO to reach a satisfactory financial rate of return, while permitting a high proportion of the population of the three centres to access adequate DWSS services. REGIDESO will generate positive cash flows from 2011 to cover all the operating costs, even if calculated on the basis of a very conservative trend of the collection rate (50% in 2006 to 55% in 2010 and 63% in 2014). Lastly, while financing the acquisition of 13 000 meters for the three centres, the costs of connection will be revised downwards to enable a greater number of subscribers (of which the IO) to pay according to the quantity consumed and thus improve the viability of the project.

6.3 Major Risks and Mitigating Measures

6.3.1 The first risk is in the event of waning Government commitment to implement the institutional reforms which will be recommended at the end of ongoing studies. This risk is mitigated by the Government's clear determination to pursue the implementation of the programme of reforms, as well as the process of decentralization, which places more responsibilities on local authorities in the management and monitoring of drinking water and sanitation systems at the local level. Furthermore, the authorities intend, with support from the international community, to see to the implementation of the poverty reduction strategy for the attainment of the MDGs, notably in the vital domain of drinking water and sanitation. The implementation of these reforms will be among the other conditions of the Grant.

6.3.2 Secondly, the weakness of the institutional capacities of the structures intervening in the implementation of the project (REGIDESO, PNA, SNHR, and CNAEA) could be a major risk for the proper implementation of the project, as well as its monitoring and evaluation, thus making it impossible to correctly measure its impact on poverty reduction. This recurrent risk could be mitigated by ongoing or envisaged actions by certain donors, including the Bank, to strengthen the capacities of these organizations. Mention should be made, in particular, of the World Bank's institutional support to REGIDESO to improve its sales management and procurement capacities, as well as ICRC and UNICEF support to PNA and to SNHR. Similarly, this project envisages technical assistance in monitoring and evaluation, contracting to REGIDESO as well as refocusing the role of SNHR.

VII PROJECT BENEFITS

7.1 Economic and Financial Benefits

7.1.1 Financial Analysis: The economic and financial benefits of the DWS component will be evaluated mainly through the estimated operating accounts of the three REGIDESO centres covered by the project, on the basis of the additional production induced by the project investments. The assumptions and calculation of the financial rate of return are shown in Annex 8. The result of the analysis shows that the internal financial rate of return of this component is 12.74% on a 15-year horizon as from the introduction of the networks. Furthermore, the financial analysis takes into account only the quantifiable benefits of the project, namely proceeds from water sales and the very conservative collection estimates (from 55% in 2010 to 73% in 2015), despite a strong proportion of sales through daily payment public fountains (at least 40%) with collection rates thus nearing 100%. On the basis of opportunity cost of the capital of 10%, the net present value (NPV) of the DWS component (three centres) is Fc 7.72 billion (UA11.29 million). For a 12% discount rate, the NPV would stand at Fc 1.78 billion (UA 4 million), which clearly indicates that the project will provide satisfactory financial profitability in the three centres, in spite of the conservative assumption of a very weak selling price adopted for the drinking water sales at public fountains (Fc 5 per can of 20 litres).

7.1.2 Economic analysis: The assumptions and analysis of the economic rate of return of the project are presented in Annex 8. The economic rate of return (ERR) of the project was estimated at 27.52%, on the basis of economic costs and benefits. The ERR is above the opportunity cost of the capital (12%) for the DRC. Several unquantifiable benefits generating socio-economic value were not taken into account in the calculation of the ERR, notably the project's contribution to better public health, reduction of expenditure on health and hygiene, a better productivity of the population, etc.

7.1.3 The rate of return of the project could not be calculated for the sanitation component, as the activity is a public utility with definite benefits that are however difficult to quantify. Indeed, the use of latrines is far from widespread in the project area. To date, there are no studies or investigations in the DRC whereby the impact of their use on households can be measured in terms of money income. However, the investments envisaged in the domain of sanitation will have ecological benefits, thanks to improved hygiene services, reduced water pollution and health. The drop in the number of water-borne diseases and their incidence on the health system (time of health personnel, immobilization of health system and drugs) as well as on the populations (medical expenses borne, time wasted during examinations and tests, related transport costs and wasted work time) generates considerable economic benefits for project area dwellers. The project will permit access of 51 000 pupils to latrines and the training of 120 stakeholders (DNGO) and their capacity building for the construction of latrines in the homes and centres covered by the project. It should be indicated that the project will also support activities of sensitization on latrine use.

7.1.4 Sensitivity Analysis: Table 7.1 below shows that the drop in financial profitability is not significantly impacted by higher investment costs or selling price reduction, even when coupled with higher operating cost. Indeed, even if the average selling price of water drops by 15% and the costs increase by the same percentage, the financial IRR remains higher than the average opportunity cost of the capital, that is, approximately 10%:

Table 7.1
Sensitivity analysis of the financial rate of return

	IRR	10%NPV	IRR sensitivity	NPV sensitivity
Baseline case	12.74%	7 720		
10% increase in investment	11.77%	5 329	-7.64%	-30.96%
15% increase in investment	11.33%	4 134	-11.09%	-46.45%
10% increase in operat. cost	12.14%	5 969	-4.74%	-22.68%
15% increase in operat. cost	11.83%	5 093	-7.14%	-34.02%
10% mean drop in SP	11.60%	4 375	-8.94%	-43.32%
15% mean drop in SP	11.11%	2 976	-12.82%	-61.45%
SP drop and 10% cost incr.	11.10%	2 981	-12.88%	-61.38%
SP drop and 15% cost incr.	10.28%	744	-19.31%	-90.37%

7.1.5 An analysis of the sensitivity of the economic rate of return of certain variables such as investment cost, selling price of water, and operating cost is as follows:

Table 7.2
Sensitivity analysis of the economic rate of return

	IRR	10%NPV	IRR sensitivity	NPV sensitivity
Baseline case	25.95%	56 266		
10% increase in investment	24.39%	53 976	-6.03%	-4.07%
15% increase in investment	23.68%	52 831	-8.75%	-6.10%
10% increase in operat. cost	25.62%	54 930	-1.27%	-2.38%
15% increase in operat. cost	25.46%	54 261	-1.90%	-3.56%
10% mean drop in SP	24.22%	48 298	-6.67%	-14.16%
15% mean drop in SP	23.32%	44 391	-10.13%	-21.10%
SP drop and 10% cost incr.	23.92%	47 147	-7.84%	-16.21%
SP drop and 15% cost incr.	22.87%	11 671	-11.86%	-79.26%

7.2 Social Impact Analysis

7.2.1 The primary objective of the project is to raise income levels and reduce poverty. In the short and medium-term, the implementation of the project should generate various benefits at the sectoral as well as the economic, institutional and social levels. At sectoral level, the project will contribute to ensuring drinking water supply to the three centre comprising seven (07) semi-urban councils and forty-eight (48) districts for a population of approximately 1.7 million inhabitants. The drinking water access rate will be raised from 1.2% in 2006 to 41% in 2011. The sanitation access rate for its part should rise from 10% in 2006 to 20% in 2011. The economic benefits of the project will result from the induced effects of the investments carried out in the field, in particular involving the creation of jobs by local companies, the incomes resulting from service or supplies contracts (in particular NGO for the construction of latrines) as well as infrastructure maintenance and operation activities which will contribute to creating a regular flow of business for SMEs and local micro-enterprises (repairers, plumbers, masons, jobbers, blacksmiths, etc....).

7.2.2 The project will have a more significant impact on gender through the promotion of effective representation of women and their respective groups at all levels of decision making and in DWSS committees, thus enabling them to express their views. Furthermore, the project will ensure, through suitable eligibility criteria indicated in the strategic plan of implementation of activities of the CCB component, that the proposals made by the women's groups are given special attention. The PIU will ensure that at least 50% of the public

fountains and latrines are managed by women. Through training and sensitization, the programme will contribute to improving the organization of beneficiaries, and more particularly women's associations in the three towns. They will thus be better positioned to seize economic opportunities that will help improve their economic status. Moreover, the proximity of the water points will enable them to save time which can be used to engage in other income-generating activities or devoted to schooling or elimination of illiteracy of girls and women who are traditionally responsible for water collection and conveyance.

7.2.3 The project will have an impact on the health of the Congolese populations, in particular, those in the towns of Tshikapa, Lisala and Kasangulu. It will help reduce the expenditure of project area households, while decreasing water-borne diseases-related health risks to which they are exposed through the use of unsafe water. Indeed, drinking water availability and accessibility will contribute to the reduction of water-related diseases, namely malaria, typhoid fever, diarrhoea, cholera, etc. Concerning malaria, the project will enable a 30.6% coverage of the needs of the population of the three centres for insecticide treated nets and drugs for the treatment of this disease. At project appraisal, the health data collected showed high morbidity and mortality due to water-related diseases. Indeed, at the level of the Tshikapa health zone for instance, 77% of consultations and 62% of deaths are due to water-borne diseases including malaria. Therefore drinking water consumption will contribute to roll back these diseases drastically. Moreover, the support which the project will provide to campaigns aimed at controlling HIV/AIDS and the diseases and diarrhoeas in the provinces, districts and health zones covered by the project, will contribute to improved public health in the project area in general and among vulnerable groups (i.e. women and children) in particular.

7.2.4 Furthermore, the project should enable anticipation of increased drinking water requirements for the inhabitants for the three centres due to increased individual consumption and population growth in these zones. In terms of positive impacts, it is noteworthy that most of the disadvantages for the population will be insignificant in comparison with the socio-economic and public health benefits (reduction in the prevalence of certain water-borne diseases) as a result of the operation of the networks and sanitation. In a word, it should be underscored that the project will generate positive impacts in terms of securing safe drinking water supply in sufficient quantity. The incidence of water-borne diseases will decrease very significantly, resulting in substantial financial savings for health centres, and reduced absenteeism from work and school. The socio-economic effects will be felt quickly. The abundance of the resource will enable the creation of new SMEs and new jobs. The project will be able to also generate social benefits through: (i) greater beneficiary participation in and access to decision-making processes and investment opportunities; (ii) increased organizational capacities of the local operators and users' Associations concerned, thus contributing to the formation of the authorized capital and the sustainability of the economic benefits and (iii) the contribution to further creation of employment opportunities.

VIII CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

The project is technically feasible, socially justified, and economically viable and consistent with the priorities of the Government of the Democratic Republic of Congo as regards water and sanitation sector development. Its implementation will strengthen the capacities of DWSS systems and relieve the populations of Kasangulu, Lisala and Tshikapa from the lack of drinking water and adequate sanitation services. It will also strengthen the institutional capacity of services responsible for the water and sanitation sector. It will make available to the Government a Rural DWSS Programme in the three Provinces of the project area. The economic rate of return is estimated at 27.62 for the baseline scenario of calculations carried out, thus demonstrating the appropriateness and economic viability of the project.

8.2 Recommendations

8.2.1 It is recommended that a Grant not exceeding UA 70.0 million be extended to the DRC to enable it to finance and implement the Semi-urban DWSS Project (PEASU) as described in this Appraisal Report. The Grant conditions are as follows:

A Conditions precedent to Grant effectiveness

8.2.2 Effectiveness of the ADF grant agreement will be subject to fulfilment by the donee, to the satisfaction of the Fund, of the conditions defined in Section 4.01 of the General Conditions applicable to the Protocol Agreements of the Fund and to its signature.

B Conditions precedent to the first disbursement of the Grant

8.2.3 In addition to effectiveness of the Grant agreement, the first disbursement of the Grant resources shall be subject to fulfilment by the donee of the following conditions. The Donnee shall provide to the Fund:

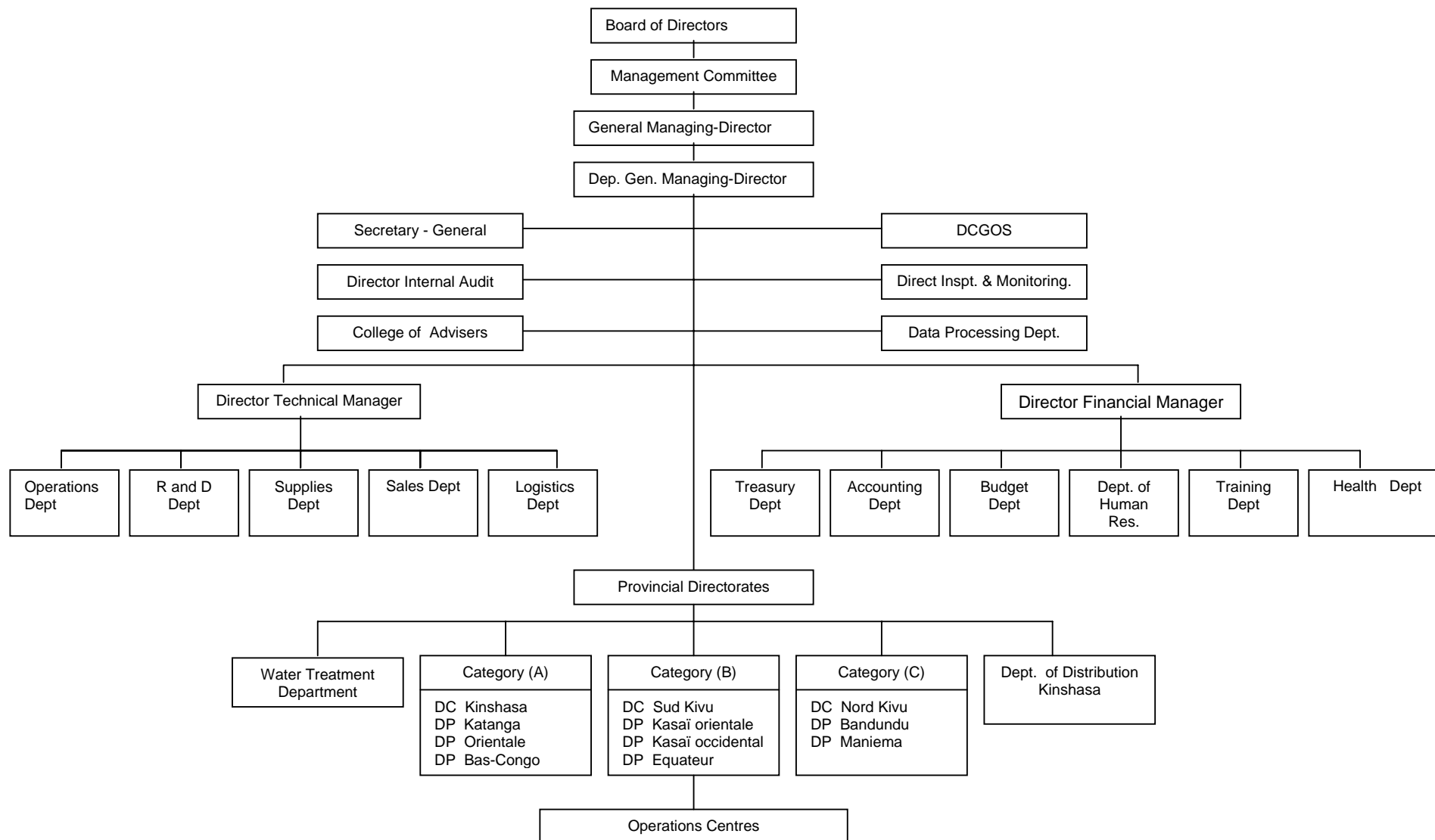
- (i) Evidence of creation of the Project Implementation Unit (PIU) within REGIDESO (5.1.2) and appointment of the national counterpart staff, whose qualifications and experience shall have been deemed acceptable by the ADF (5.2.2);
- (ii) Evidence of signature of the performance contract with the PIU (paragraph 5.2.3);
- (iii) Evidence of the opening of two special accounts for the project in a bank acceptable to the ADF, one of the accounts being destined to receive the Grant resources and the other to receive the counterpart funds of the Government (paragraph 5.5).

MAP OF THE DEMOCRATIC REPUBLIC OF CONGO (DRC)



DEMOCRATIC REPUBLIC OF CONGO
URBAN AND SEMI-URBAN DWSS PROJECT

ORGANIZATION CHART OF REGIDESO



DEMOCRATIC REPUBLIC OF CONGO
URBAN AND SEMI-URBAN DWSS PROJECT

REGIDESO's Operating Accounts 2002-2005
(In Fc million)

	2001	2002	2003	2004	2005
Income					
Water sales	13 457	23 615	30 825	42 623	42 437
Other income	1 415	5 509	4 656	5 012	7 284
Total Income	14 871	29 124	35 481	47 635	49 721
Materials & supplies	3 565	6 326	8 865	10 389	11 704
Other works & services consumed	1 058	1 771	1 793	2 679	3 551
Gross value added	10 248	21 027	24 823	34 567	34 466
Staff costs	2 646	5 396	7 775	11 274	12 631
Depreciation	3 972	4 872	4 927	2 076	1 909
Financial charges	1 276	1 498	1 582	1 761	1 477
Provisions	890	2 965	1 379	12 802	7 475
Other charges and losses	6 211	1 876	2 007	9 756	5 334
Taxes and duties	179	1 081	1 002	1 596	2 878
Total operating costs	14 995	16 607	17 670	37 669	28 826
Operating results	-4 747	4 420	7 153	-3 102	5 640
Exchange losses/gains	32 396	9 757	-28 030	3 130	-3 938
Prov for exp. & Carry forward of provis & amort.	12 490	18 920	46 633	27 917	12 660
Special profits and losses	-174	9 391	-217	-1 008	-1 392
Net income	-49 807	-14 865	-11 667	-35 157	-4 475
Operating Cash-flow	116	12 257	13 459	11 776	15 024
Ratios					
Turnover increase		75.5%	30.5%	38.3%	-0.4%
Value added/turnover	68.9%	72.2%	70.0%	72.6%	69.3%
Overheads / turnover	51.5%	15.3%	12.9%	27.5%	19.5%
Staff costs / turnover	17.8%	18.5%	21.9%	23.7%	25.4%
Operating income./turnover	-31.9%	15.2%	20.2%	-6.5%	11.3%
Net income/turnover	-334.9%	-51.0%	-32.9%	-73.8%	-9.0%
Operating cash-flow /turnover	0.8%	42.1%	37.9%	24.7%	30.2%
Net cash-flow /turnover	219%	76%	-41%	31%	22%

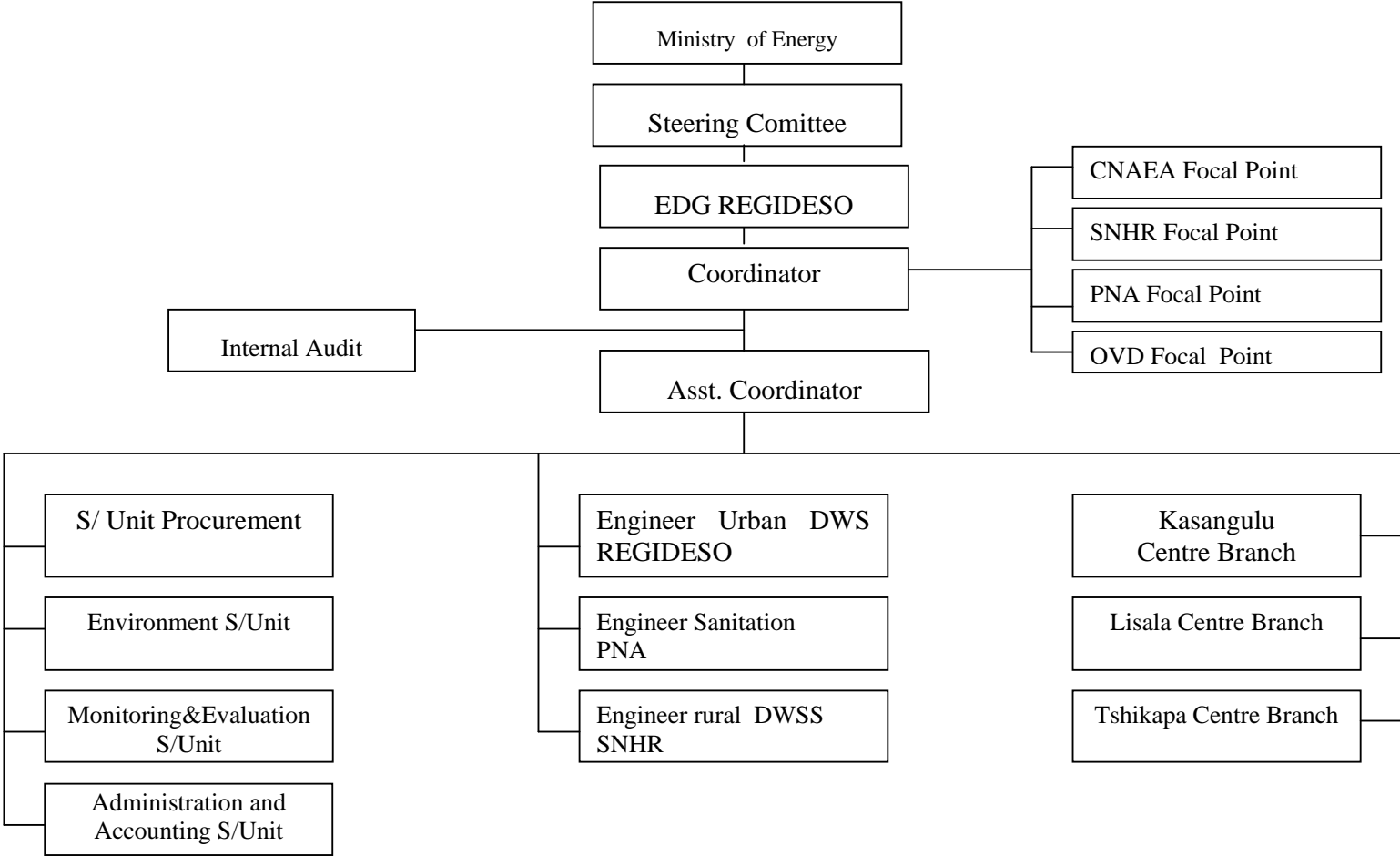
DEMOCRATIC REPUBLIC OF CONGO
URBAN AND SEMI-URBAN DWSS PROJECT

REGIDESO's BALANCE SHEETS 2002-2005
(in Fc million)

	2001	2002	2003	2004	2005
Assets					
Net fixed assets	56 773	64 454	62 216	66 169	82 897
Other fixed assets	39	743	730	351	359
Total fixed assets	56 812	65 196	62 947	66 520	83 255
Stocks	3 695	6 319	4 106	5 474	5 599
Clients	13 538	24 886	39 238	50 152	54 144
Of which : State		15 446	38 555	49 390	53 685
Other current assets	362	919	1 016	1 166	2 280
Accrual assets account	1 426	1 758	608	1 247	49
Available assets	258	96	134	346	2 500
Total current assets	19 279	33 978	45 102	58 386	64 572
Total assets	76 091	99 175	108 048	124 905	147 827
Liabilities					
Registered capital and allocations	60 892	72 640	74 330	77 362	84 457
Capital grant and State	184	640	1 077	4 519	10 777
Revaluation account	2 367	872	211	2 554	715
Cumulative losses	-5 084	-54 891	-69 757	-81 424	583
Net loss	-49 807	-14 865	-11 667	-35 157	-4 475
Equity capital	8 552	4 394	-5 807	-32 146	-25 109
Provision for losses and charges	224	761	1 947	14 154	19 935
Long and medium term liabilities	34 594	40 776	42 430	85 017	79 984
Medium and long term borrowings	34 294	40 373	42 149	84 922	79 775
Customer deposits	300	403	281	95	209
Total invested capital	43 370	45 931	38 571	67 025	74 809
Supplier	14 312	18 850	22 887	39 504	45 645
State	2 339	4 539	6 893	12 685	21 438
Other short –term liabilities	1242	6560	12910	5054	5506
Borrowing per year & Overdrafts	14828	23296	26788	638	429
Short- term liabilities	32 721	53 244	69 478	57 881	73 018
Total liabilities	76 091	99 175	108 048	124 905	147 827
Ratios					
Current ratio	0.59	0.64	0.65	1.01	0.88
Total Debts/Equity capital	1.32	1.24	1.07	0.94	1.20
Equity capital / long-term liabilities	0.80	0.89	-1.10	-1.27	- 1.07
Production sold/Fixed assets	0.26	0.45	0.57	0.72	0.60
Cash-flow/total assets	0.2%	12.4%	12.5%	9.4%	10.2%

DEMOCRATIC REPUBLIC OF CONGO
URBAN AND SEMI-URBAN DWSS PROJECT

ORGANIZATION CHART OF THE IMPLEMENTATION UNIT



DEMOCRATIC REPUBLIC OF CONGO
URBAN AND SEMI-URBAN DWSS PROJECT
DETAILED PROJECT COST

COMPONENTS	Unit	Qty	UP	Total cost in USD thousand			Total cost in UA thousand				
				FC	LC	Total	FC	LC	Total	ADF	Gvt
COMPONENT A : DWSS INFRASTRUCTURES											
1. WORKS											
1.1 DWS Infrastructure											
DWS Kasangulu Centre	Lot	1	1850	1535.8	314.6	1850.4	1030.7	211.1	1241.8	1241.8	0.0
DWS Lisala Centre	Lot	1	4537	2368	590	2958.0	1589.2	395.8	1985.0	1985.0	0.0
DWS Tshikapa Centre	Lot	1	42424	34363.3	8060.5	42423.8	23060.3	5409.2	28469.5	28469.5	0.0
Development, & enclosure of catchment area	Pack.	1	687.0	274.8	412.2	687.0	184.4	276.6	461.0	461.0	0.0
Sub-total DWS				38542.1	9377.1	47919.2	25864.6	6292.7	32157.3	32157.3	0.0
1.2 Sanitation infrastructures											
1.2.1 Construction of latrines											
Kasangulu	No.	222	4.61	614.7	409.8	1024.5	412.5	275.0	687.5	687.5	0.0
Lisala	No.	262	5.54	870.5	580.4	1450.9	584.2	389.5	973.7	973.7	0.0
Tshikapa	No.	670	6.00	2411.7	1607.8	4019.5	1618.4	1078.9	2697.4	2697.4	0.0
S/Total Sanit				3896.9	2597.9	6494.9	2615.1	1743.4	4358.5	4358.5	0.0
1.3 Environmental protection											
Cut and fill for erosion control	Pack.	1	4177	0.0	4177.2	4177.2	0.0	2803.2	2803.2	2803.2	0.0
Expropriation and economic losses	Pack.	1	551	0.0	551.0	551.0	0.0	369.8	369.8	0.0	369.8
Protection of arch sites and heritage	Pack.	1	31	0.0	31.0	31.0	0.0	20.8	20.8	20.8	0.0
Treatment of wastes and effluents	Pack.	1	140	0.0	179.2	179.2	0.0	120.3	120.3	120.3	0.0
S/Total Environ Protect.				0.0	4938.4	4938.4	0.0	3314.0	3314.0	2944.3	369.8
TOTAL WORKS				42439.0	16913.4	59352.4	28479.7	11350.1	39829.8	39460.1	369.8
2. SERVICES											
Work supervision and control	Pack.	1	4116.20	4116.2	0.0	4116.2	2762.3	0.0	2762.3	2762.3	0.0
BASE COST COMPONENT A				46555.2	16913.4	63468.6	31242.0	11350.1	42592.1	42224.4	369.8
Physical contingencies				4243.9	1691.3	5935.2	2848.0	1135.0	3983.0	3946.0	37.0
Inflation				3871.7	2770.5	6642.3	2598.2	1859.2	4457.4	4425.4	32.0
TOTAL COST COMPONENT A				54670.8	21375.3	76046.1	36688.2	14344.4	51032.5	50593.8	438.7
COMPONENT B : COMMUNICATION FOR BEHAVIOURAL CHANGE (CCB)											
1GOODS											
1.1 Support to health zones											
Pent IV. Micro-computers RAM 1GB. HD100. UPS , SE Licence & Office automation equipment	Nb	8	3.0	24.0	0.0	24.0	16.1	0.0	16.1	16.1	0.0
Printers	Nb	8	0.8	6.4	0.0	6.4	4.3	0.0	4.3	4.3	0.0
Mechanical typewriters	Nb	8	0.2	1.6	0.0	1.6	1.1	0.0	1.1	1.1	0.0
Light duty photocopiers	Lot	5	1.5	7.5	0.0	7.5	5.0	0.0	5.0	5.0	0.0
Office furniture	Lot	5	3.0	15.0	5.0	20.0	10.1	3.4	13.4	13.4	0.0
Motorcycles 5 health zones	Nb	10	5.0	50.0	0.0	50.0	33.6	0.0	33.6	33.6	0.0
Package control of diarrhoeal diseases	Lot	1	480.0	480.0	0.0	480.0	322.1	0.0	322.1	322.1	0.0
Package malaria prevention	Lot	1	1004.4	1004.4	0.0	1004.4	674.0	0.0	674.0	674.0	0.0
CCB material on STI and HIV/AIDS: TV sets, VCD players, leaflets, videos, publications	Lot	1	24.0	24.0	0.0	24.0	16.1	0.0	16.1	16.1	0.0
Laboratory equipment: refrigerator. Quick tests. Sample collection equipm't (needles & vacutainer tubes)	Lot	1	24.0	24.0	0.0	24.0	16.1	0.0	16.1	16.1	0.0
CCB Health- communication material	Lot	1	28.0	60.0	0.0	60.0	40.3	0.0	40.3	40.3	0.0
Office consumables and furniture of which f or HIV/AIDS: data sheet and pre- and post- test.counselling VSC site. register normative documents of prgm for the VSC	Yr	2.5	45.0	112.5	0.0	112.5	75.5	0.0	75.5	75.5	0.0
Fuel for motorcycles	Yr	2.5	14.4	36.0	0.0	36.0	24.2	0.0	24.2	24.2	0.0
S/total 1.1				1845.4	5.0	1850.4	1238.4	3.4	1241.7	1241.7	0.0
1.2 CONDIFA & C.P.F.											
PC Pent IV. RAM 1GB. HD100. UPS. Lic. SE & Office automation (of which 7 for PSC)	Nb	21	3.0	63.0	0.0	63.0	42.3	0.0	42.3	42.3	0.0
Printers (of which 7 for PSC)	Nb	21	0.8	16.8	0.0	16.8	11.3	0.0	11.3	11.3	0.0
Light duty photocopier	Nb	7	1.5	10.5	0.0	10.5	7.0	0.0	7.0	7.0	0.0
Teaching equipment for PSC	Lot	7	2.5	17.5	0.0	17.5	11.7	0.0	11.7	11.7	0.0
Communication and outreach material	Lot	7	8.5	59.5	0.0	59.5	39.9	0.0	39.9	39.9	0.0
Management soft ware (+licences) for PSC	Nb	7	3.5	24.5	0.0	24.5	16.4	0.0	16.4	16.4	0.0
Generating sets for PSC	Lot	7	3.5	24.5	0.0	24.5	16.4	0.0	16.4	16.4	0.0
Furniture for women's advancement centres	Lot	7	6.0	42.0	0.0	42.0	28.2	0.0	28.2	28.2	0.0
S/total 1.2				258.3	0.0	258.3	173.3	0.0	173.3	173.3	0.0
1.3 NGO and community-based organizations											
Bicycles for sensitization (Lisala. Kasang)	Nb	86	0.15	12.9	0.0	12.9	8.7	0.0	8.7	8.7	0.0
Publication and distribution of sensitization material	Lot	7	28.0	196.0	0.0	196.0	131.5	0.0	131.5	131.5	0.0
S/total 1.3				208.9	0.0	208.9	140.2	0.0	140.2	140.2	0.0
TOTAL GOODS				2312.6	5.0	2317.6	1551.9	3.4	1555.3	1555.3	0.0
2. SERVICES											
2.1 TRAINING											
Gender training on hygiene and health	Mod	11	6.5	0.0	71.5	71.5	0.0	48.0	48.0	48.0	0.0
Preparation and production CCB material	Pack.	7	10.0	0.0	70.0	70.0	0.0	47.0	47.0	47.0	0.0
Training of hygiene & sanitation NGOs	Part	140	0.70	0.0	98.0	98.0	0.0	65.8	65.8	65.8	0.0

COMPONENTS	Unit	Qty	UP	Total cost in USD thousand			Total cost in UA thousand				
				FC	LC	Total	FC	LC	Total	ADF	Gvt
Training HZ in integrated management of child diseases	Pack.	1	72.0	0.0	72.0	72.0	0.0	48.3	48.3	48.3	0.0
Train. 200 common monitors STI & HIV/AIDS contr & prev	Pack.	1	80.0	0.0	80.0	80.0	0.0	53.7	53.7	53.7	0.0
Training in data processing. Condifa & PSC	Part	70	0.5	0.0	35.0	35.0	0.0	23.5	23.5	23.5	0.0
Training PSC workers	Part	70	0.8	0.0	56.0	56.0	0.0	37.6	37.6	37.6	0.0
Training of standpipes & latrines management committee	Part	187	0.5	0.0	93.5	93.5	0.0	62.7	62.7	62.7	0.0
Training in standpipes & latrines maintenance	Pack.	7	8.0	0.0	56.0	56.0	0.0	37.6	37.6	37.6	0.0
S/total 2.1				0.0	632.0	632.0	0.0	424.1	424.1	424.1	0.0
2.1 Other services											
Study of CCB communication plan	Pack.	1	60.0	0.0	60.0	60.0	0.0	40.3	40.3	40.3	0.0
Monitor. & evaluat. of CCB by MOH (9th Bur) & CONDIFA	Lot	2	90.0	0.0	180.0	180.0	0.0	120.8	120.8	120.8	0.0
HZ activities coordination meeting	Yr	4	6.0	0.0	24.0	24.0	0.0	16.1	16.1	16.1	0.0
Organization CCB STI & HIV/AIDS meetings	Pack.	1	25.00	0.0	25.0	25.0	0.0	16.8	16.8	16.8	0.0
Outreach & sensitization water & sanitation	Part	450	0.41	0.0	184.5	184.5	0.0	123.8	123.8	123.8	0.0
Outreach & sensitization sanitation	Part	450	0.41	0.0	184.5	184.5	0.0	123.8	123.8	123.8	0.0
Monitoring of activities by the Health Zones	Pack.	1	44.0	0.0	44.0	44.0	0.0	29.5	29.5	29.5	0.0
Community radio	Lot	1	222.0	0.0	222.0	222.0	0.0	149.0	149.0	149.0	0.0
S/total 2.2				0.0	924.0	924.0	0.0	620.1	620.1	620.1	0.0
TOTAL SERVICES				0.0	1556.0	1556.0	0.0	1044.2	1044.2	1044.2	0.0
BASE COST COMPONENT B				2312.6	1561.0	3873.6	1551.9	1047.5	2599.5	2599.5	0.0
Physical contingencies				226.4	0.5	226.9	151.9	0.3	152.3	152.3	0.0
Provision for price contingencies				108.9	181.4	290.3	73.1	121.7	194.8	194.8	0.0
TOTAL COST COMPONENT B				2647.9	1742.9	4390.8	1776.9	1169.6	2946.5	2946.5	0.0
COMPONENT C : STUDIES, NATIONAL RURAL DWSS PROGRAMME											
1. Consulting firm											
Studies national rural DWSS programme	Pack.	1	4800.0	3840.0	960.0	4800.0	2576.9	644.2	3221.2	2899.0	322.1
Provision for price contingencies				296.4	191.4	487.8	198.9	128.4	327.4	294.6	32.7
TOTAL COST COMPONENT B				4136.4	1151.4	5287.8	2775.8	772.7	3548.5	3193.7	354.9
COMPONENT D : INSTITUTIONAL SUPPORT											
1 WORKS											
Construction & rehab buildings 3 Centres	Pack.	1	1547.0	618.8	928.2	1547.0	415.3	622.9	1038.2	0.0	1038.2
Construction & Rehab Training Centre	Pack.	1	1154.0	461.6	692.4	1154.0	309.8	464.7	774.4	0.0	774.4
Rehabilit & Construction PIU premises	Pack.	1	1294.0	517.6	776.4	1294.0	347.3	521.0	868.4	0.0	868.4
Construc & rehab building PNA analysis lab	Pack.	1	1238.0	495.2	742.8	1238.0	332.3	498.5	830.8	0.0	830.8
TOTAL WORKS				2093.2	3139.8	5233.0	1404.7	2107.0	3511.7	0.0	3511.7
2. GOODS											
2.1 REGIDESO											
Micro-computers Pent IV. RAM 1GB. HD100. Network card UPS. Licence SE & Office automation equip.	Nb	103	3.0	309.0	0.0	309.0	207.4	0.0	207.4	207.4	0.0
Laptop computer	Nb	12	2.8	33.6	0.0	33.6	22.5	0.0	22.5	22.5	0.0
Network printers	Lot	12	4.4	52.8	0.0	52.8	35.4	0.0	35.4	35.4	0.0
Laser printers	Nb	74	0.8	59.2	0.0	59.2	39.7	0.0	39.7	39.7	0.0
Scanners	Nb	8	0.5	4.0	0.0	4.0	2.7	0.0	2.7	2.7	0.0
Oracle software & licences	Pack.	1	190.0	190.0	0.0	190.0	127.5	0.0	127.5	127.5	0.0
Management & Monitoring & evaluation software	Pack.	1	25.0	25.0	0.0	25.0	16.8	0.0	16.8	16.8	0.0
Network equipment (3 DP & CFO)	Pack.	4	135.0	540.0	0.0	540.0	362.4	0.0	362.4	362.4	0.0
Telecom equipment (VSAT)	Nb	7	36.0	252.0	0.0	252.0	169.1	0.0	169.1	169.1	0.0
Furniture and equipment Training Centre	Lot	1	147.0	147.0	0.0	147.0	98.6	0.0	98.6	98.6	0.0
Heavy duty photocopiers	Nb	8	9.5	76.0	0.0	76.0	51.0	0.0	51.0	51.0	0.0
Medium duty photocopiers	Nb	16	3.0	48.0	0.0	48.0	32.2	0.0	32.2	32.2	0.0
Teaching Aids (Training Centre)	Lot	1	145.0	145.0	0.0	145.0	97.3	0.0	97.3	97.3	0.0
Metallic cabinets Head Office & centres	Lot	6	24.0	144.0	0.0	144.0	96.6	0.0	96.6	96.6	0.0
Office furniture (Head Office)	Lot	1	56.0	56.0	0.0	56.0	37.6	0.0	37.6	37.6	0.0
Library collection (CFO)	Lot	1	85.0	85.0	0.0	85.0	57.0	0.0	57.0	57.0	0.0
Minibus- Training Centre	Nb	1	43.0	43.0	0.0	43.0	28.9	0.0	28.9	0.0	28.9
4X4 Station Wagon Vehicles	Nb	4	42.0	168.0	0.0	168.0	112.7	0.0	112.7	0.0	112.7
Outboard motorboat Lisala Centre	Nb	1	15.0	15.0	0.0	15.0	10.1	0.0	10.1	0.0	10.1
Motocycles Collection branches	Nb	18	5.0	90.0	0.0	90.0	60.4	0.0	60.4	60.4	0.0
Generating sets	Nb	3	35.0	105.0	0.0	105.0	70.5	0.0	70.5	70.5	0.0
Split air conditioners	Nb	23	0.6	13.8	0.0	13.8	9.3	0.0	9.3	9.3	0.0
Stocks- standpipe spare parts	Lot	3	92.0	230.0	0.0	230.0	154.3	0.0	154.3	154.3	0.0
Stocks- plant inputs 3 Centres	Lot	2.5	112.0	280.0	0.0	280.0	187.9	0.0	187.9	187.9	0.0
Office consumables & supplies	Yr	2.5	108.0	270.0	0.0	270.0	181.2	0.0	181.2	181.2	0.0
S/total 2.1				3381.4	0.0	3381.4	2269.2	0.0	2269.2	2117.5	151.7
2.2 PNA											
Micro-computers Pent IV. RAM 1GB. HD100. UPS. Licence SE & Office automation equip.	Nb	10	2.3	23.0	0.0	23.0	15.4	0.0	15.4	15.4	0.0
Laptop computer	Nb	2	2.5	5.0	0.0	5.0	3.4	0.0	3.4	3.4	0.0
Laser printers	Nb	10	0.8	8.0	0.0	8.0	5.4	0.0	5.4	5.4	0.0
Scanners	Nb	4	0.5	2.0	0.0	2.0	1.3	0.0	1.3	1.3	0.0
Water analysis software	Lot	1	25.0	25.0	0.0	25.0	16.8	0.0	16.8	16.8	0.0
Medium duty photocopiers	Nb	2	3.0	6.0	0.0	6.0	4.0	0.0	4.0	4.0	0.0
Water analysis equipment	Pack.	1	190.0	190.0	0.0	190.0	127.5	0.0	127.5	127.5	0.0
Split air conditioners	Nb	5	0.6	3.0	0.0	3.0	2.0	0.0	2.0	2.0	0.0
Stocks reagents & other inputs	Lot	2.5	87.0	217.5	0.0	217.5	146.0	0.0	146.0	146.0	0.0
Office consumables & supplies	Yr	2.5	48.0	120.0	0.0	120.0	80.5	0.0	80.5	80.5	0.0

COMPONENTS	Unit	Qty	UP	Total cost in USD thousand			Total cost in UA thousand				
				FC	LC	Total	FC	LC	Total	ADF	Gvt
S/total 2.2				599.5	0.0	599.5	402.3	0.0	402.3	402.3	0.0
2.3 SNHR											
Micro-computers Pent IV. RAM 1GB. HD100. UPS. Licence SE & Office automation equip.	Nb	16	3.0	48.0	0.0	48.0	32.2	0.0	32.2	32.2	0.0
Laptop computer	Nb	2	2.8	5.6	0.0	5.6	3.8	0.0	3.8	3.8	0.0
Laser printers	Nb	16	0.8	12.8	0.0	12.8	8.6	0.0	8.6	8.6	0.0
Scanners	Nb	4	0.5	2.0	0.0	2.0	1.3	0.0	1.3	1.3	0.0
Data processing software	Lot	1	30.0	30.0	0.0	30.0	20.1	0.0	20.1	20.1	0.0
Medium duty photocopiers	Nb	2	3.0	6.0	0.0	6.0	4.0	0.0	4.0	4.0	0.0
Scientific equipment	Lot	1	83.0	83.0	0.0	83.0	55.7	0.0	55.7	55.7	0.0
Technical field equipment	Lot	1	70.0	70.0	0.0	70.0	47.0	0.0	47.0	47.0	0.0
4X4 Station Wagon Vehicle	Nb	1	42.0	42.0	0.0	42.0	28.2	0.0	28.2	0.0	28.2
Motocycles	Nb	28	3.5	98.0	0.0	98.0	65.8	0.0	65.8	65.8	0.0
Bicycles	Nb	200	0.15	30.0	0.0	30.0	20.1	0.0	20.1	20.1	0.0
Split air conditioners	Nb	5	0.6	3.0	0.0	3.0	2.0	0.0	2.0	2.0	0.0
Stocks reagents & other inputs	Lot	2.5	48.0	120.0	0.0	120.0	80.5	0.0	80.5	80.5	0.0
Office consumables & supplies	Yr	2.5	28.0	70.0	0.0	70.0	47.0	0.0	47.0	47.0	0.0
S/total 2.3				620.4	0.0	620.4	416.3	0.0	416.3	388.1	28.2
2.4 CNAEA											
Micro-computers Pent IV. RAM 1GB. HD100. UPS. Licence SE & Office automation equip.	Nb	28	3.0	84.0	0.0	84.0	56.4	0.0	56.4	56.4	0.0
Laptop computer	Nb	4	2.8	11.2	0.0	11.2	7.5	0.0	7.5	7.5	0.0
Laser printers	Nb	16	0.8	12.8	0.0	12.8	8.6	0.0	8.6	8.6	0.0
Scanners	Nb	4	0.5	2.0	0.0	2.0	1.3	0.0	1.3	1.3	0.0
Data base management software	Nb	1	37.0	37.0	0.0	37.0	24.8	0.0	24.8	24.8	0.0
Medium duty photocopiers	Nb	12	3.0	36.0	0.0	36.0	24.2	0.0	24.2	24.2	0.0
Inventory equipment	Lot	1	78.0	78.0	0.0	78.0	52.3	0.0	52.3	52.3	0.0
Office consumables & supplies	Yr	2.5	28.0	70.0	0.0	70.0	47.0	0.0	47.0	47.0	0.0
S/total 2.4				331.0	0.0	331.0	222.1	0.0	222.1	222.1	0.0
2.5 Support to the 7 Municipalities											
Refuse collection vehicles	Nb	7	87.0	609.0	0.0	609.0	408.7	0.0	408.7	408.7	0.0
Refuse precollection buckets	Nb	14	10.0	140.0	0.0	140.0	94.0	0.0	94.0	94.0	0.0
Fuel and spare parts refuse collection trucks	Yr	2.5	210.00	315.0	210.0	525.0	211.4	140.9	352.3	352.3	0.0
S/Total 2.5				1064.0	210.0	1274.0	714.0	140.9	854.9	854.9	0.0
TOTAL GOODS				5996.3	210.0	6206.3	4024.0	140.9	4164.9	3985.0	179.8
3. SERVICES											
3.1 Consultants (REGIDESO)											
Preparation of project training scheme	S/M	2	18.0	36.0	0.0	36.0	24.2	0.0	24.2	24.2	0.0
Administrative, accounting and financial procedures manual & training of accountants	S/M	3	18.0	54.0	0.0	54.0	36.2	0.0	36.2	36.2	0.0
Putting in place document filing & archiving system (with software)	S/M	3	18.0	54.0	0.0	54.0	33.9	0.0	33.9	33.9	0.0
Audit of information system	S/M	3	14.0	42.0	0.0	42.0	28.2	0.0	28.2	28.2	0.0
Harmonization with OHADA Accounting Syst.	S/M	2	18.0	36.0	0.0	36.0	22.6	0.0	22.6	22.6	0.0
Setting up of Website & intranet	S/M	4	18.2	72.8	0.0	72.8	48.9	0.0	48.9	48.9	0.0
Putting in place core of trainers Training Centre (2 Engineers; 1 Expert HR Dvpt)	S/M	9	18.2	163.8	0.0	163.8	109.9	0.0	109.9	109.9	0.0
Strengthening organization & management 3 Prov	S/M	3	14.0	42.0	0.0	42.0	28.2	0.0	28.2	28.2	0.0
Expert- Assistant Coordinator	S/M	48	13.0	624.0	0.0	624.0	418.7	0.0	418.7	418.7	0.0
Internal auditor	S/M	24	17.0	816.0	0.0	816.0	547.6	0.0	547.6	547.6	0.0
Expert financial & accounting management PIU)	S/M	24	18.0	864.0	0.0	864.0	579.8	0.0	579.8	579.8	0.0
Expert in monitoring & evaluation (PIU)	S/M	24	18.0	564.0	0.0	564.0	378.5	0.0	378.5	378.5	0.0
Procurement Experts (2) (PIU)	S/M	48	19.0	456.0	0.0	456.0	306.0	0.0	306.0	306.0	0.0
International Expert- Environment	S/M	24	18.0	216.0	0.0	216.0	145.0	0.0	145.0	145.0	0.0
S/total 3.1				4040.6	0.0	4040.6	2707.7	0.0	2707.7	2707.7	0.0
3.2 TRAINING											
Training of trainers session (23 partic)	Nb	3	29.4	0.0	88.2	88.2	0.0	59.2	59.2	59.2	0.0
Training national personnel of the PIU	Part	37	0.9	33.3	0.0	33.3	22.3	0.0	22.3	22.3	0.0
Data processing : Office automation applications	Part	140	0.6	0.0	84.0	84.0	0.0	56.4	56.4	56.4	0.0
Application Oracle software (3 seminars)	Part	45	1.4	0.0	63.0	63.0	0.0	42.3	42.3	42.3	0.0
Accounting & Management (3 sessions)	Part	60	1.2	0.0	72.0	72.0	0.0	48.3	48.3	48.3	0.0
Project management (4 sessions)	Part	88	0.7	0.0	61.6	61.6	0.0	41.3	41.3	41.3	0.0
Management of human resources (4 sessions)	Part	88	0.7	0.0	61.6	61.6	0.0	41.3	41.3	41.3	0.0
DWS technical management and operation	Part	60	1.6	0.0	96.0	96.0	0.0	64.4	64.4	64.4	0.0
Management sanitation Infracst (3 sessions)	Part	69	1.6	0.0	110.4	110.4	0.0	74.1	74.1	74.1	0.0
Municipal management of solid wastes	Part	70	1.2	0.0	84.0	84.0	0.0	56.4	56.4	56.4	0.0
Audit, inspection & good governance (2 sessions)	Part	46	1.6	0.0	73.6	73.6	0.0	49.4	49.4	49.4	0.0
Maintenance DWS product. & distrib. units	Part	20	1.7	0.0	34.0	34.0	0.0	22.8	22.8	22.8	0.0
Other local training (themes to be determined)	Nb	20	8.0	0.0	154.0	154.0	0.0	103.3	103.3	103.3	0.0
Training abroad (Africa)	Part	60	7.0	420.0	0.0	420.0	281.9	0.0	281.9	281.9	0.0
Training abroad (outside Africa)	Part	48	12.0	576.0	0.0	576.0	386.5	0.0	386.5	386.5	0.0
Field and familiarization trips	Part	60	7.0	420.0	0.0	420.0	281.9	0.0	281.9	281.9	0.0
S/total 3.2				1449.3	982.4	2431.7	972.6	659.3	1631.8	1631.8	0.0
3.3 Other services											
Subscription Internet Provider	Yr	4	14.0	56.0	0.0	56.0	37.6	0.0	37.6	37.6	0.0
Maintenance vehicles & motorcycles (SNHR)	Yr	2.5	120.0	165.6	110.4	276.0	111.1	74.1	185.2	185.2	0.0
S/total 3.3				221.6	110.4	332.0	148.7	74.1	222.8	222.8	0.0

COMPONENTS	Unit	Qty	UP	Total cost in USD thousand			Total cost in UA thousand				
				FC	LC	Total	FC	LC	Total	ADF	Gvt
TOTAL SERVICES				5711.5	1092.8	6804.3	3829.0	733.3	4562.3	4562.3	0.0
BASE COST COMPONENT D				13801.0	4442.6	18243.6	9257.6	2981.3	12239.0	8547.4	3691.6
Physical contingencies (10%)				830.9	21.5	852.4	557.6	14.4	572.0	400.4	171.6
Provision for price contingencies				772.4	468.5	1240.9	518.3	314.4	832.7	624.6	208.2
TOTAL COST COMPONENT D				15404.3	4932.6	20336.9	10333.6	3310.1	13643.7	9572.3	4071.4
COMPONENT D : PROJECT MANAGEMENT (PIU)											
1. GOODS											
Micro-computers Pent IV. RAM 1GB. HD100. UPS. Licence SE & Office automation equip.	Nb	25	3.0	75.0	0.0	75.0	50.3	0.0	50.3	50.3	0.0
Laptop computer	Nb	6	2.8	16.8	0.0	16.8	11.3	0.0	11.3	11.3	0.0
Network printers	Nb	2	1.0	2.0	0.0	2.0	1.3	0.0	1.3	1.3	0.0
Laser printers	Nb	15	3.6	54.0	0.0	54.0	36.2	0.0	36.2	36.2	0.0
VSAT Equipment & accessories	Lot	1	36.0	36.0	0.0	36.0	24.2	0.0	24.2	24.2	0.0
Network equipment 20 stations	Lot	1	32.0	32.0	0.0	32.0	21.5	0.0	21.5	21.5	0.0
Network equipment 20 stations	Nb	2	1.0	2.0	0.0	2.0	1.3	0.0	1.3	1.3	0.0
Management software	Lot	1	25.0	25.0	0.0	25.0	16.8	0.0	16.8	16.8	0.0
Heavy duty photocopier	Nb	1	9.6	9.6	0.0	9.6	6.4	0.0	6.4	6.4	0.0
Light duty photocopier	Nb	4	3.0	12.0	0.0	12.0	8.1	0.0	8.1	8.1	0.0
Office furniture	Lot	1	35.0	35.0	0.0	35.0	23.5	0.0	23.5	23.5	0.0
Minibus transport of technical Assistants	Nb	1	57.0	57.0	0.0	57.0	38.3	0.0	38.3	0.0	38.3
4X4 Station Wagon vehicles	Nb	3	42.0	126.0	0.0	126.0	84.6	0.0	84.6	0.0	84.6
Split air conditioners	Nb	8	0.6	4.8	0.0	4.8	3.2	0.0	3.2	3.2	0.0
Fuel	Yr	4	119.5	478.1	0.0	478.1	320.9	0.0	320.9	320.9	0.0
Supplies& consumables	Yr	4	77.0	308.0	0.0	308.0	206.7	0.0	206.7	206.7	0.0
TOTAL GOODS				1273.3	0.0	1273.3	854.5	0.0	854.5	731.7	122.8
2. SERVICES											
2.1. Allowances for personnel on secondment											
2.1.1 Kinshasa											
Coordinator	S/M	48	5.0	0.0	240.0	240.0	0.0	161.1	161.1	161.1	0.0
Hydraulics Engineer	S/M	48	2.5	0.0	120.0	120.0	0.0	80.5	80.5	80.5	0.0
Rural hydraulics Engineer	S/M	48	2.5	0.0	120.0	120.0	0.0	80.5	80.5	80.5	0.0
Sanitation Engineer	S/M	48	2.5	0.0	120.0	120.0	0.0	80.5	80.5	80.5	0.0
National counterpart- Environment	S/M	48	2.0	0.0	96.0	96.0	0.0	64.4	64.4	64.4	0.0
National counterpart- monitoring & evaluation	S/M	48	2.0	0.0	96.0	96.0	0.0	64.4	64.4	64.4	0.0
National counterparts -procurement	S/M	48	2.0	0.0	288.0	288.0	0.0	193.3	193.3	193.3	0.0
National counterparts- Auditors	S/M	48	2.0	0.0	96.0	96.0	0.0	64.4	64.4	64.4	0.0
Accountant	S/M	48	1.5	0.0	72.0	72.0	0.0	48.3	48.3	48.3	0.0
Administrative Assistant	S/M	48	1.2	0.0	57.6	57.6	0.0	38.7	38.7	38.7	0.0
Secretaries (04)	S/M	192	0.7	0.0	134.4	134.4	0.0	90.2	90.2	90.2	0.0
Drivers (02)	S/M	96	0.4	0.0	38.4	38.4	0.0	25.8	25.8	25.8	0.0
Orderlies (2)	S/M	96	0.3	0.0	28.8	28.8	0.0	19.3	19.3	19.3	0.0
Sub-total 2.1.1				0.0	1507.2	1507.2	0.0	1011.4	1011.4	1011.4	0
2.1.2 Centres											
Water treatment Engineer	S/M	144	1.5	0.0	288.0	288.0	0.0	193.3	193.3	193.3	0.0
Hydro-geological Engineer	S/M	144	1.5	0.0	288.0	288.0	0.0	193.3	193.3	193.3	0.0
Electromechanical Technicians	S/M	144	1.0	0.0	288.0	288.0	0.0	193.3	193.3	193.3	0.0
Civil Engineering Technicians	S/M	144	1.0	0.0	288.0	288.0	0.0	193.3	193.3	193.3	0.0
Accountants	S/M	144	0.8	0.0	288.0	288.0	0.0	193.3	193.3	193.3	0.0
Specialist in gender issues	S/M	144	0.5	0.0	144.0	144.0	0.0	96.6	96.6	96.6	0.0
Billing Officer	S/M	144	0.8	0.0	288.0	288.0	0.0	193.3	193.3	0.0	193.3
Collecting Agents	S/M	144	0.8	0.0	288.0	288.0	0.0	193.3	193.3	0.0	193.3
Sub-total 2.1.2				0.0	2160.0	2160.0	0.0	1449.5	1449.5	1063.0	386.5
2.2 Operating costs											
Insurance	Yr	4	58.0	0.0	232.0	232.0	0.0	155.7	155.7	155.7	0.0
Attendance allowances PSC	Yr	4	4.8	0.0	19.2	19.2	0.0	12.9	12.9	12.9	0.0
Water-electricity	Yr	4	105.0	0.0	420.0	420.0	0.0	281.9	281.9	0.0	281.9
Local travel	Yr	4	57.0	0.0	228.0	228.0	0.0	153.0	153.0	0.0	153.0
Internet & communication costs	Yr	4	67.0	0.0	268.0	268.0	0.0	179.8	179.8	0.0	179.8
Maintenance	Yr	4	66.4	149.4	149.4	298.8	100.3	100.3	200.5	0.0	200.5
Miscellaneous	Yr	4	52.0	117.0	117.0	234.0	78.5	78.5	157.0	150.0	7.0
Wages of personnel on secondment	Yr	4	511.2	0.0	2044.8	2044.8	0.0	1372.2	1372.2	0.0	1372.2
Sub-total 2.2				266.4	3478.4	3744.8	178.8	2334.3	2513.0	318.6	2194.5
2.3 Audit	Yr	4	30.0	100.0	0.0	100.0	67.1	0.0	67.1	67.1	0.0
TOTAL SERVICES				366.4	7145.6	7512.0	245.9	4795.2	5041.1	2460.1	2581.0
BASE COST COMPONENT D				1639.7	7145.6	8785.3	1100.4	4795.2	5895.6	3191.8	2703.8
Physical contingencies				127.3	0.0	127.3	85.4	0.0	85.4	62.0	23.4
Price contingencies				124.6	1132.8	1257.4	83.6	760.2	843.8	441.0	402.8
TOTAL COST COMPONENT D				1891.7	8278.4	10170.1	1269.5	5555.4	6824.9	3694.8	3130.1

Assumptions for the calculation of the financial and economic rates of return

The calculation of the financial and economic rates of return concerns only the drinking water supply aspect, namely the DWS systems of the 3 centres covered by the project.

Capital cost

Only the capital costs allocated to the DWS aspect concerned as well as the "project management" component plus the physical contingencies were taken into account for the calculation of the financial and economic rates of return.

Operating income

Volume of water sold. Production forecasts are based on the capacities of the DWS of the 3 centres. The rise in production envisages a 50% utilization rate of the capacity in 2011, 70% in 2011, to reach its peak (22 hrs of operation of the network that is 92%) as from 2016. In the present state of the network, approximately 50% on average of the water produced by REGIDESO is unaccounted for. One of the objectives of the project is to reduce the difference between the quantities produced and the quantities consumed and billed to the customers. This difference thus results from the water loss recorded in currently fissured, decayed and badly maintained works. It also results from the combined effect of inadequate leakage detection and billing procedures. Accordingly, it is envisaged that water losses will be reduced from 40% in 2010 to 20% in 2014, which will result in a gradual increase in the volume of water billed and consumed. The water sales collection rate is envisaged to improve from 50% in 2006 to 58% in 2011 and 73% in 2015

Income from water sales: Tariffing is based on a system of selection according to types of use and graduated according to consumption levels. The average tariff considered for purposes of this analysis is based on the following consumption structure: 40% for standpipes at the cost of Fc 5 /l, 40% for low level household connection at the cost of Fc 450 /m³, 20% for medium level subscribers at Fc 562 /m³ and high level connection for business and institutional subscribers at an average tariff of Fc 760 /m³. Conservatively, only one graduated tariff increase of 5% is envisaged every two years during the reference period (15 years). The increase in average selling price also results from the modification of the tariff structure following increased connections and consumption in the upper brackets. This adjustment is made in order to factor in the increase in the volume of water billed as a result of increased network output and reduction of the volume of water billed at a fixed price.

Operating costs

Expenditure for the 3 centres concerned was estimated on the basis of structure of the costs of utilities operating in the zone and using the operating data of REGIDESO. Intermediate consumptions account for 29% of turnover in 2010 as against 21% for the entire REGIDESO in 2005. This rate improves gradually to reach 26.5% in 2015. The operating costs were estimated at 30 U turnover in 2010 and increase by 6% per year thereafter.

Amortization

For purposes of amortization of the investments which will be carried out under this project, the mean economic life of the network facilities is 40 years. As the economic and financial analyses cover 15 years, a salvage value of the distribution networks was estimated and included in the calculation of its profitability.

Economic rate of return

The calculation of the economic rate of return is based on the application of the following conversion factor:

- Selling price: 1.07 to take into account the average tariff which is at least 7% below international prices;
- Personnel: 0.55 to take into account the lower opportunity cost for unskilled labour;
- Other costs: 0.85 to take into account the incidence of taxes and customs duties.
- Investments: 0.87 on local costs to take into account the foreign exchange reference price which is 5% lower than the official price and the handling costs (8%).

**DEMOCRATIC REPUBLIC OF CONGO: SEMI URBAN DWSS PROJECT
CALCULATION OF THE FINANCIAL AND ECONOMIC RATE OF RETURN**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Population Kasang thousand inha	30.5	31.4	32.4	33.3	34.3	35.4	36.4	37.5	38.6	39.8	41.0	42.2	43.5	44.8	46.1	47.5	49.0
Lisala	77.9	80.2	82.6	85.1	87.6	90.3	93.0	95.8	98.6	101.6	104.7	107.8	111.0	114.4	117.8	121.3	125.0
Tshikapa	1592.7	1640.4	1689.7	1740.4	1792.6	1846.3	1901.7	1958.8	2017.5	2078.1	2140.4	2204.6	2270.8	2338.9	2409.1	2481.3	2555.8
Total	1701	1752	1805	1859	1915	1972	2031	2092	2155	2219	2286	2355	2425	2498	2573	2650	2730
Average water requirement (litre/inhabitant)	31.4	31.0	31.0	34.1	37.5	41.3	45.4	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Besoin total (milliers de m3)	19,499	19,825	20,419	23,135	26,212	29,699	33,648	38,180	39,326	40,505	41,721	42,972	44,261	45,589	46,957	48,366	49,817
Access rate	1.2%	1.3%	8%	41%	47%	52%	49%	56%	57%	59%	60%	61%	62%	63%	64%	66%	67%
Production (millier m3)																	
Kasangulu			202	269	323	377	431	495	520	546	573	602	632	664	697	732	768
Lisala			141	562	675	787	899	1,034	1,086	1,140	1,197	1,257	1,320	1,386	1,455	1,528	1,604
Tshikapa			2,301	13,779	16,535	19,290	19,290	25,353	26,621	27,952	29,349	30,817	32,357	33,975	35,674	37,458	39,331
Total water production			2,643	14,610	17,532	20,454	20,620	26,882	28,226	29,638	31,120	32,676	34,309	36,025	37,826	39,717	41,703
Rate of loss			40%	35%	30%	25%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Water sales (thousand m3)	242	255	1,586	9,496	12,272	15,340	16,496	21,506	22,581	23,710	24,896	26,140	27,448	28,820	30,261	31,774	33,363
Lisala			121	175	226	283	344	396	416	437	459	481	506	531	557	585	614
Kasangulu			84	365	472	590	719	827	869	912	958	1,006	1,056	1,109	1,164	1,222	1,284
Tshikapa			1,381	8,956	11,574	14,468	15,432	20,282	21,296	22,361	23,479	24,653	25,886	27,180	28,539	29,966	31,465
Average SP / m3			423.4	466.8	466.8	490.1	490.1	514.6	514.6	540.4	540.4	567.4	567.4	595.8	595.8	625.6	625.6
Turnover (Fc million)			672	4,433	5,729	7,519	8,085	11,068	11,621	12,812	13,453	14,832	15,574	17,170	18,028	19,876	20,870
Average collection rate			55%	58%	62%	65%	63%	73%	77%	81%	86%	90%	90%	90%	90%	90%	90%
CALCULATION FINANCIAL RATE OF RETURN OF DVS COMPONENT																	
Sales encashed (Fc million)			369	2,580	3,529	4,903	5,109	8,093	8,960	10,418	11,539	13,349	14,016	15,453	16,226	17,889	18,783
Intern. consumption " " "			195	1,263	1,604	2,068	2,183	2,933	3,022	3,267	3,363	3,634	3,738	4,035	4,147	4,472	4,591
Operating costs " " "			222	235	249	264	280	297	314	333	353	374	397	421	446	473	501
Increment			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cash-flow - - -			-47	1,082	1,676	2,571	2,646	4,864	5,625	6,818	7,822	9,341	9,882	10,997	11,633	12,944	13,691
Investment	-7407	-10937	-10441	-6176													
Residual value																	21851
Net value	-7407	-10937	-10488	-5,094	1,676	2,571	2,646	4,864	5,625	6,818	7,822	9,341	9,882	10,997	11,633	12,944	35,541
Financial IRR	12.91%		Financial NPV 10%			8,111			Financial NPV 12%			2,178					
CALCUL DU TAUX DE RENTABILITE ECONOMIQUE DU YOLET AEP																	
Project receipts (Fc million)	0	0	696	4,859	6,646	9,234	9,622	15,242	16,875	19,620	21,730	25,139	26,396	29,102	30,557	33,689	35,373
Intern. consumption	0	0	-156	-1,011	-1,283	-1,654	-1,746	-2,346	-2,417	-2,614	-2,691	-2,907	-2,990	-3,228	-3,317	-3,578	-3,673
Overheads	0	0	-104.2	-110.4	-117.0	-124.0	-131.5	-139.4	-147.7	-156.6	-166.0	-176.0	-186.5	-197.7	-209.6	-222.2	-235.5
Increment	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investment	-7096	-10478	-10002	-5917	0	0	0	0	0	0	0	0	0	0	0	0	0
Residual value	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20933
Net value	-7096	-10478	-9566	-2179	5245	7455	7744	12756	14310	16850	18873	22056	23219	25676	27030	29889	52397
Economic rate of return	26.24%		VA economic 10%			56,641			VA economic 12%			42,218					

DEMOCRATIC REPUBLIC OF CONGO
SEMI-URBAN DWSS PROJECT

**TERMS OF REFERENCE FOR THE CONDUCT OF A STUDY OF THE
NATIONAL RURAL AND SEMI-URBAN DRINKING WATER SUPPLY
AND SANITATION PROGRAMME**

1. **INTRODUCTION**

1.1. The Democratic Republic of Congo covers a surface area of 2,345,000 Km². It abounds in water resources most of which are in the Congo River basin. On account of its geographical position, the DRC belongs to two of the major catchment basins, namely, the Congo River basin of which it occupies 61% and the Nile basin (White Nile) of which it hosts one of the source heads from Lake Edward.

1.2. Located at the very centre of Africa and straddling the Equator, DR Congo is among the wettest countries in the African continent, with high rainfall distributed throughout the year, of 1,200 mm / year on average. With a mean flow of 42,000 m³ per second and minimal and maximum flows of 23 000 and 80 000 m³ respectively, the Congo River ranks 1st in Africa in terms of its catchment surface area (3 822 000 km²) and its mean flow and 2nd in the World after the Amazon (6 300 000 Km² and 100 000 m³/sec). The Congo River is 4 700 km long and has around twenty tributaries; some on the right bank and others on the left bank. It is 2nd in Africa after the Nile and 5th in the World in length.

1.3. In terms of quantity, the challenge of drinking water supply in DRC with a population of around 60 million inhabitants in 2006 is less the problem of availability of fresh water resources than that of their harnessing and rational and planned utilization. A first step in this direction is the review of the water sector, identification of its advantages and key constraints and the means of attenuating the latter as well as the availability of a national investment program.

1.4. It is for this reason that the Congolese Government, under the general coordination of CNAEA, approached donors including the African Development Bank (ADB), the World Bank, UNICEF, German Co-operation and Belgian Co-operation, for the financing of studies on the Water and Sanitation Sector Development Master Plan for Rural and Semi-Urban agglomerations in the DRC for the period 2008-2015.

2. **PROGRAM DEVELOPMENT STRATEGY**

2.1 The program will seek to raise the percentage of rural dwellers with drinking water access, from 22% currently to 49% in 2015 for drinking water and from 9% to 45% for sanitation access. These objectives are in conformity with the guidelines on the poverty reduction programme strategy in DRC. The rural and semi-urban DWSS program seeks to accelerate access to viable drinking water supply and sanitation services in rural and semi urban areas, through the following strategic actions:

- set up and use accelerated mechanisms for the preparation and implementation of interventions in order to accelerate provincial water supply and sanitation programmes in rural and semi-urban areas;
- implement, with the participation of beneficiaries, projects designed to extend and consolidate drinking water supply and sanitation coverage in rural areas;
- promote appropriate technologies, jointly agreed to among beneficiaries as concerns acceptable service level, user friendliness, as well as local knowledge and skills required to ensure their operation and maintenance;
- enable further mobilization of external and domestic financing to support local initiatives aimed at improving water supply and sanitation services in rural and semi-urban areas.

2.2 The program will take into account the needs expressed by grassroots communities as contained in the GPRSP. It will be based on the following principles:

- beneficiary populations' request approach;
- contribution by the latter to the investments and maintenance costs of the facilities;
- accelerated but transparent goods and services procurement procedures;
- support to the private sector, decentralized technical structures intervening in the sector, local authorities and beneficiaries;
- closer coordination between the various actors of the sector; and
- promotion of a national sanitation policy closely related to water. Much attention will be paid to the socio-economic aspects, notably to gender problems in order to strengthen the positive impacts of water and sanitation projects and to improve their sustainability.

2.3. The Program will cover the whole country and should help the DWSS sector to meet challenges including that of the sustainability of the water points provided, and the need to maintain the link between drinking water and sanitation in the localities. To that end, the following actions will be necessary:

- rehabilitation of defective water points;
- strengthening of the maintenance system;
- professionalization of water systems management; and
- strengthening of private-public partnership for the management of DWSS systems;
- promotion of hygiene and basic sanitation

2.3. The interventions should necessarily feature in the local development plans prepared by the local authorities. The programming of actions and the planning of the sub-programmes will be based on a participatory approach with responsible participation of users, the State, support bodies and private operators in the choice, design, implementation and management of the facilities. On the basis of the request approach, the projects identified by the local authorities will be covered by sub-programmes to be validated with the participation of beneficiaries.

3 PROGRAM DESCRIPTION

3.1. COMPONENT A: National inventory of water and sanitation works

3.1.1 This component will consist in making an inventory of water infrastructures nationwide in order to take stock of the water and sanitation infrastructures in all the localities of the country. Given its nature, this task will be entrusted to CNAEA with the technical support of SNHR and PNA, whose attributes and qualifications fit the bill. To enable CNAEA to perform this task effectively and on schedule for purposes of implementing component B (development of the national DWSS programme), as well as commencement of the outputs of the Bank Initiative in the country in the short term, the strengthening of the capacities of CNAEA, SNHR and PNA is envisaged under the study.

3.1.2 This inventory will be carried out nationwide. All the *communes* of the 11 Provinces of the country will be visited and their water works inventoried. The logistic and technical support of the Belgian Technical Co-operation (CTB) will be required for this purpose.

3.1.3 The following water supply works are those that will be taken into account within the framework of the envisaged inventory: boreholes, modern wells, traditional wells, DWSS and autonomous water sources, drainage systems, dams and retaining reservoirs.

3.1.4 Technical information on the present operating condition of these works and socio-economic information directly or indirectly related to water use will be inventoried in addition.

3.1.5 To enable a speedy conduct of this inventory (4 months), the operations will proceed simultaneously in all 11 Provinces of the country. Moreover, the data generated by the field investigations, will be keyed in progressively in each Province, before being verified and compiled at the central level, using the SIG-EAU data base available at CNAEA.

3.2. COMPONENT B: Development of the national drinking water supply and sanitation programme for the 2015 horizon

3.2.1 On the basis of exhaustive field data from the inventory described in component (A) above, a qualified consulting firm in the domain will be recruited to develop the national drinking water supply and sanitation programme for the 2015 horizon, which will be detailed, coherent, relevant and reliable. As part of this exercise, it will be also put forward all attendant measures deemed useful for the success of the actions recommended by the aforementioned program. An 8-month period is envisaged for this operation.

3.2.2 The detailed program will provide: (i) reliable data on the sector; (ii) a Province-by-Province investment plan designed to meet the needs to be satisfied in order to attain the millennium goals concerning water and sanitation and; (iii) all the attendant measures that need to be taken into account for the effective achievement of these goals. The approach already recommended for the future outputs suggested by this program, is the participatory and concerted approach that is alone capable of ensuring a perfect synergy of actions among all the development partners in the sector. On the basis of the program thus finalized, each of these partners in dialogue with the others will define its mode of contribution to the attainment of the goals, according to its own specificities. The study leading to the development of the program will be conducted during the 8 months immediately following the inventory and will comprise three distinct and successive missions:

Mission n°1: Conduct a situational analysis at the national level

3.2.3 This first mission of a 4-month duration will comprise: (i) a critical analysis of the existing institutional framework which will enable identification of any constraints related to this aspect and likely to affect the achievement of set objectives; (ii) estimation of the current basic coverage and service rates for water and sanitation on the basis of which requirements by the year 2015 will be determined; (iii) analysis of the socio-economic, health and environmental aspects, including first, an examination of the social and environmental impacts associated with existing works to sufficiently draw some lessons for future implementation phases, and second, consideration of the foreseeable impacts of the program to be developed, on the populations: reduction of water-borne diseases, impacts on poverty (household incomes), impact on women (water-related gender aspects) and children; (iv) an analysis of past and potential financing of the sector which will be made on the basis of an

assessment of the financing over the past 10 years. The said analysis will provide guidelines on the trend of public resources allocated to the water and sanitation sector and its contribution to poverty reduction, while providing insights into the absorptive capacities of the country's water sector.

Mission n°2: Set the objectives, define the strategies and performance and monitoring indicators

3.2.4 This second mission will last 2 months and will enable: (i) definition of the needs coverage targets in the form of a matrix of options comprising the various service levels deemed acceptable in the long term (2015): per capita minimum drinking water consumption, maximum distance to water points, time taken for water supply, minimum required level of sanitation system etc; (ii) adjustment of the strategies to be implemented to satisfy the requirements by taking of account the poverty dimension, the role of the private sector, local authorities, (coverage rate, service rate, operability of the works, management system, cost effectiveness, monitoring/management of the water resource and system of allocation of financial resources to the sector); (iv) proposal of a draft methodology for collection of information necessary for updating the monitoring indicators determined above (procedures, actors and tools), the objective being to have a tool for monitoring the evolution of the situation and a control system enabling adjustment of interventions where necessary.

Mission n°3: Propose a technical and financial investment plan with mitigating measures

3.2.5 This third and final mission of the 3 month-study will deal with the following aspects: (i) development of an investment plan: following the consensus obtained at the end of mission 2 on the objectives and strategies, an investment plan will be proposed based on the definition of the technical lower-cost solutions that are more tailored to requirements and to users' payment capacity. This should result in a national program conceived on an annual basis. The latter will be realistic and based on the maximum capacities of the sector to implement such annual programming. Sub-programmes will be identified in this programme and will be prioritized for implementation using a grid of economic, social equity or other criteria, which will be prepared to that end. Finally, the rural/ urban interface will be specified, while clarifying the assumptions used in this regard. It would also be useful to treat separately an intermediate category of investments for entities such as secondary towns, large market towns and the groups of villages connected by network. This interface is all the more important to define as it is sometimes very difficult to draw the institutional line between rural and semi-urban and between urban and semi-urban; (ii) tentative budgetary planning: to that end, an estimated financing plan will be proposed for the short, medium and long terms distinguishing the shares of the State, local and international private sector, donors, users etc., for each sub-sector, within the framework of a multi-partnership approach (government-local communities -donors, NGOs, private sector) and budgetary planning. This plan will also take into account capacity building requirements and attendant measures necessary for attaining the objectives set by the program; (iii) and finally, consideration of the aspects concerning the expected impacts of planned actions on the environment and the cost of suitable mitigating measures: the costs thus estimated will also be included in the programme developed. To this end, an Environmental and Social Management Plan (ESMP), as recommended by Bank directives on the matter and containing a capacity building programme in this domain, will be developed by the Consultant.

3.2.6 At the end of the inventory and of each of the three phases of the study, report-back workshops will be held bringing together all stakeholders, including the sector donors. These workshops organized around the status report prepared by the Consultant, will enable the validation of its conclusions so as to better proceed on a largely consensual basis.

4. COMPOSITION OF THE TEAM OF THE CONSULTING FIRM

Services: They will be provided by a consulting firm and will comprise, as a guideline the following profiles:

Expatriate personnel

- Project Director
- Rural Drinking Water Engineer, Mission Head;
- Rural Sanitation Engineer;
- Electro-mechanical Engineer;
- A Socio-economist/Outreach/Sensitization Expert;
- A Macro -economist Expert;
- Other Experts, according to need;

Local Personnel

- Civil Engineer;
- Hydro-geological Engineer/geophysicist;
- Public health Expert;
- Expert sociologist qualified within the context of this mission and that of the assessment of cross-cutting impacts of sectoral policies;
- Expert Demographer;
- Institutional Sectoral economist;
- Environmentalist;
- Draughtsmen;
- Secretaries;
- Drivers;
- Liaison officer and other subordinate personnel.

The technical experts must have experience of at least 10 years in their respective fields and in the sub-region. The number of experts to be placed at the disposal of the programme will be determined by the International Consultant to complete the activities envisaged within the time- limits.

5. TENTATIVE CALENDAR OF THE STUDY AND REPORTS REQUIRED

The duration of the services is estimated at nineteen (19) months broken down as follows:

- MISSION 1 Seven (7) months
- MISSION 2 Five (5) months
- MISSION 3 Seven (7) months including the workshop

The organization and financing of the regional workshops and the national one will be the responsibility of the consulting firm.

As part of its intervention, the consulting firm will prepare the following reports:

Progress report of Mission 1: Progress report.

This report must include the cartographic materials and texts in soft version. The contents of this document must include;

- The results of the critical review of institutional and strategic aspects of the water and sanitation sector;
- The estimate of water and sanitation requirements and all the information acquired on the technical aspects for the program;
- Data of the socio- economic, health and environmental analysis; and
- Results of the analysis of past and potential financing of the Water and Sanitation sector

Provisional report of Mission 2: Provisional report including the cartographic materials and texts in soft version. Moreover, it must include;

- The definition of the objectives to be reached by sub-sector according to the situational analysis and the sector's capacities to cope with a higher service demand;
- The definition of the strategies which should enable achievement of the goals, notably, by taking into account the role of the private sector, local authorities, the water resources available, the financing absorption capacities and the laws and regulations;
- The definition of monitoring and performance indicators (service rate, operability of the works, management system, cost efficiency, monitoring/ management of water resources, system of allocation of resources to the sector, etc.)

Final report of Mission 3: Final report including the cartographic materials and the texts in soft version, by producing separately, in the same formats, the report of the environmental and social impact assessments (ESIA). It comprises the following other key elements:

- Development of an annual investment plan based on the definition of the technical lower cost solutions that are better suited to provision to pay users' needs willingness to pay;
- An outline of budgetary planning seeking to:
 - improve the expenditure monitoring framework by developing a method of functional analysis as well as indicators enabling improved geographical distribution of the appropriations and targeting of vulnerable groups;
 - medium and long term planning, and analysis of water policy effectiveness;
 - develop clear management charts to enable decision makers to ensure coherence between budgetary allocations and water policy objectives;
 - to contribute to the preparation of program budgets in the water sector on the basis of identified objectives, activities and indicators;
- At the end of Mission 3, the Consultant will also present separately but prepared at the same time under the above two headings, a report of the expected environmental impacts of the actions projected under the program, accompanied by the ESMP (see paragraph 4.3.3.5) TOR.

ANNEX 10
DEMOCRATIC REPUBLIC OF CONGO
SEMI-URBAN DWSS PROJECT

Summary of the Environmental and Social Management Plan

1. Project summary and rationale

1.1 The drinking water and sanitation project concerns semi-urban agglomerations located in 3 provinces: Kasangulu in the Bas-Congo Province, Lisala in Equateur Province, and Tshikapa in Kasai Occidental Province. The main goal of this project is:

- (i) improvement (in Kasangulu) or restoration (in Lisala and Tshikapa) of access to drinking water currently obtained by fetching from a river (Kasangulu) or virtually stopped Tshikapa (120 m³/day for 1 million inhabitants) and completely stopped for years in Lisala; and
- (ii) organization of the sanitation of these cities by the construction of public and private latrines, provision of common household cesspools for the sanitary evacuation of domestic effluents, erosion control and support to *communes* of these centres in their day-to-day household refuse collection task.

2. Environmental classification of the project

2.1 The project is classified under environmental and social category 2. Indeed, by their nature, the DWSS works to be undertaken in semi-urban areas (construction of water pumping and treatment plants, water tanks, intermediate tanks, water supply network trenches, public toilet networks) do not generate any significant uncontrollable impact. No significant or protected ecosystem will be affected by work; no known archaeological or religious site will be affected by the works. However, the project sites present a rather advanced state of degradation. The project can only improve their (i) physical conditions (control of risks of erosion and of surface and groundwater pollution), (ii) natural conditions (afforestation, vegetation of impluviums and catchment areas), and (iii) human conditions (personal and public hygiene and sanitation). Most of the disadvantages for the population will be insignificant taking into account the socio-economic and public health advantages (reduction in the prevalence of certain diseases, of which water-borne diseases) as a result of the operation of the networks and sanitation.

2.3 The land aspect of the work will constitute the most obvious negative impact. REGIDESO owns the land on which it is established. The extension of facilities (new water towers, standpipes, water intakes, boreholes, catchment areas, impluviums, etc.), will undoubtedly require some involuntary displacement of populations. A supplementary study was required in order to assess the scale of involuntary displacement. This study will show the number of parcels to be moved and compensated as well as the economic activities which will be affected by the relocation.

2.4 Within the framework of the feasibility study of the project, an environmental and social impact assessment (ESIA), along with an Environmental and Social Management Plan (ESMP), an implementation Plan for target public information and consultation programme

was prepared. Supplementary studies on erosion control and social impacts were also prepared. This environmental and social annex was also prepared on the basis of the results of the various studies.

3. Key environmental and social impacts

3.1 The study showed that the negative impacts of the programme of REGIDESO and PNA in the 3 agglomerations were similar on the various components of the physical, natural and human environment. These impacts will be insignificant, given that the intervention sites (water intakes on the rivers at Kasangulu and Tshikapa; springs and boreholes at Lisala) all belong to REGIDESO and that rehabilitation work will not be carried out outside their rights of way. The putting in place of new boreholes, the laying of pipes and fitting of public toilets (including septic tanks and cesspools) will cause only minor damage to the semi-urban ecosystems crossed; they will consist primarily of earthworks (maximum 1.5 m wide), with localized disturbances of soil structure, cuts of the herbaceous and woody vegetation which will be replanted or regenerated at the end of work, oil and fuel leakages and gas emissions from work site machines, on the ground, etc. This will generate minor risks of surface or ground water pollution according to soil characteristics (permeability, transit speed, etc). The laying of pipes on road systems will require the felling of only a few ornamental trees (shaded walks and avenues) and the aesthetic impact will be negligible and short-lived (replacement planting). To our knowledge at this point, no cultural heritage will be affected by the work. The displacement of certain community facilities could cause some disturbances. The majority of these negative impacts were deemed insignificant and reversible.

3.2 During the works, the human environment will undergo more or less significant disturbances according to the habitat; In fact, the density of the dwellings and the dimension of parcels in each of these 3 agglomerations vary across districts (urban, semi-urban or semi-rural type). Whatever route is chosen for the passage of the pipes, there will be disturbances concerning the practices of the populations and their socio-economic activities. These will be minimized to the maximum by modifications of the routes so as to avoid the payment of excessive compensations. The displacements of families, shops, etc established on the rights of way of the networks will be necessary; they are inevitable, just as are some expropriation measures.

3.3 The project site lay-out will cause disturbances according to the noise and gas emissions of the machines used for the works (already mentioned). The execution velocity of the laying of these pipes enables us to relativize this impact which will not be exerted outside the legal working hours. The presence of workmen on these project sites could cause some conflicts with the population of the districts crossed as well as risks of STD transmission. Water tariffing could have a significant economic impact on the most disadvantaged segments of the populations and be responsible for maintenance of the current practices of supply of unsafe water. During the operation of the new networks, the impact will depend on the proper maintenance of the facilities.

3.4 The project component concerning the drainage of effluents will generate a significant positive impact. Increased water consumption will result in the discharge of a substantial quantity of polluted effluents which could have harmful effects on public health, could contribute to the pollution of the soil, aquifers and rivers. The project will remedy this situation by assisting the populations to build cesspools. Also, the construction of public and

private latrines will reduce excrement disposal on roadsides. Support to household and urban refuse collection will contribute to environmental health. Such health reforms will be truly positive only if the populations are trained.

3.5 The project will generate major positive impacts in terms of sufficient supply of safe and disinfected drinking water. The incidence of water-borne diseases will drop very significantly and thus generating significant substantial financial savings for households and health centres, and reduce absenteeism from work and school. The socio-economic effects will be felt quickly. The abundance of the resource will enable creation of new income-generating activities, the creation of new work stations, and development of food, mining and other industries.

4. Improvement and mitigation program

4.1 The priority water program does not entail any significant environmental risk requiring the implementation of an emergency measures plan. The mitigating measures suggested in the ESMP concern mainly consideration of the social and economic impact of any expropriations, restoration of all project and work sites, appropriate disposal of liquid effluents and solid wastes, restoration of the plant cover of the soil and afforestation, complete protection of impluviums and catchment areas, maintenance of a minimal flow of the streams supplied by the captured springs; the project machines under normal working conditions will not generate much noise or excessive gas emissions and will have no fuel or oil leakages. The liability of various stakeholders is stipulated in the ESMP.

4.2 REGIDESO will strictly monitor water chlorination conditions and its laboratory will regularly monitor water quality (heavy metal concentration, microbiology). PNA will carry out the required control according to its institutional prerogatives. Any expropriations, forcible ejection, land requisitions, damage to crops, lost earnings for shops, etc will be audited; the families concerned will be compensated prior to the organization of work. REGIDESO will be responsible for coordination and monitoring the implementation of negative impact mitigating measures, with the support from the appropriate services of the Department of the Environment and Public health; the said measures are specified in the ESMP.

5. Political, legal and administrative framework

5.1 Congo's environmental policy is laid down by the Ministry in charge of environmental matters. Regarding the laws and regulations, environmental protection is governed by a set of laws, decrees and ordinances which will be modernized in the new Environment Code and its instruments of implementation under preparation. The same applies to the water Code the three versions of which are in circulation and which must all be revamped. It is within this framework and that of the issue of technical feasibility of the project that the ESMP was prepared. It fulfils Bank requirements on environmental and social impact assessments. However, in the absence of laws, the Ministry of the Environment, Nature conservation, and Forestry, recently set up a technical structure called "Environmental Studies Group" of Congo, GEEC, charged with conducting and coordinating the environmental and social assessment of any development project in DRC.

6. Public consultations

A participatory approach to all the problems of the project will be organized before its start, but also, as far as possible, at the end of work so that potential beneficiaries can express their opinions on the implementation of the project and the operation of the new networks. The populations will be consulted and directly involved in the management of the facilities, notably standpipes management, household refuse collection, public latrines management, etc

7. Cost estimate

The project will contribute to the supply of drinking water to three agglomerations comprising eight semi-urban *communes* and forty-eight districts for a population of approximately 1.5 million inhabitants and will contribute to significantly increase the drinking water access rate of the project area to 53% in 2011. The cost of implementation of negative impact mitigating measures including the cost of erosion control measures, environmental surveillance and monitoring is estimated at approximately USD 7 million, of which a provision of approximately \$5 million for erosion control and USD 500 000 for sundry expropriations and compensation which are normally financed by the Government. REGIDESO will be responsible for the coordination and monitoring of the implementation of negative impact mitigating measures, with support from the appropriate services of the Ministry of the Environment and Public health and other technical services. The said measures are specified in the ESMP.

8. Conclusions

8.1 The Kasangulu, Lisala and Tshikapa DWS Project will significantly contribute to the improvement of the health and socio-economic situation of the 3 localities and more particularly of residents of the currently underprivileged districts. The socio-economic activities, including those of craftsmen, will benefit largely from the improvements on the 3 REGIDESO water networks. Improvements by the PNA sanitation component will contribute to the improvement of sanitary conditions in the cities and to reduced prevalence of certain diseases. The positive impacts will be very significant thanks to the solutions provided to : (i) problems of access to quality drinking water, which will reduce the prevalence of water-borne diseases of which cholera and (ii) urban sanitation through refuse collection, organization of public and private toilets, a network of cesspools.

8.2 Most of the negative impacts will depend on the implementation of work and will be mitigated in accordance with the recommendations of the ESMP which constitutes the reference document for works contractors (responsible for environmental surveillance) and REGIDESO (responsible for environmental monitoring). The presence of a sanitation component constitutes the project's strong point in view of the implied risks of aquifer and surface water pollution.

