

AFRICAN DEVELOPMENT FUND



ZAMBIA

NATIONAL RURAL WATER SUPPLY AND SANITATION PROGRAM

APPRAISAL REPORT

WATER AND SANITATION DEPARTMENT

**OWAS
JULY 2006**

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AFRICAN DEVELOPMENT FUND

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PROGRAM INFORMATION SHEET
(July 2006)

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

1. COUNTRY : Zambia
2. NAME OF PROGRAM : National Rural Water Supply and Sanitation Program
3. LOCATION: Throughout the country
4. BORROWER : The Republic of Zambia
5. EXECUTING AGENCY : Ministry of Local Government and Housing, Dept. of Infrastructure and Support Services (DISS)
P.O. Box 50027, Lusaka, Zambia
Tel: 260 1 250528 - 252335
Fax: 216 1 252608 - 252503
6. PROGRAM DESCRIPTION: The program has a number of activities which are grouped into four components, namely:
 - A. Water infrastructure development
 - B. Sanitation and Hygiene Education
 - C. Institutional Support and Capacity Building
 - D. Program Management
7. TOTAL COST : UA 77.43 million
 - Foreign Exchange : UA 48.08 million
 - Local Cost : UA 29.35 million

8. ADF LOAN : UA 15.00 million
9. OTHER SOURCES OF FINANCE
 Other Cooperating Partners : UA 46.00 million
 Government of the Republic of Zambia : UA 12.50 million
 Communities : UA 3.90 million
10. DATE OF APPROVAL : November 2006
11. ESTIMATED STARTING DATE AND DURATION : January 2007, 4 years
12. PROCUREMENT : Procurement of goods and works and procurement of consultancy services financed from ADF resources will be in accordance with the Bank's *Rules of Procedure for Procurement of Goods and Works* or *Rules of Procedure for Use of Consultants*, as appropriate, and the Governments Procurement Rules.
- | | |
|----------------------|---|
| Works | Mostly NCB and some ICB |
| Goods | Mostly NCB with some International Shopping and National Shopping |
| Consultancy Services | Short listing |
13. CONSULTANCY SERVICES REQUIRED : The Fund will finance services required for Technical Assistance Team to support the LAs in the implementation of the program activities, training and auditing services. All the services shall be procured through competition of shortlisted firms.
14. ENVIRONMENTAL CATEGORY : II

EQUIVALENTS AND ABBREVIATIONS**CURRENCY EQUIVALENTS**

(June 2006)

1 UA	=	USD	1,49418
1 UA	=	ZMK	4,536.72
1 USD	=	ZMK	3,036.26

WEIGHTS AND MEASURES

l/c/d	=	litres per capita per day
m ³	=	cubic metre (1000 litres)
m ³ /d	=	cubic metre per day
ML/d	=	million litres (thousand cubic metres) per day
Mm ³	=	million cubic metres
Km	=	kilometres

FISCAL YEAR1st January- 31st December**ABBREVIATIONS**

ADB	=	African Development Bank
ADC	=	Area Development Committee
ADF	=	African Development Fund
CP	=	Cooperating Partner
CSP	=	Country Strategy Paper
CU	=	Commercial Utility
DANIDA	=	Danish International Development Agency
DIP	=	Decentralization Implementation Plan
DISS	=	Department of Infrastructure and Support Services
DLA	=	District Local Authority
DTF	=	Devolution Trust Fund
D-WASHE	=	District Water, Sanitation and Hygiene Education
EA	=	Executing Agency
ECZ	=	Environmental Council of Zambia
EIA	=	Environmental Impact Assessment
EIRR	=	Economic Internal Rate of Return
EU	=	European Union
F.C	=	Foreign Cost
FIRR	=	Financial Internal Rate of Return
GPN	=	General Procurement Notice
GRZ	=	Government of the Republic of Zambia
GTZ	=	Gesellschaft fur Technische Zusammenarbeit
ICB	=	International Competitive Bidding
JICA	=	Japan International Cooperation Agency
KfW	=	Kreditanstalt fur Wiederaufbau
LA	=	Local Authorities
LC	=	Local Cost
LDP	=	Local Development Program
LG	=	Local Government
MCDSS	=	Ministry of Community Development and Social Services
MCM	=	Million Cubic Metres

MDGs	=	Millennium Development Goals
MEWD	=	Ministry of Energy and Water Development
MIS	=	Management Information System
MLGH	=	Ministry of Local Government and Housing
MOE	=	Ministry of Education
MoFNP	=	Ministry of Finance and National Planning
MOH	=	Ministry of Health
MTENR	=	Ministry of Tourism, Environment and Natural Resources
NCB	=	National Competitive Bidding
NPV	=	Net Present Value
NRWSSP	=	National Rural Water Supply and Sanitation Program
NWASCO	=	National Water Supply and Sanitation Council
O&M	=	Operation and Maintenance
PCR	=	Project Completion Report
PIT	=	Project Implementation Team
PRSP	=	Poverty Reduction Strategy Paper
PSC	=	Project Steering Committee
RWSSU	=	Rural Water Supply and Sanitation Unit
UA	=	Units of Account
UNDP	=	United Nations Development Programme
UNICEF	=	United Nations Children's Fund
VIP	=	Ventilated Improved Pit (latrine)
WASHE	=	Water Supply, Sanitation and Hygiene Education
WHO	=	World Health Organization
WRAP	=	Water Resources Action Programme
ZMK	=	Zambian Kwacha
ZNTB	=	Zambia National Tender Board

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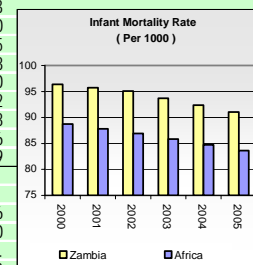
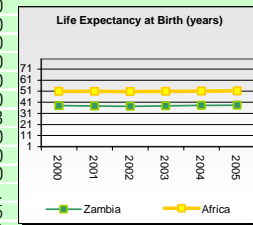
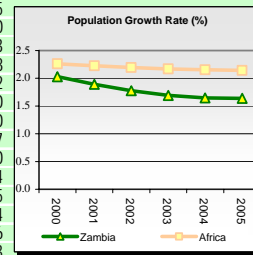
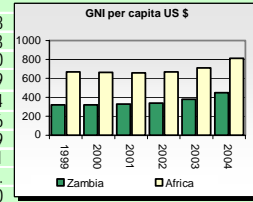
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Zambia

COMPARATIVE SOCIO-ECONOMIC INDICATORS

	Year	Zambia	Africa	Developing Countries	Developed Countries
Basic Indicators					
Area ('000 Km ²)		753	30 307	80 976	54 658
Total Population (millions)	2005	11.7	904.8	5 253.5	1 211.3
Urban Population (% of Total)	2005	34.5	38.9	43.1	78.0
Population Density (per Km ²)	2005	15.5	29.9	60.6	22.9
GNI per Capita (US \$)	2004	450	811	1 154	26 214
Labor Force Participation - Total (%)	2003	42.1	43.4	45.6	54.6
Labor Force Participation - Female (%)	2003	43.7	41.1	39.7	44.9
Gender -Related Development Index Value	2003	0.383	0.460	0.694	0.911
Human Develop. Index (Rank among 174 countries)	2003	166	n.a.	n.a.	n.a.
Popul. Living Below \$ 1 a Day (% of Population)	2000	58.0	45.0	32.0	20.0
Demographic Indicators					
Population Growth Rate - Total (%)	2005	1.6	2.1	1.4	0.3
Population Growth Rate - Urban (%)	2005	1.9	3.4	2.6	0.5
Population < 15 years (%)	2005	45.8	41.5	32.4	18.0
Population >= 65 years (%)	2005	3.0	3.4	5.5	15.3
Dependency Ratio (%)	2005	95.4	81.4	57.8	47.8
Sex Ratio (per 100 female)	2005	100.3	99.8	102.7	94.2
Female Population 15-49 years (% of total population)	2005	24.6	26.7	27.1	25.0
Life Expectancy at Birth - Total (years)	2005	38.4	51.2	64.1	76.0
Life Expectancy at Birth - Female (years)	2005	37.9	52.0	65.9	79.7
Crude Birth Rate (per 1,000)	2005	40.3	36.8	22.8	11.0
Crude Death Rate (per 1,000)	2005	21.9	15.0	8.7	10.4
Infant Mortality Rate (per 1,000)	2005	91.0	83.6	59.4	7.5
Child Mortality Rate (per 1,000)	2005	165.7	139.6	89.3	9.4
Total Fertility Rate (per woman)	2005	5.4	4.8	2.8	1.6
Maternal Mortality Rate (per 100,000)	2002	729	622.9	440	13
Women Using Contraception (%)	2002	34.2	26.6	59.0	74.0
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2004	11.0	38.2	78.0	287.0
Nurses (per 100,000 people)	2004	165.6	110.7	98.0	782.0
Births attended by Trained Health Personnel (%)	2002	45.0	43.7	56.0	99.0
Access to Safe Water (% of Population)	2002	55.0	64.5	78.0	100.0
Access to Health Services (% of Population)*	2000	75.0	61.7	80.0	100.0
Access to Sanitation (% of Population)	2002	45.0	42.4	52.0	100.0
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2003	19.2	6.4	1.3	0.3
Incidence of Tuberculosis (per 100,000)	2003	508.0	406.4	144.0	11.0
Child Immunization Against Tuberculosis (%)	2004	94.0	78.2	82.0	93.0
Child Immunization Against Measles (%)	2004	84.0	68.8	73.0	90.0
Underweight Children (% of children under 5 years)	2002	28.0	39.0	31.0	...
Daily Calorie Supply per Capita	2003	1 975	2 439	2 675	3 285
Public Expenditure on Health (as % of GDP)	2002	3.1	2.7	1.8	6.3
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2002/03	82.0	96.7	91.0	102.3
Primary School - Female	2002/03	79.0	89.3	105.0	102.0
Secondary School - Total	2002/03	28.0	43.1	88.0	99.5
Secondary School - Female	2002/03	25.0	34.6	45.8	100.8
Primary School Female Teaching Staff (% of Total)	2002/03	49.0	44.1	51.0	82.0
Adult Illiteracy Rate - Total (%)	2005	17.8	35.0	26.6	1.2
Adult Illiteracy Rate - Male (%)	2005	12.2	26.9	19.0	0.8
Adult Illiteracy Rate - Female (%)	2005	23.1	42.9	34.2	1.6
Percentage of GDP Spent on Education	2000	6.84	4.7	3.9	5.9
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2005	7.1	6.0	9.9	11.6
Annual Rate of Deforestation (%)	2000	2.38	0.70	0.40	-0.20
Annual Rate of Reforestation (%)	2000	6.0	10.9
Per Capita CO2 Emissions (metric tons)	2005	0.18	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

ZAMBIA: RURAL WATER AND SANITATION PROGRAM - MPDE

MATRIX

HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGET AND TIME FRAME	ASSUMPTIONS AND RISKS
<p>Sector Goal</p> <p>1. Improved health and quality of life and reduced poverty of rural population of Zambia and contribute to achievement of Millennium Development Goal for water.</p>	<p>Long Term Outcome</p> <p>1 Improved access to water and sanitation</p> <p>2. Reduced infant and maternal mortality;</p> <p>3. Reduced incidence of diarrhea diseases and worm infestation in infants and children in rural communities.</p>	<p>Beneficiaries</p> <p>Rural population of Zambia</p> <p>2. Rural population of Zambia</p> <p>3. Rural population of Zambia</p>	<p>1. Percentage of rural population with access to safe and clean water</p> <p>2. Percentage of rural population with access to improved sanitation</p> <p>3. Reduction in incidence of water related diseases</p>	<p>1. Increased proportion of rural population with access to clean and safe water from 37% in 2006 to 55% in 2010, 75% by mid 2015.</p> <p>2. Increased access to improved sanitation facilities from less than 13% in 2006 to 33% by 2010 and 60% by 2015</p> <p>3. Reduce incidence of water-borne diseases by 30% by 2015</p>	<p>Stable macroeconomic framework continued</p> <p>Consistency in sector reforms and national decentralization program</p> <p>Successful Implementation of the Fifth National Development Plan</p>
<p>Program Objectives</p> <p>1. To improve access of the rural population to safe, reliable and convenient quantities of water supply of quality meeting national standards;</p> <p>2. To increase the access of the rural population to improved sanitation and improved health & hygiene practices.</p> <p>3. To improve the performance of the RWSS sub-sector in planning, implementation and operation and maintenance of RWSS facilities through policy and institutional reforms, capacity building, comprehensive and sustainable management information system and effective advocacy and communication.</p>	<p>Medium Term Outcome</p> <p>1 Increased proportion of the rural population with adequate and convenient supply of clean water</p> <p>2.1 Increased number of rural families having constructed their own improved sanitation facilities and effectively using them.</p> <p>2.2 All Rural schools with access to adequate sanitation facilities</p> <p>2.3 Improved awareness and attitudes on environmental cleanliness and personal hygienic practices</p> <p>3.1 Effective RWSS planning and programming leading to equitable, transparent and efficient allocation of resources.</p> <p>3.2 Rural Communities and LAs are gender responsive.</p> <p>3.3 The profile of the WSS sector raised in national planning and allocation of resources and increased stakeholder participation and buy in into the RWSS programme</p>	<p>All people living in rural areas of Zambia</p> <p>All local Authorities All people living in rural areas of Zambia</p> <p>Schools, parent teacher associations, MOE, All LAs</p> <p>All local Authorities, all people living in rural areas, pupils in rural schools</p> <p>All local authorities</p> <p>Private firms</p> <p>NGOs</p> <p>MLGH</p> <p>Community Development committees, private</p>	<p>1.1.1 Increased proportion of rural population with access to clean and safe water supply</p> <p>2.1.1 Improved proportion of households with access to own improved sanitation facilities</p> <p>2.2.1 Pupil per latrine stance ratio for girls and for boys</p> <p>2.3.1 % of people and % of pupils having access and using handwashing facilities</p> <p>2.3.2 % of people and % of pupils (boys and girls) using improved sanitation facilities</p> <p>3.1.1 Number of District RWSS Plans completed within budget frame and having clear gender specific indicators</p> <p>3.2.1 Community organization and training including women's meaningful participation</p> <p>3.3.1 % increase in national resources to water and sanitation sector as a % of total national budget</p> <p>3.3.2 Number of donors supporting the NRWSSP</p>	<p>1.1.1 Increased proportion of rural population with access to clean and safe water from 37% in 2006 to 55% by 2010</p> <p>2.1.1 Increased access by households to improved sanitation facilities from less than 13% in 2006 to 33% by 2010</p> <p>2.2.1 Improve the pupil per latrine stance ratio to 25:1 for girls and 40:1 for boys by 2010</p> <p>2.3.1 Increase the % of people using handwashing facilities after latrine use by 10% and for pupils by 50% by 2010.</p> <p>2.3.2 All pupils using improved sanitation facilities by 2010 and 20% increase in people using improved sanitation facilities by 2010</p> <p>3.1.1 By 2010, 72 District RWSS Plans completed within budget frame and having clear gender specific indicators</p> <p>3.2.1 Proportion of women trained</p> <p>3.3.1 Proportion of budgetary allocation in National Budget increased from 1.2% to 8% by 2010</p> <p>3.3.2 All donors in the RWSS subsector supporting the NRWSSP</p>	<p>Availability of donor resources</p> <p>Increased budgetary allocation</p> <p>Willingness of communities to continue financial contributions for operation and maintenance</p> <p>Community commitment to continue to sustain the systems implemented</p> <p>Adoption of Operation and maintenance Framework for Rural Water Supply</p>

HIERACHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGET AND TIME FRAME	ASSUMPTIONS AND RISKS
	3.4 Improved functionality of rural water supply facilities.	sector	3.4.1 % of water supplies operational all the time	3.4.1 Between 70%-80% rural water supplies operational all the time by 2010	
<p>Activities/Inputs</p> <p>1 Rural water schemes: rehabilitation, improvement, and new construction</p> <p>2 Rural sanitation for communities and public institutions</p> <p>3..Develop/revise policies guidelines, tools, checklists</p> <p>4. Capacity building: human resources development, organization and operational capacity strengthening and organizational systems improvements, gender mainstreaming and HIV/ AIDS mitigation at national and district levels and Planning, support and supervision through technical support (TA) teams and NGOs</p> <p>5. Develop and maintain a comprehensive RWSS Information Management System (IMS)</p> <p>6. Establish water sector indicators and benchmarks which include gender specific indicators.</p>	<p>Short-Term Outputs</p> <p>1.1 Investment in the new construction and rehabilitation of water schemes and sanitation support</p> <p>2.1 Sanitation Promotion support to communities and investment in sanitation at public institutions</p> <p>3.3 A comprehensive Water Supply and Sanitation Policy Framework that gives clear direction and well defined roles and responsibilities on the development and management of WSS sector in Zambia.</p> <p>4.1 MLGH and local authorities have capacity to manage effectively and gender responsively the rural water supply and sanitation sector Rural communities trained and engaged in planning , operation and maintenance of water facilities</p> <p>5.1 Comprehensive IMS in place</p> <p>5.2 LA, Provincial and MLGH staff have access to gender disaggregated information and data from MIS system for planning and M&E</p> <p>6.1 RWSS measurement framework established</p>	<p>Districts</p> <p>Rural communities</p> <p>MLGH</p> <p>Community Development committees</p> <p>Private sector</p> <p>MLGH, MEWD, MFNP, MCDSS, MOE, LAs, communities</p> <p>MLGH, MEWD, MFNP, MCDSS, MOE, LAs, communities</p> <p>MLGH, MEWD, MFNP, MCDSS, MOE, LAs, communities</p> <p>MLGH, MEWD, MFNP, MCDSS, MOE, LAs, communities</p>	<p>1.1.1 Number of water points rehabilitated</p> <p>1.1.2 Number of water points, identified through gender sensitive process, constructed</p> <p>2.1.1 Number of household sanitation facilities constructed with handwashing facilities</p> <p>2.1.2 Number public provided with sanitation facilities</p> <p>3.3.1 Completion and adoption of RWSS policy</p> <p>4.1.1 Number of district WSS development plans, with clear gender activities and indicators, approved for funding</p> <p>5.1.1 MIS and M&E system is with gender specific indicators installed in MLGH and DLAs</p> <p>5.2.1 LA, Provincial and MLGH staff have access to gender disaggregated information and data from MIS system for planning and M&E</p> <p>6.1 RWSS measurement framework, with gender specific indicators, established</p>	<p>1.1.1 3400 dysfunctional water points rehabilitated by 2010</p> <p>1.1.2 7200 new water supply points constructed by 2010</p> <p>2.1.1 440,000 household latrines constructed by 2010</p> <p>2.1.2 3200 Public Institutions provided with sanitation facilities</p> <p>3.3.1 RWSS policy, and aligned to the National Gender Water Strategy, revised and adopted by 2008</p> <p>4.1.1 72 District WSS development committees, comprising 30% women, trained in development planning by 2008.</p> <p>4.1.2 RWSSU is functional in 72 local authorities with clear gender specific activities, by 2010</p> <p>5.1.1 MIS and M&E system is gender specific indicators installed in MLGH, and 72 LAs by 2008</p> <p>5.2.1 LA, Provincial and MLGH staff have access to gender disaggregated information and data from MIS system for planning and M&E</p> <p>6.1.1. RWSS measurement framework established by 2007</p>	<p>Timely mobilization of communities</p> <p>Willingness of communities to contribute financially or provide labour and local materials for the program;</p> <p>Timely release of budgetary allocations</p>

HIERACHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGET AND TIME FRAME	ASSUMPTIONS AND RISKS
7. Collect and analyze data and information generated for NRWSS operations	7.1 Better decision making and improved RWSS programming	MLGH, MEWD, MFNP, MCDSS, MOE, LAs, communities	7.1.1 Inventory of Water and Sanitation facilities completed and prioritization criteria updated	7.1.1 Inventory of Water and Sanitation facilities completed and prioritization criteria updated by 2008	
8. Develop O&M system and spare parts supply chain	8.1 Effective O&M system and spare parts supply chain in place	MLGH, MCDSS, MOE, LAs, communities	8.1.1 O&M Framework, with gender inclusive approach, developed and disseminated 8.1.2. Sustainable O&M system and spare parts market developed in districts	8.1.1 O&M Framework developed and disseminated to all DLAs in Zambia by 2008 8.1.2 Sustainable O&M system and spare parts market developed in 36 districts by 2010	
9. Mainstream Gender, HIV/AIDS and malaria, and environment in RWSS	9.1 RWSS Gender Strategy, training manuals and guidelines developed and adopted by GRZ 9.2 HIV/AIDS and malaria integrated in RWSS training and capacity building activities 9.3 Environmental template prepared and used for screening and mitigation during subprojects identification, planning, implementation and O&M of facilities.	MLGH, MEWD, MCDSS, MOE, LAs, communities MLGH, MCDSS, MOE, LAs, communities MLGH, MEWD, ECZ, MCDSS, MOE, LAs, communities	9.1.1 RWSS Gender strategy completed and disseminated 9.1.2 RWSS gender training guidelines and manuals developed and disseminated 9.2.1 HIV/AIDS and malaria integrated in RWSS training and capacity building activities 9.3.1 Environmental template and checklist prepared.	9.1.1 RWSS Gender strategy completed and disseminated by 2007 9.1.2 RWSS gender guidelines and manuals developed and disseminated by end of 2007 9.2.1 HIV/AIDS and malaria integrated in RWSS training and capacity building activities by 2007 9.3.1 Environmental template and checklist prepared by end 2006	
10. Community management training and capacity building for planning and management of water supply and sanitation facilities. Sanitation and hygiene education	10.1 Community organizations and artisans able to operate and manage water facilities 10.2 Community organizations able to deliver sanitation and hygiene education and able to construct sanitation facilities	Communities, Community development committees, artisans Communities, Community development	10.1.1 Number of communities, with meaningful participation of women, trained and mobilized 10.1.2 Number of Community committees/V-WASHE functioning properly 10.1.3 Number of pump minders trained for repair hand pump equipped water supplies 10.2.1 Number of Community committees/V-WASHE trained and delivering sanitation and	10.1.1 20,000 rural communities, with at least 50% women's participation, trained and mobilized by 2010 10.1.2 At least 10600 V-WASHE committee establish water, at least 50% women's participation, engaged in WSS planning and management of facilities 10.1.3 At least 1000 pump minders, of which at least 25% are women, trained in the maintenance of hand pump equipped water supplies by 2010. 10.2.1 At least 10,600 Community committees/V-WASHE trained and delivering sanitation and	

HIERACHY OF OBJECTIVES	EXPECTED RESULTS	REACH	PERFORMANCE INDICATORS	INDICATIVE TARGET AND TIME FRAME	ASSUMPTIONS AND RISKS														
11. Program management capacity at national and district levels	11.1 All LAs active in the Program equipped with adequate office space, equipment, supplies and transport and relevant staff Program Implementation Manual developed	committees, artisans All LAs, Sub districts	hygiene education 10.3.1 Number of local artisans, of which at least 25% are women, trained in construction of local sanitation facilities. 11.1.1 Number of LAs with Water offices equipped and functioning 11.1.2 Program implementation manual developed Financial Resources (for Phase I) <table style="margin-left: 40px;"> <tr> <td></td> <td style="text-align: right;"><u>UA</u></td> </tr> <tr> <td></td> <td style="text-align: right;">(million)</td> </tr> <tr> <td>ADF</td> <td style="text-align: right;">15</td> </tr> <tr> <td>Other CPs</td> <td style="text-align: right;">46</td> </tr> <tr> <td>Communities:</td> <td style="text-align: right;">3.9</td> </tr> <tr> <td><u>GRZ:</u></td> <td style="text-align: right;"><u>12.5</u></td> </tr> <tr> <td>Total:</td> <td style="text-align: right;">77.4</td> </tr> </table>		<u>UA</u>		(million)	ADF	15	Other CPs	46	Communities:	3.9	<u>GRZ:</u>	<u>12.5</u>	Total:	77.4	hygiene education 10.3.1 At least 900 local artisans, of which at least 25% are women, trained in construction of local sanitation facilities. 11.1.1 All 72 LAs with Water offices equipped and functioning 11.1.2 Program implementation manual developed by 2007 Source: Quarterly and annual sector reports, field mission and Joint GRZ donor review reports Appraisal Estimates, Approved Annual Government Budget, Audit Reports, Quarterly Progress Reports, Supervision Reports	
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EXECUTIVE SUMMARY

1 More than 65% of the population of Zambia, estimated at 11.6 million in 2005, lives in rural area. The rural population has low access to basic services including schools, health centres, safe water supply and sanitation. Access to safe water and sanitation in the rural areas is estimated at 37% and 13%, respectively. Lack of access to basic amenities including clean water and safe sanitation is among the key factors contributing to widespread poverty among the rural population. There is relatively high incidence of water and sanitation related diseases, particularly diarrhea, which results in high health costs to individuals and communities.

2 Since mid 1990s, the Government of the Republic of Zambia (GRZ) has been implementing reforms to improve the performance of the water and sanitation sector in Zambia so as to increase water supply and sanitation coverage throughout the country. The water sector reform led to the elaboration and adoption of a National Water Policy in 1994, and enactment of the Water Supply and Sanitation Act of 1997.

3 In conformity with the sector development strategy, GRZ with support from a number of Cooperating Partners (CPs) has elaborated the National Rural Water Supply and Sanitation Program (NRWSSP) in 2005 to guide government and donor interventions in the rural areas. The overall goal of the NRWSSP 2006-2015 is to provide sustainable access to water supply and sanitation in rural areas so as to facilitate the achievement of the MDG for water and sanitation and to contribute towards poverty alleviation of Zambia's rural population. The NRWSSP is implemented into two phases. The first phase encompasses the period of the Fifth National Development Plan (FNDP) (2006-2010), during which the activities of the program are implemented on Area Based implementation approach. While, the second phase of the program (2011-2015) will be implemented in the subsequent national development plan period on the basis of nation wide full fledged program approach.

4 The NRWSSP is in line with the Rural Water Supply and Sanitation Initiative (RWSSI) developed by the Bank to address the challenge of providing basic water supply and sanitation services to the bulk of the continent's population living in the rural areas. Moreover, Zambia is one of the countries selected for the 2nd phase of the initiative, in consideration of the fact that the country has generally favorable policies and institutions but needed to elaborate and develop its national RWSS program. In the light of the above the Bank together with the other cooperating partners active in the sector supported GRZ in developing its national NRWSSP.

Purpose of the Loan

5 The ADF Loan of UA 15 million will finance 19.4% of the total cost of Phase 1 of the NRWSSP to finance the program activities during 2007 to 2010.

RWSS Program Objectives

6 The overall sector goal is to improve the quality of life and productivity of all Zambians by ensuring an equitable provision of adequate quantity and quality of water to all competing user groups, and improved sanitation services for all, at acceptable cost and on a sustainable basis. The goal of the National Rural Water Supply and Sanitation Program is to provide sustainable access to water supply and sanitation in rural areas so as to contribute towards poverty alleviation of Zambia's rural population and contribute towards achievement of MDG for water.

7 The specific objectives of the First Phase of the National Rural Water Supply and Sanitation Program is to increase access to safe, reliable and convenient quantities of water supply from present 37% to 55% of the rural population by 2010; and to increase access to proper sanitation from 13% to 33% of the rural population by 2010.

Program Components

8 The National Rural Water Supply and Sanitation Program has a number of activities under four broad components namely (i) Water Infrastructure Development, (ii) Sanitation and Hygiene Education, (iii) Institutional Support and Capacity Building, and (iv) Program Management.

RWSS Program Costs

9 The overall cost of the National Rural Water Supply and Sanitation Programme (2006-2015) is US\$292 million. Phase 1 is estimated to cost US\$116 million and Phase 2 is estimated to cost US\$176 million.

Sources of Finance

10 The program will be financed by the beneficiary communities, GRZ, NGOs and Cooperating Partners, including ADF.

Program Implementation

11 The implementation of the program will use the existing institutions, notably the MLGH, MoFNP, MEWD, MOH, MOE, MCDSS and the decentralized structures with communities playing a leading role in the identification, planning and implementation of their schemes. At national level, the MLGH will be responsible for implementing the program. In line with GRZ policies, national objectives, and sector strategy, the local authorities will implement the program activities throughout the country. The RWSSU, within the MLGH coordinates the program activities and ensures linkage and synergies among the program activities and different sectoral policies.

Conclusions and Recommendations

12 The RWSS Program in Zambia will assist the government to achieve the water and sanitation related MDGs by increasing the access rate for water supply and sanitation from the current level of 37% and 13%, respectively, to 55% and 33% by 2010, which will increase further to 75% and 60% by 2015. The capacity of the LAs and other key actors (private sector contractors, consultants, and artisans) will also be strengthened. It would also leave communities better organized to manage their own water and sanitation services in a more sustainable way. The Program is technically feasible, economically viable, environmentally sustainable and provides socio-economic benefits.

13 By increasing awareness of hygiene and health issues, the program will also help reduce the incidence of water borne diseases and associated high health care costs. The program will also impact positively on the achievement of other MDGs such as reducing extreme poverty and hunger, promoting gender equity and empowerment of women, reducing child mortality, improving maternal health and combating malaria and HIV/AIDS.

14 The proposed Bank support is relevant for enhanced development impact as it will contribute to the development of the sector and improve the sustainability of previous Bank financed activities in the water sector. The program is consistent with the priority sectors for GRZ's Fifth National Development Plan, the Joint Assistance Strategy for Zambia (JASZ – currently in draft form), and the Bank Group's development objectives in its Results Based CSP for 2006-2009. The program is also in line with the Bank's RWSSI to address the challenge of providing basic water supply and sanitation services to the bulk of the continent's population living in the rural areas.

15 It is recommended that an ADF Loan not exceeding UA 15.00 million be extended to the Republic of Zambia for the implementation of the program activities during 2007 to 2010 as described in this proposal, subject to the specified Loan conditions.

1. INTRODUCTION AND BACKGROUND

1.1 More than 65% of the population of Zambia, estimated at 11.6 million in 2005, lives in rural area. The rural population is characterized by low access to basic services including schools, health centres, safe water supply and sanitation. Access to safe water and sanitation in the rural areas is estimated at 37% and 13%, respectively. Lack of access to basic amenities including clean water and safe sanitation is among the key factors contributing to widespread poverty among the rural population. There is relatively high incidence of water and sanitation related diseases, particularly diarrhea, which results in high health costs to individuals and communities.

1.2 Since mid 1990s, the Government of the Republic of Zambia (GRZ) has been implementing reforms to improve the performance of the water and sanitation sector in Zambia so as to increase water supply and sanitation coverage throughout the country. The water sector reform led to the elaboration and adoption of a National Water Policy in 1994, and enactment of the Water Supply and Sanitation Act of 1997.

1.3 In line with the redefined policy framework, the sector institutions have been reorganized with emphasis on the devolution of responsibility for service provision to the local authorities, with increased participation and empowerment of the rural population in the planning, development and management of water service facilities through a concept of integrating Water Supply, Sanitation and Health Education (WASHE). Regarding the urban areas, the strategy is for local authorities to form Commercial Utilities (CUs) in the regions, to be responsible for the development and management of water supply and sanitation services on a commercial basis. The reforms have had positive impact on the performance of the sector in the urban, peri-urban and rural areas.

1.4 These efforts notwithstanding, many rural people still do not have access to clean water supply and improved sanitation. Infant mortality rate stands at 107 per 1,000 live births and under five mortality is reported as 168 per 1,000 live births where as maternal mortality is 729 per 100,000 live births. These indicators are among the highest in the region and can be attributed to the lack of a coherent national rural water supply and sanitation program. In conformity with the sector development strategy, GRZ with support from a number of Cooperating Partners (CPs) has elaborated the National Rural Water Supply and Sanitation Program (NRWSSP) in 2005 to guide government and donor interventions in the rural areas.

1.5 The overall goal of the National Rural Water Supply and Sanitation Program (NRWSSP) 2006-2015 is to provide sustainable access to water supply and sanitation in rural areas so as to facilitate the achievement of the MDG for water and sanitation and to contribute towards poverty alleviation of Zambia's rural population. The NRWSSP (2006-2015) is being implemented into two phases. The first phase encompasses the period of the Fifth National Development Plan (FNDP) (2006-2010), during which the activities of the program are implemented on Area Based implementation approach. While, the second phase of the program (2011-2015) will be implemented in the subsequent national development plan period on the basis of nation wide program approach.

1.6 GRZ prepared a new development plan, the Fifth National Development Plan (FNDP) covering 2006 – 2010, which focuses on poverty reduction, and has prioritized water supply and sanitation as a key strategy to combat poverty among the population and to achieve the water related Millennium Development Goal of halving the proportion of people without

adequate water supply and sanitation by 2015. Provision of water and sanitation services to the rural population has been identified as one of the key areas of Bank's support in the draft Joint Assistance Strategy for Zambia (JASZ).

1.7 Various cooperating partners providing support to the water supply and sanitation sector in Zambia have agreed to harmonize their interventions in order to achieve greater synergy and development impact. It is within this context that GRZ requested the Bank Group to join other donors in supporting the NRWSSP.

1.8 GRZ presented the draft program to the Bank's water sector supervision mission that visited Zambia in November 2005, and requested the Bank to support the program. The NRWSSP is in line with the Rural Water Supply and Sanitation Initiative (RWSSI) developed by the Bank to address the challenge of providing basic water supply and sanitation services to the bulk of the continent's population living in the rural areas. Moreover, Zambia is one of the countries selected for the 2nd phase of the initiative, in consideration of the fact that the country has generally favorable policies and institutions but needed to elaborate and develop its national RWSS program. In light of the above, the Bank together with the other cooperating partners active in the sector supported GRZ in refining its national RWSSP. Following initial consultations with GRZ, the Bank sent a preparation mission in March 2006 followed by an appraisal mission in June 2006, and this report is the outcome of these missions.

1.9 The proposed Bank financing to the NRWSSP is based on the fact that the program is demand driven, gender responsive, and promotes accountability and transparency. It uses existing institutions and avoiding the creation of parallel implementation units, and promotes coordination among cooperating partners in the country. The development of the program incorporated lessons learnt in the implementation of similar projects/programs.

2 THE WATER SECTOR

2.1 Water Resources

2.1.1 Zambia has abundant surface water, with an annual renewable resource of about 100,000 km³ per year. The country has an estimated groundwater potential of 49,600 km³ per year. The country is not threatened by water stress or scarcity. However, there are significant spatial and strong seasonal variations across the country.

2.1.2 Surface water is unevenly distributed, with high runoff and high density rivers in the North. To the South there are a few large rivers. Annual rainfall ranges from 1400 mm in the North to 700 mm in the South. There are five river basins in Zambia: Zambezi, Kafue, Luangwa, Chambeshi/Luapula and Tanganyika. The Zambezi basin constitutes the largest water source in the country, and covers an area of 1.18 million m² in several countries. Approximately 50% of the total Zambezi basin falls in Zambia.

2.1.3 The Kafue River, one of the major tributaries of the Zambezi and falling wholly within Zambia, is the most exploited water resource in the country. Most of the major industrial towns and centres are located along its course, and depend on it for their water resource needs. However the river suffers from severe pollution as it also serves as a sink for industrial, mining and sewage effluents from the same urban areas. The river has potential for irrigation, hydropower, fisheries, tourism and wetland development.

2.1.4 In addition to the rivers, there are large natural lakes like Bangweulu, Mweru-Wa-Ntipa, Mweru and Tanganyika, the first two lying wholly within Zambia.

2.1.5 Groundwater is evenly distributed throughout the country and of generally good quality and is the main source of supply for the rural communities. Groundwater for rural communities is mainly through hand pump equipped boreholes or dug wells hence the quantities exploited are not significant. Generally considering the resource available groundwater with an annual recharge rate of 160,000 million m³ is hardly exploited. The development of groundwater resources has hitherto been poorly controlled or monitored, a shortcoming that is being addressed through the Water Resources Management Bill, which is expected to be enacted by December 2006.

2.2 Policy and Legal Framework

2.2.1 The legal and policy framework of the development and management of the water and sanitation sector consists of, amongst others, the Local Government Act (1991), which gives local authorities prime responsibility for the provision of water supply and sanitation services, the decentralization policy (2002) aimed at decentralizing government responsibilities and functions, among which include rural water and sanitation to lower level government through devolution; and the National Water Policy (1994). The Water Policy includes seven key principles that also give guidance to the institutional framework for the sector as follows: i) Separation of water resources functions from water supply and sanitation; ii) Separation of regulatory and executive functions within the water supply and sanitation sector; iii) Devolution of authority to local authorities and allowing participation of the private enterprises; iv) Achievement of full cost recovery in the long run for the water supply and sanitation services through user charges (with due regard for fairness and equity by providing a minimum level of services to persons who are unable to afford the full cost of services); v) Human resources development leading to more effective institutions; vi) Technology appropriate to local conditions; and vii) Increased Government of the Republic of Zambia spending priority and budget spending to the sector.

2.2.2 The National Water Policy aims at “increasing accessibility to safe drinking water and sanitation facilities for the rural population of Zambia” so as to achieve the overall national goal of “*universal access to safe, adequate and reliable water supply and sanitation services*”. The key policy measures with respect to rural water supply and sanitation are: i) ensuring that RWSS programs are community based, ii) developing a well defined investment program for sustainable RWSS, iii) promoting appropriate technology and research activities in RWSS, iv) developing an emergency and contingency plan to mitigate impacts of drought and floods in rural areas, v) developing a cost recovery approach as an integral part of RWSS to ensure sustainability and vi) development and implementation of a well articulated training program. The Strategic Gender Plan of Action and the National Gender Policy (2004 – 2008) have specifically highlighted access to rural water supply and sanitation as decisive issues in reducing women and children’s workload and key to improving their livelihoods. Both documents have given specific recommendation for developing gender sensitive water and sanitation policies, programs and activities with related targets.

2.2.3 The other legislations that guide the provision of water supply and sanitation in Zambia include the Water Act, Cap. 198 which controls the development and management of water resources throughout the country; the Environmental Protection and Pollution Control

Act of 1990 whose purpose is protection of the environment and control of pollution; and the Public Health Amendment Act of 1995, which has provisions for the management of sanitation and prevention of pollution to water supplies by the local authority. A revision of the Water Act, enacted in 1948, is scheduled to be presented to Parliament in 2006. The proposed new act has provisions for regulating groundwater (currently unregulated), and this will have an impact on development and management of groundwater for rural water supply and sanitation.

2.2.4 Based on the National Water Policy framework, a number of strategies relevant to the RWSS sub-sector have been developed and include: Strategy and Institutional Framework for the Water and Sanitation Sector (1995) which specifies the institutional arrangements for provision of WSS by local authorities; National Environmental Sanitation Strategy (1998) aimed at raising the profile of sanitation in provision of basic social services, as well as outlining the strategies for provision of sanitation services, the Community Water Supply and Sanitation Strategy (2000) targeted at RWSS; and Mainstreaming Gender in Water Supply and Sanitation Sector (2005 - draft) which includes a comprehensive plan for gender sensitization training and awareness raising of all stakeholders, developing manuals and tools for gender mainstreaming in RWSS initiatives, as well ensuring gender responsive needs assessments.

2.2.5 The National School Health and Nutrition Policy 2001 states among others that in order to promote knowledge and skills on healthy livings, the Government shall ensure that 1)adequate clean and safe water is available; 2) regular personal hygiene inspections on school children are conducted and 3) appropriate and adequate latrine facilities are available.

2.2.6 A key strategy for RWSS implementation in Zambia is the WASHE (acronym for Water, Sanitation and Health Education) strategy launched in 1995. WASHE is a concept which seeks to integrate Water, Sanitation and Health Education and to coordinate actors in the management of RWS activities. The rationale for sectoral integration is that investments in rural water will lead to a reduction in water-borne diseases and improvement in health only if sanitation and hygiene behavior improve simultaneously. Secondly, communities will only maintain their water supply once they understand the link between improved health and better water supplies, sanitation, and hygiene behavior.

2.3 Relevance and Strategic Context of the Water Sector

2.3.1 GRZ has drawn a draft of the “Fifth National Development Plan (FNDP 2006-10)”- June 2006. The FNDP, which is also the county’s Poverty Reduction Strategy (PRS) as the basic planning framework for the formulation and implementation of the country’s sector policies, strategies and programs, identifies the water and sanitation sector as one of the priority areas for poverty eradication. The FNDP has developed comprehensive instruments that include the domestication of the Millennium Development Goals (MDGs) and other initiatives.

2.3.2 The FNDP contains a chapter related to water resources, and water supply and sanitation where the main objectives and policies are highlighted, see table 2.1 below.

Table 2.1 FNDP Water and Sanitation Objectives and Strategies

SUB SECTOR	OBJECTIVES	STRATEGIES
Urban Water Supply and Sanitation	To provide adequate, safe, and cost effective water supply and sanitation services with due regard to environmental protection	Development and provision of sustainable water and sanitation service to more people in urban and peri-urban areas through: <ul style="list-style-type: none"> ▪ commercialization, private sector participation and independent regulation; ▪ support to the national UWSS development that focuses on enhancing institutional capacities, policy, and legal frameworks, information management for planning and development at national, provincial, and district levels; ▪ support to investment programmes that aim at increasing access to safe, adequate water supply to 80 percent of the urban and peri-urban population by 2010, and proper sanitation systems to 70 percent for the urban and peri-urban population by 2010; ▪ involvement of service providers in the achievement of investment programmes
Rural Water Supply and Sanitation	To provide adequate, safe, and cost effective water supply and sanitation services with due regard to environmental protection	Facilitation of universal access to safe, adequate, and reliable water supply and sanitation services in rural areas through: <ul style="list-style-type: none"> ▪ institutional support activities to facilitate more effective planning, implementation, and monitoring of RWSS, focusing on: <ul style="list-style-type: none"> – development of a supportive legal framework; – institutional development, including development and implementation of appropriate capacity building at community, district, provincial, and national levels; – Information Management System (IMS); – advocacy and publicity; – district planning; – Sanitation and Hygiene Education; – Operation and Maintenance (O&M) systems. ▪ capital investment programmes consisting of projects for construction of new facilities and rehabilitation of facilities to secure or safeguard existing coverage, focusing on: <ul style="list-style-type: none"> – integrated rural water supply and sanitation investment projects in all provinces, with priority given to extension of water and sanitation facilities, and related hygiene education awareness campaigns in the presently under-served Northern, Western, Luapula, and Lusaka Provinces; – programmes for rehabilitation of existing facilities

Extracted from FNDP Chapter 18 Water and Sanitation, final draft June 2006

2.4 Institutional Framework

2.4.1 In accordance with the Local Government Act, the National Water Policy and the Water Supply and Sanitation Act, the local authorities and the Ministry of Local Government and Housing, have main responsibilities over RWSS. MLGH provides policy guidance, technical and financial control, and facilitates mobilization of foreign and local funds for capital development. The local authorities have the legal mandate to provide WSS services in their administrative areas under their jurisdiction. MLGH, through its Department of Infrastructure Support and Services (DISS), provides WSS services through donor funded projects, and some projects are implemented through D-WASHE committees. The Ministry of Health has some responsibility over sanitation and hygiene promotion, whilst the Ministry of Education has responsibility over school sanitation as part of school infrastructure. Ministry of Community Development and Social Services (MCDSS) identifies the need for water and sanitation development from a community development and social welfare point of

view, assesses communities, and assists in raising awareness and mobilizing communities at the grass root level. The Ministry of Energy and Water Development (MEWD), through the Department of Water Affairs (DWA) is responsible for water resources management. DWA is still involved in WSS service provision in rural areas (through its own programs and through donor funded projects executed by the department), however the role of DWA in RWS is slowly phasing out and their current involvement in all cases is restricted to the completion of on-going programs. In addition, there are gender as well as HIV/ AIDS focal persons in most districts who are responsible for ensuring that all activities implemented at the local level mainstream gender issues and include HIV/ AIDS mitigation activities.

2.4.2 The revised institutional framework for RWSS was adopted by the Government in November 2004. The RWSS institutional framework devolves water supply functions to local authorities as is provided for in the 1991 Local Government Act, the 1994 National Water Policy, the 1997 Water and Sanitation Act, and the Decentralization Policy of 2002. Under this institutional framework, responsibility for delivery of water and sanitation services, as well as the necessary funding, is devolved from central government to the local authorities. Planning and budgeting for rural water supply and sanitation is based on a 'bottom-up', community- and demand-driven system originating in "V-WASHes", which are sub-components of Village Development Committees. Overall district rural water supply and sanitation priorities are set by elected representatives (Councillors). The implementation of the National RWSS Program is anchored on the successful operationalisation of this institutional framework, which forms one of the key components of the program.

2.4.3 Presently, there are two key regulatory institutions for the water sector: The Water Board, a statutory body reporting to MEWD, is responsible for regulating the use and abstraction of surface water through a system of water rights. However, groundwater abstraction is currently not regulated. The other regulator, the National Water Supply and Sanitation Council (NWASCO), also reporting to MEWD, is the water supply and sanitation sector regulator. Though NWASCO is mandated by law to regulate WSS service provision throughout the country, the regulator has so far has been operating as "an urban WSS sector regulator".

Decentralisation

2.4.4 The national Decentralisation policy adopted in 2002 and launched in 2004 is part of the Public Service Reform Programme aimed at improving the quality, delivery and efficiency of public services through devolution of functions and authority to local councils. Under decentralisation the Central Government will retain the responsibility for overall policy-making and regulatory functions such as setting quality standards; ensuring nationwide development coordination; and supporting building capacities for implementing institutions, including those at districts and sub-district levels. Provincial administration will serve as the primary extension of Central Government at regional level. The provincial level is mainly concerned with activities dealing with coordination, monitoring and ensuring compliance with Government policies by district-level institutions. Under the decentralisation policy the districts (elected councils) are through devolution the centre of development activities and service delivery. Financial resources will be transferred directly from Ministry of Finance and National Planning to district councils to support their service delivery plans. Area Development Committees (ADCs) are the formal multifunctional development committees at ward level formed to facilitate local level dialogue and facilitate practical involvement of people in project implementation.

2.4.5 A Decentralisation Implementation Plan 2006-2010 (DIP) which coincides with the FNDP operationalises the decentralisation policy and is part of GRZ's strategy of strengthening the process of developing an integrated national planning and budgeting system which emphasises a bottom-up approach. The planning and budgeting process adopted within the Medium Term Expenditure Framework (MTEF) 2006-2009 also stresses the value of fiscal decentralisation. The MoFNP in 2005/6 initiated training of district level professional staff in the planning and MTEF processes. In this respect the District Planning and Budgeting Manual meant to guide planning at this level was developed. Starting the year 2007 funds for districts will be channelled directly to districts.

2.4.6 Other key components of the DIP in addition to local government planning and budgeting include: i) institutional and human resource capacity building: aimed at improving service delivery at all levels (central government staff to perform new role of policy making and quality assurance while district staff are supported to carry out implementation). Some sector ministries i.e. agriculture, water and health have "deconcentrated" staff at district level and GRZ will rationalize such capacities by transferring them to be managed by district councils; ii) financial management and accounting: aimed at promoting accountability and transparency in management of resources and outputs include computerized financial management systems for councils, strengthened tender committees, reliable internal district audits and mentoring for council oversight, strengthened audits by Office of Auditor General (OAG), and enhanced capacity of district local finance departments; iii) fiscal decentralisation which in the short run is developing a financing mechanism for transfers of funds from central Government and cooperating partners to districts councils but is also aimed at enhancing the capacity of districts to mobilise own funds.; iv) sector devolution: ministries will be assisted to develop and implement sector devolution policies including transfer and rationalisation of staff. The milestones for 2006 include existence of completed financing mechanisms to guide transfer of funds to districts from the MFNP (as well as from CPs), completed sector devolution plans, existence of guidelines for integrated planning and budgeting for use by councils in line with MTEF and operational monitoring and evaluation system to measure implementation of decentralisation.

2.5 Gender and Socio-economic Development

Gender Mainstreaming and Community Mobilisation

2.5.1 Women constitute slightly above 50% of the total Zambian population. The GRZ has recognized the need for full participation of women in the development process at all levels to ensure sustainable development and equity. Gender mainstreaming in the country is the task of the Gender in Development Division (GiDD) of the Cabinet Office. A gender focal point (GFP) within the RWSSU has been active in undertaking base line assessment surveys on HIV/ AIDS, identifying pertinent gender issues in the sector, developing community mobilization strategies and networking with the district administration for promotion of gender and HIV/ AIDs mainstreaming. However, due to lack of adequate funds, these activities are not comprehensive and need further support for including all communities and local authority technical staff in the gender sensitization process.

2.5.2 The average consumption of water for drinking and other domestic use per rural household is about 20 litres per day (approximately 5 litres per person per day), which is much below the required average for achieving an environment which is clean for living and free of disease. On the average the walking distance to the source of water is estimated to be between 1 to 3 km, whereas the national target recommends a maximum walking distance of

500 metres to the water point. The average walking time of about 30 minutes (one way), is said to have increased in the recent years due to increased pressure on water points leading to increased waiting time. The burden of collecting, transporting, and storing water falls mainly on women and children if it is done without any form of animal or mechanical transportation system. However, experience in the country has shown that if an intermediate form of transport is introduced for fetching water, men will increasingly participate in the activity.

2.5.3 Increased participation of women in decision making committees such as the D-WASHE and the V-WASHE, as well as the Area Development Committees and the District Development Committees, is a priority within the NRWSSP and the Decentralisation Policy. Experience in some communities has shown that involving women in the technical operations and maintenance of the water points as well as training them in procuring of spare parts contributes to the sustainability of the delivery of water related services because women, unlike men, when trained in these operations tend not to migrate for better income opportunities. This can only be achieved through training and sensitisation of men and women on a gender sensitive participation process and decision making empowerment. Furthermore, gender dimension arise in issues of: inadequate information for women on water user charges and pricing which may be difficult for women to pay, security at the water points for children and women, alternative and appropriate water pumping equipment which is easy to use for women and children, paving of pathways leading to the water points, intermediate transport methods for transporting large quantities of water containers, etc.

2.5.4 With regards to sanitation, particularly the issue on household latrines, there is a large aspect of cultural and traditional norms and values which affect men and women differently. Cultural practices may influence the use of sanitation facilities by women and children and thus these need to be thoroughly investigated and understood within the programme framework. In addition, intensive awareness raising and sensitisation is needed on sanitation and hygiene practices since there are a large number of communities who do not use the facilities even after being constructed for them. It is expected that access to proper latrines and hygiene practices will mitigate major diseases, such as diarrhoea, worms, eye infections, cholera, typhoid, etc. especially in children, thereby reducing the work load of women who are responsible for taking care of the sick and elderly.

Community Participation

2.5.5 With regards to community participation, there is the need to involve communities in the planning and implementation of water and sanitation service delivery. However, there has been limited community mobilization due to inadequate staff and time constraints at the district level. In this regard more support and focused intervention is needed to ensure that identification of the water point location is done in sufficient consultation with women in order to ensure ownership, proper usage and sustainability for the infrastructure. Furthermore, V-WASHEs need to be exposed to skills in committee management and leadership, records and book keeping, participation approaches, and gender sensitisation for them to become effective. Special attention will be given to identify the poorest households, and those with elderly, the sick and the orphans, who are unable to pay their water user charges.

HIV/AIDS and Malaria

2.5.6 *The HIV/ AIDS Pandemic:* The prevalence and incidence of HIV/AIDS has reached alarming levels in Zambia. It is estimated that with HIV prevalence of 16% (the current rate in Zambia) the mortality in the 15-49 year age group goes up by approximately 40 deaths per 1,000 persons. The estimated adult HIV prevalence is 14% in rural areas and 28% in urban

areas in the 15-49 year old age group. Although the epidemic is showing signs of stabilization in urban areas, the rates continue to rise in some rural areas. Currently about 8% of boys and 17% of girls aged 15-24 are living with HIV and the prevalence rate is up to 40% among school teachers.

2.5.7 Malaria: Malaria continues to threaten public health in Zambia. The incidence rate for malaria rose from 255 per 1000 in 1990 to 455 in 2004 with the fatality rates also rising. In children (under 5 years of age), malaria accounts for 33% of outpatient attendances, and 50% of all malaria hospital admissions. Its fatality rate, of 75 deaths per 1000 malarial admissions, is five times the 1976 level. At the same time, the parasite has also shown increasing resistance to chloroquine (CQ), the front line drug. Women spend a lot of time taking sick children to the health clinics traveling long distances, sometimes having to stay there with the sick child. This is at the expense of their time required for production, farming or trading. As a result there is less income and food security at the household which generally affects the health of all family members, especially children, negatively.

2.5.8 Increased deaths and periods of sickness and incapacitation as a result of HIV/ AIDS and/ or malaria affects water supply service delivery. If pump-minders, the facility care takers, and members of the V-WASHes are unable to perform their duties, the result is disruption in the water point functions. Moreover, women who are affected and/ or infected by the virus may not be able to walk long distances, wait for long periods in the water queues, and carry heavy water loads back home, which would further negatively impact their health as well as household wellbeing.

2.6 Sector Development

2.6.1 The Water Sector in Zambia comprise three sub-sectors 1) rural water supply and sanitation, 2) urban water supply and sanitation, including peri-urban water supply and sanitation, and 3) water resources management, including smaller dams and irrigation systems, as well as management tools such as licensing for water uses, data gathering and analysis¹. The Water Sector per se cannot be meaningfully delineated without considering the sub-sectors, since the institutional setup at central and local level is built around these.

2.6.2 In addition to these sub-sectors Zambia has a major water energy production facility in the Kariba dam, jointly managed by Zambia and Zimbabwe through the Zambezi River Authority.

2.6.3 In the context of GRZ's continuous efforts to improve the sector's policy framework, National Water Policy (1994) is being updated to be in harmony with the Fifth national Development Plan 2006-2010 which is the overarching national planning framework, as well as the decentralization policy 2002. At the same time, a separate Water Supply and Sanitation Policy will be prepared as part of the National Rural Water and Sanitation Program. Regarding the water resources management, the ongoing Water Resources Action Program (WRAP) is at an advanced stage of completion. The objective of the program is to establish, within the context of the National Water Policy, a comprehensive legal and institutional framework for the use, development and management of water resources in an integrated and sustainable manner. A draft water resources management bill has been presented to Parliament and is expected to be enacted in 2006. Both MEWD and MLGH are currently being restructured to improve their respective roles of management of the water resources and delivery of the services.

2.6.4 Despite the abundance of water resources in Zambia, not everybody has been able to benefit from the resource. On the basis of available data, access to water supply is 89% for urban and 37% for rural populations while access to sanitation is 73% and 13% for urban and rural areas respectively. However, due to non-functioning facilities the actual service coverage in both urban and rural areas is much lower. In peri-urban areas where 50-70% of the total urban poor population lives, services are poor, inadequate and unreliable. As a result, the peri-urban population without access to improved water supply is 56% and 90% for sanitation. In its FNDP, the Government recognizes that rural and urban households and communities with access to sustainable safe water supplies and adequate sanitation services have greater potential for engaging in economic activities to reduce poverty. GRZ therefore plans to increase urban water supply and sanitation coverage to 90% by 2010 and 100% by 2015, and for rural water supply to 55% by 2010 and 75% by 2015.

2.6.5 Some of the ongoing sector development works include the water supply and sanitation rehabilitation and expansion projects covering the urban centres in Central, Southern, Northern and Northwest Provinces, and the Mine Townships Services Project in the Copper Belt. These programs usually include the formation and support for Commercial Utilities (CUs) to manage the services. For the rural areas, the ongoing development work includes programmes in Central, Southern, Western, Northern, Eastern, and Northwest provinces, as part of the NRWSSP.

2.6.6 Peri-urban areas are informal and largely unplanned, with relatively high population densities in the larger cities. The Zambia Poverty Reduction Strategy Paper 2002 to 2004 stated that 56% of the urban population are poor while 36% are extremely poor. According to the national statistics 61% of those living in low - cost housing areas are poor. As the expansion plans of CUs only include the legalized peri-urban areas, which are small compared to the non-legalized areas, planned investments to cover peri-urban areas are low nationwide. However, some NGOs provide support in the non-legalized areas. In the areas that are covered, investments per capita were in the order of US\$ 350 during the years 1998-2000.

2.6.7 GRZ has adopted the VIP technology as the "safe and clean" means of Sanitation and supports the dissemination and use of the same. Thus in recent years standardized design has been developed and e.g. ZAMSIF and UNICEF apply this standardized design in their development support to rural communities. However, the designed structure is expensive and without donor/GRZ support it is affordable to a very limited number of the rural population.

2.6.8 Of 423,000ha of irrigable land, only about 50,000ha (11%) are currently irrigated, dominated by large-scale commercial irrigation schemes (sugar, wheat and plantation crops). Small-scale irrigation is generally limited to small gardens in natural wetlands and in the moist areas below dams where vegetables are grown, mainly using water from shallow wells transported in buckets. Small-scale, farmer managed and gravity-based schemes have also been promoted in recent years near small dams or using water from other sources. Due to a highly attractive local market for fish, fish farming has been promoted by government and NGO programmes. The vast natural wetlands of Zambia represent a considerable potential for expansion of this sub-sector, but so far fish farming has not taken off as a viable activity for small-scale farmers.

2.7 Donor Support

2.7.1 Coordination among development partners is driven by a comprehensive donor coordination framework that operates at national and sector level. At national level, the coordination process is articulated in the Harmonisation in Practice Initiative (HIP), which involves a Memorandum of Understanding that was signed by the Government and 15 cooperating partners, namely, Sweden, UK, Netherlands, Finland, Ireland, Denmark, Norway, UN system, World Bank, Germany and the European Union operating in the country. The MOU provides the platform for developing in practice, harmonisation of cooperation by development partners and alignment to Government procedures and processes.

2.7.2 At sector level, there are the Sector Advisory Group (SAG) which were established initially to review sector performance and report on the implementation of the PRSP (2002 – 2004). The water SAG is now playing an increasing role in setting sector priorities, planning, monitoring and evaluation, and reporting on development programs. It consists of Government, CPs, private sector associations, NGOs and civil society that form a strong consultation forum among stakeholders in the country. There is strong donor coordination in terms of frequent donor coordination meetings and joint financing of some activities. The CPs have an arrangement of representation through a three year rotating lead CP role in the sector. The harmonization has started having positive effects on coordination of activities in the water sector and proposals have been received from GRZ (MEWD and MLGH) for a water SWAp. Initially it has been agreed to harmonize and establish SWAp on a RWSS sub-sector basis.

2.7.3 The country has received considerable donor support for funding the development budget for most sectors including the rural water and sanitation. The main donors active in the water sector include the World Bank, Danish International Development Agency (DANIDA), the German Government through the German Bank for Development (KfW) and German Agency for Technical Cooperation (GTZ), Irish Government through IrishAid, Government of the Netherlands (through IrishAid), UNICEF, JICA and the African Development Bank (ADB). They have played a key role in funding water and sanitation programs/projects. Donor support has taken several forms including technical assistance in which capacity building has been implemented at various local and national government levels, sharing of best practices, program and project support. Donor and Government Funds invested in the sector currently amounts to approximately USD 46.9M annually of which USD 15M (32%) is to the RWSS sub-sector.

2.7.4 The Bank Group has to date financed eleven operations in the water supply and sanitation sector (8 projects and 3 studies), for a total amount of UA 93.2 million. Recently completed projects include the Lusaka and Kitwe Water Supply Rehabilitation projects, each of which also included an institutional building component. Annex 2 shows the ongoing Bank financed projects in Zambia. The Central Province Rural Water Supply and Sanitation Project and the Eight Centers Water Supply and Sanitation Projects are the two ongoing Bank financed operation in the sector. The Bank has learnt a lot of positive lessons from the implementation of the Rural Water Supply and Sanitation Project in Central Province. The lessons learnt from the Bank's recent experience in the sector are the need for a) effective follow up and consultation with GRZ to avoid delays in effectiveness of Bank financing, (including effective launching missions), b) effective monitoring to ensure that the sanitation and community mobilization activities of RWSS are not neglected or lag behind the water supply development, c)

appropriate packaging and sequencing of construction contracts in order to harmonise with the community mobilization and training activities and d) consultations with cooperation partners during missions or through the country office in order to maximize the support and benefit from synergies. These lessons have been taken into consideration in the design and implementation of the Bank's support of the proposed program.

2.8 Sector Issues, Constraints and Strategies

2.8.1 Major issues that have been related to water resources management in Zambia include:

- Poor and inadequate infrastructure and systems for management of water resources.
- Lack of funds and funding mechanisms generally to sustain the activities of water resources management
- Inadequate capacity for water resources management at all levels (institutional and human resource).
- Poor water resource management, regulation and enforcement mechanisms
- Lack of an integrated approach to water resources management
- Inadequate institutional and legal framework

To address the above shortcomings a new water law is to be enacted. The new law will establish a National Water Resources Management Authority and provide for catchment and sub catchment bodies and recognition of water users associations. The act will have provisions for equitable and sustainable utilisation of water resources. The Bill is expected to be enacted by Dec 2006.

2.8.2 The overall responsibility for providing water supply and sanitation in the country falls under MLGH while NWASCO handles regulatory functions. In line with the Water Supply and Sanitation Act, MLGH has encouraged local authorities to establish Commercial Utilities (CUs) to manage water supply activities in urban centres which is vital for ensuring cost recovery and sustainability of these services. Commercialisation of urban water supply is in progress in 8 of the 9 provinces in Zambia through formation of CUs. Major issues related to urban water supply and sanitation include:

- infrastructure in many of the urban centres is dilapidated and the water production cannot meet demand.
- The commercial units have a very weak financial base and the majority do not even cover their operation and maintenance costs
- Over 65% of the urban population stays in peri urban areas which are unplanned and have a very low water and sanitation coverage. Due to the poor financial resources the CUs cannot extend services to peri urban areas.

With support from cooperating partners water supply systems outlined in 2.6.5 are being rehabilitated and service coverage extended to cover the peri-urban areas. Capacity building support is being provided to the CUs to enable them improve service delivery and make them commercially viable. A Devolution Trust Fund (DTF) was set in 2001 to promote the extension of water supply and sanitation services to peri urban areas.

2.8.3 The budget allocation to the water supply and sanitation sector has been very low in the past. The PRSP budget 2002-2004 allocated USD 42.4 million to water and sanitation, which was 3.5% of the total PRS budget compared to 16.7% to health and 12.3% to education. Of the amount allocated only 32% (1.2% of total PRSP) was disbursed by June 2004. However, the PRSP stated that provision of WSS services was to be extended to

approximately 2.5 million peri-urban residents who were not supplied with minimum standards. The fairly limited budget allocated for drinking water and sanitation for the rural and peri-urban population did not match the requirements, if the MDGs are to be met.

3 THE RURAL WATER SUPPLY AND SANITATION SUB-SECTOR

3.1 Institutional Framework

3.1.1 The key institutions with a bearing on the rural water sub sector include: the MFNP, MLGH, MOH, MCDSS and MOES at the central level, District local governments, NGOs/CBOs, private sector organisations and communities. The roles of Central Government (CG) ministries are outlined in section 2.4. At lower Government level the institutional framework is presented in the following sections.

Province and District Local Authorities (DLAs)

3.1.2 At provincial level, government is represented by specific Departments and the Provincial Local Government Office in particular. This office supports and advises Local Authorities and assists DISS (within MLGH) in monitoring their performance in providing RWSS services. Under the revised institutional framework for WSS and in line with the decentralization policy provision of RWSS services is devolved to DLA. At district level elected representatives make the local government. In addition to the district council, there are sub district structures, which are elected, such as the Village Development Committees (VDCs), Area Development Committees (ADC) and Residents Development Committees (RDC).

Civil Society: NGOs and CBOs

3.1.3 Non-governmental organizations, both national and international, are major partners in the provision of water supply and sanitation services. Likewise CBOs i.e. religious organizations deal directly with the community in supporting water and sanitation service provision. Civil Society organizations normally supplement efforts of national and local Government by providing skills and experience, especially in facilitation and community mobilization that the Government may not have. Either Government or External agencies finance national NGOs and CBOs also get direct sponsorship from the External Support Agencies. International NGOs obtain their funds from a variety of sources, including multi-lateral and bilateral donors and from the public donations in their base countries.

Private Sector

3.1.4 The private sector covers a wide range of individuals and organizations, including: Village/district based artisans; Village/district based pump minders/mechanics; Individual entrepreneurs; Local markets or shops; Local manufacturers; Construction contractors; Consultants and Drilling companies. These organizations provide RWSS goods and services. Goods may be in form of pumps, spare parts and materials for water facilities and latrine slabs for sanitation facilities. Services can range from hand pump maintenance, and repair to technical knowledge needed in the construction of facilities, as well as trainings.

External Support Agencies (Cooperating Partners)

3.1.5 There are several types of agencies that fund projects and programmes for the delivery of water and sanitation services. These include multilateral organizations such as the African Development Bank, World Bank and UNICEF, bilateral agencies such as GTZ and Ireland Aid, and international NGOs such as WaterAid.

Community

3.1.6 The community, as beneficiaries of the water and sanitation service delivery, has the responsibility to manage the implementation, operation and maintenance of the facilities. There may be existing organizations that can be adapted for this, such as Village Development Committees or water point committees. These can accommodate water and sanitation functions, or new organizations created to form village WASHE committees (V-WASHE) and well committees. These, however, need gender sensitization as well as HIV/AIDS mitigation awareness raising to ensure sustainability in the operations and maintenance of the facilities.

3.1.7 At community level, existing structures such as water point committees, Village Development Committees, etc., are used in the promotion and implementation of rural water supply and sanitation programmes using the WASHE concepts. A village WASHE committee is established as a sub-committee of a VDC to deal with issues specifically relating to water supply and sanitation where there is no existing community institution with this responsibility. This committee co-ordinates the water supply and sanitation projects/programmes with the following: NGOs; CBOs; Private Sector and Local Authority (Council). Table 3.1 outlines the institutional structures that are represented at community level dealing with water and sanitation projects/programmes, with the responsibilities of the various organizations.

Table 3.1: Institutional structures at Community level

Institution	Staff	Responsibility
VDC	Committee members from the community	Coordinate overall village development plans Forward requests for RWSS to ADC and/or Local Authority
V-WASHE	Committee members from the community (sub committee of VDC)	Initiate and co-ordinate the RWSS Project Mobilise resources for operation and maintenance
Private Sector	Skilled pump minders Individuals with shops	Repair the facilities Provide services
CBOs	CBO members	Mobilise the community for work Monitor project implementation
NGOs	Workers	Facilitate interventions Mobilise community using their extension workers Monitor the project

3.1.8 Sub-District Level: Table 3.2 below shows the institutions found at sub-district level

Table 3.2: Institutions at Sub-district level

Institution	Staff	Responsibility
District Council	Local Authority workers (mostly)	Contact persons for RWSS and revenue collection for the Council
Area Development Committee	Committee members from communities in the area	Coordinate the development plans of groups of villages and forwards community requests for RWSS services to the Local Authority
NGOs	Extension workers	Community mobilisation and monitoring of the implementation of the project. Support to V-WASHE/VDC/ADC in RWSS request and proposal development
Private Sector	Local artisans and technicians in water supply and sanitation aspects	Provision of expertise and selling of spare part to the community

3.2 Access to Rural Water Supply and Sanitation Services

3.2.1 More than 65% of Zambia's population (estimated at 11.6 million in 2005) live in rural areas. This population is expected to increase from 7.7 million in 2006 to 10.7 million in 2015. Zambia's rural population is characterised by low access to basic services including schools, health centres, safe water supply and sanitation. Based on Central Statistical Office (CSO) Census 2000 as well as the *Living Conditions Monitoring Survey 2002/2003* the estimated access to safe water supply in rural areas in 2005 is only 37% of the population; for sanitation, the access is much lower, 13%.

3.2.2 Lack of access to safe water supply and sanitation in Zambia's rural areas is a major contributing factor to poverty in rural areas. Women and children spend a disproportionate amount of time and effort in daily chores of water collection, and in caring for those suffering from water and sanitation-related diseases. This decreases their opportunities for engaging in productive activities to improve their socio-economic welfare, and in school enrolment and progression, which ultimately affects their socio-economic advancement. In addition, the increasing prevalence of HIV/AIDS profoundly affects productivity and availability of labour for development efforts. These factors contribute to perpetuating poverty in already impoverished areas.

3.2.3 Water, sanitation and hygiene improvement significantly contribute to other key MDGs related to other sectors such as health, education, nutrition, fighting HIV/AIDS, which, together impacts on poverty alleviation. The fight against poverty therefore requires improved access to water and sanitation in the rural areas.

3.3 Constraints and Opportunities

Constraints

3.3.1 In spite of the gains from the implementation of the water and sanitation sector reforms over the past decade, progress has been slow in the rural water supply and sanitation sub-sector and access to clean water and safe sanitation is still very low, with large disparities between provinces and districts in coverage of the rural population across the country. This situation has been attributed to several factors among which the prominent are (i) low priority and declining budgetary allocation to rural water supply in the past (ii) uncoordinated government and donor projects often leading to duplication of efforts (iii) over concentration of activities in a few provinces due to donor preferences for particular districts or provinces (iv) an ineffective operation and maintenance systems leading to the large number of dysfunctional water points throughout the rural parts of the country. These shortcomings arise from the lack of a coherent national program for rural water supply and sanitation. These constraints are being addressed by the NRWSSP.

3.3.2 One of the strategies adopted by the sector is the Demand Responsive Approach (DRA). The challenge now is the implementation of the approach. The main constraints for implementation of a DRA are; inadequate extension staff and lack of tools for the existing staff. GRZ is currently carrying out a major recruitment exercise which will lead to increasing the community development staff at subcentre (sub district). The new staff will also be provided with reorientation training in order to enhance local government institutions' and communities' planning, implementation and monitoring capacity.

3.3.3 More than 80% of preventable diseases in Zambia are related to poor environmental sanitation. The infant mortality rate in Zambia is very high (107 per 1000) partly as a result of the high level of diarrhea diseases. These conditions are to a large extent preventable; however, remain as a major constraint to personal and community development. Sanitation and hygiene promotion though integrated with water supply through the WASHE approach do not receive the appropriate funding and support. The NRWSSP integrates sanitation and hygiene promotion as the main activities in the implementation of the program.

3.3.4 The NRWSSP is anchored on a decentralized devolved system, however implementation of full decentralization is just starting through the DIP and districts will in the initial period of implementation of the NRWSSP require a lot of support. The program will provide Area Based Support Teams (AST) for DLA capacity building.

3.3.5 A key principle outlined in the Water Policy is achievement of full cost recovery in the long run for the water supply and sanitation services through user charges (with due regard for fairness and equity by providing a minimum level of services to persons who are unable to afford the full cost of services). Rural communities cannot afford the high up front costs of even low technology water supply assets and therefore public investment is justified for the period of the NRWSSP. GRZ's policy for operation and maintenance of water supply systems in rural areas follows the principles of Community Based Maintenance, where Community Management Committees V-WASHes are responsible for collecting funds from users for preventative maintenance and repairs. The average cost of operation and maintenance of a hand pump facility is around USD 6 -10 per year, which is well within the means of even the poorest communities. However, communities cannot afford the costs for rehabilitation and repairs, which are beyond the capacity of the community and thus require support. GRZ and DLAs with support from CPs will continue to support communities for major rehabilitation and repairs.

3.3.6 Lack of spare parts for hand pump based supplies resulting in high level of non-functional schemes has affected project sustainability. In addition to the lack of spare parts roles of different stakeholders in relation to O&M of water and public sanitation facilities is vague (support network is weak) and inconsistent approaches are being used in different places. The Sustainable Operation and Maintenance Project for Rural Water Supply (SOMAP), assisted by JICA, as part of the NRWSSP, is supporting the preparation of National O&M guidelines for RWS in Zambia.

3.3.7 As noted in section 3.1.4 there is a general lack of systematic and gender disaggregated data collection and analysis of RWSS data which is a constraint to proper planning and implementation. This has been recognized during program design and the development and management of a RWSS Information Management System (IMS) is a major component of the RWSSP.

3.3.8 Analysis of policy and legal framework, institutional, financial and technical aspects of service provision in rural areas reveals that the RWSS sector is characterized by a number of issues including the following:

- (i) Inadequate access to safe drinking water supply in all provinces; four provinces in particular (Luapula, Northern, North-Western and Western) have less than 30% safe water coverage. The development of the NRWSSP with clear goals, strategies and targets is a means of addressing the gaps. The programme has clear criteria for prioritization of districts, therefore, will address the disparities in coverage.

- (ii) Extremely low levels of access to adequate sanitation due, to large degree, to lack of emphasis on this by sector players. In total, some 30% of rural population (about 2 million people) does not use any type of latrine at all. A strategy for scaling up WASHE was developed in 2003 and among the key areas to address is sanitation. The district RWSSU will be staffed in addition to a water expert with a health and hygiene education expert as well as a community development expert. The focus at community level is on promoting improved hygiene attitudes/practices together with provision of latrines.
- (iii) Sector leadership is diffused at national level. While the current legislation clearly assigns the leadership role and responsibility relating to WSS to MLGH there are many other institutions providing WSS services to rural areas. There remains a need for greater co-ordination between all sector players. Coordination of sector players has been strengthened through the Water Sector Advisory Group (WSAG). The WSAG includes representatives of other sector ministries like MOH and MCDSS as well as cooperating partners and NGOs.
- (iv) Lack of sector investment plans, whether at district or national levels. Service provision was not demand-driven, and investment planning was done without effective participation of stakeholders, including the communities and district councils. The decentralization policy 2002 which was launched in 2004 as well as the Activity Based planning which is now introduced in Zambia is addressing this issue. The NRWSSP which is based on a demand based approach principles to the development of the sub sector includes a RWSS investment plan.
- (v) Lack of an effective maintenance system for community water supply facilities. Village level maintenance is poor, and there is no proper support system (technical teams, spares, logistical support) at district or provincial levels. The community management framework and guidelines for O&M based on experiences from past and ongoing projects, which are under preparation as part of the NRWSSP, will address the gaps in maintenance of community water supplies.
- (vi) Funding of the sector is generally low, and major investments in the last decade have been from donor funding with inadequate contributions from the treasury. There is a lack of agreement relating to policy on community contributions towards capital cost. The GRZ in the FNDP has prioritized water supply and sanitation as one of the key development sectors and is committed to increasing the funding to the sector.
- (vii) Inadequate technical, financial, and institutional capacities at district council level to support planning, implementation and maintenance of rural water supply facilities. To address this constraint, capacity development at all levels is a key component of the NRWSSP.
- (viii) Lack of gender sensitization of communities and local authority technical staff has led to insufficient participation of women in decision making processes in the sector. Lack of training in O&M of women has affected sustainability of the water points in some cases. This is being addressed through community mobilization, sensitization and awareness creation to mainstream gender issues in all the activities of the communities.

Opportunities

3.3.9 The Program goals and strategies were developed through a consultative process involving all stakeholders, including the Local Authorities, Sector Ministries, Cooperating Partners and NGOs. The goals and strategies are based on long experience and are a major opportunity. A SWAp to planning is proposed in the NRWSSP as a framework for the water and sanitation sector. A learning workshop on SWAp for the water sector and sanitation sector attended by sector ministries and cooperating partners was held in April 2006 to start the process of preparing for the WSS SWAp.

3.3.10 All the major cooperating partners in the RWSS (DANIDA, Irish Aid, JICA, German Government, UNICEF, World Bank) support the program approach to RWSS development.

3.3.11 An Integrated Financial Management Information System (IFMIS) for management of public funds at the central and LA levels is being developed. This will enhance accountability and lead to better Value for Money.

3.3.12 One key program that supported districts' implementation of development activities promoting decentralisation was the Zambia Social Investment Fund (ZAMSIF) project 2001 to 2005 under MoFNP. Its overall objective was to contribute to the government's strategy for poverty reduction by improving the welfare and living conditions of many poor and vulnerable communities all over Zambia. ZAMSIF's goal was to contribute to the improved, expanded and sustainable use of services provided in a governance system where local governments and communities are mutually accountable. This project carried out considerable capacity building support to districts and water and sanitation projects were a significant part of the community projects. A detailed assessment of the project is planned by end of 2006 and a successor project the Local Development Project (LDP) will be undertaken. The ongoing support to the decentralization creates additional opportunity for the achievement of the goals of the program.

3.3.13 The NRWSSP 2006-2015, which consists of a set of investment, institutional and sector support activities aimed at facilitating provision of WSS to the rural population, was developed with the purpose of setting priorities and uniform approaches for the sub-sector that will assist in the achievement of MDGs and meeting the national vision of universal coverage.

4 THE NATIONAL RURAL WATER SUPPLY AND SANITATION PROGRAM

4.1 Concept and Rationale

4.1.1 The National Rural Water Supply and Sanitation Program (NRWSSP) was developed with the involvement of all the key stakeholders. The GRZ and other stakeholders are strongly committed to its implementation, as are the cooperating partners who have indicated funding to the sector. The program design has taken into account experiences and lessons learnt from past interventions in the water sector, particularly the rural water supply and sanitation sub-sector.

4.1.2 The design of the program has taken into account lessons learnt from the Bank's RWSSI and the experience of other donors. These lessons include, the adoption of demand driven and program approach based on decentralized implementation by communities, fast tracking through the use of country system and avoiding delays in starting, and implementing the program activities so that the objectives are attained on time.

4.1.3 The NRWSSP creates the conditions to improve the sustainability of the sub-sector through a better policy that will enhance community ownership of facilities, as well as the impact that access to clean water and safe sanitation on the wellbeing of the rural population of Zambia as it is designed to address the shortfall in physical infrastructure as well as improving the policy environment for sector sustainability. In order to address the shortcomings of the sector and to quickly expand access of the rural population to clean water and safe sanitation in a sustainable way, GRZ has conceived the NRWSSP as a Sector Wide Approach.

4.1.4 Resulting from the consultations undertaken as part of the NRWSSP planning process, was consensus on the need for a sector investment program. The key feature is on “a common basket of activities” aimed at achieving national objectives, whereby all the stakeholders, including donors and NGOs are required to adopt common approaches for planning, design, choice of technology, use of a common institutional set up, and a common set of criteria for prioritizing communities for support and to fund only activities defined under the program. The SWAP will be adopted on a two phased approach, where phase 1 covering the period 2006-2010 includes all the institutional changes and capacity building necessary to develop and implement a fully decentralised programme along with implementation of area based activities and projects with a common framework, and phase 2 covering the period 2011-2015 is implementation of a nation-wide fully decentralised program. During phase 1 districts with low access to water supply and sanitation services are targeted. Districts without any major area based investment activities will also be included in the programme, mainly to carry out rehabilitation of existing water and sanitation facilities and receive capacity building support to prepare them for full implementation during phase II.

4.1.5 The program has adopted the demand responsive approach, which provides the communities with the opportunity to make informed choices about the types and levels of services they want and can afford, gives them ownership and responsibility for the management, operation and maintenance of the selected option, thus more likely to be sustainable.

4.1.6 The program concept addresses: (a) increased water supply coverage and reduced walking distances between household and water points for women and children, (b) reduced water borne and hygiene related diseases amongst children and the vulnerable, (c) alleviation of the work burden of women and children with respect to transporting water, (d) community mobilisation with gender equality with a special focus on encouraging women’s participation in water user committees and to undertake roles such as treasurer, hand pump menders or caretakers, and (e) water supply technologies which are appropriate and easily managed by women and children, and whose maintenance is accessible and less effort is needed to operate them.

4.1.7 The program emphasizes affordability of technology options such that the population is not overburdened with the cost of maintenance. It will prioritise rehabilitation of dysfunctional water points that can easily be repaired, for which spare parts can be easily obtained and are relatively easy and economical to maintain.

4.1.8 The design of the program has incorporated lessons learnt from the past projects in order to enhance its impact on the population. The corrective actions include (i) formulation of the program through a participatory approach that involved representatives of all

stakeholders (women, communities, NGOs, private sector, local governments, CPs and central government) and (ii) formulation of the NRWSSP in line with the national strategies of the FNDP (iii) the adoption of joint sector review mechanism for monitoring sector performance to reduce government transaction costs, (iv) use of a common set of criteria for selection of districts or provinces by CPs, and (v) adoption of a common O&M system and supply chain for spare parts.

4.2 Program Area and Beneficiaries

4.2.1 Zambia's rural population is estimated at 7.7 million that is growing at 2.5% per annum. Out of this number 4.85 million people do not have access to clean water. For sanitation the correspondent figure is 6.7 million people. There is close correlation between infant mortality rate and poor access to safe WSS in Zambia. Health statistics in Zambia indicate that diarrhea, a water related disease is ranked among the top common causes of out-patient attendances for all age groups. Diarrhea is a disease indicative of poor sanitation, unhygienic environment, and poor water supplies. In addition to poor health conditions associated with lack of access to clean water, the rural population particularly women and children are reported to go through the hardship of drawing water from far and unreliable sources.

4.2.2 The programme covers the entire country and aims at providing safe water supply and sanitation at the level of the villages. The direct beneficiaries of the proposed program therefore, are the rural people who do not have access to clean water and safe sanitation. Other beneficiaries will include the central and local government institutions whose capacity will be enhanced, the artisans who will be trained and assisted to establish repair outlets for water supply and sanitation systems, the private sector who will participate in the implementation of the program.

4.2.3 The NRWSSP prioritization and selection criteria for districts/provinces, takes into account the access level of water supply and sanitation, population size and poverty indicators, such as Infant Mortality Rate. In view of the very low coverage of water supply and sanitation in Luapula and Northern Provinces, which also have the worst poverty indicators, GRZ has requested that the proposed ADF Loan should support area based program activities in these two provinces. The access rates of water supply and sanitation services in these areas are less than 21% and 4% for water and sanitation, respectively. Bank Group financing for the program will target rural population in fifteen districts of Luapula and Northern Provinces to achieve the MDG targets of 75% for water and 60% for sanitation.

4.3 Strategic Context

4.3.1 Zambia's FNDP lays emphasis on the strategic importance of rural water supply and sanitation for human development and poverty reduction. It links the high incidence of infant mortality, maternal mortality, waterborne diseases, stunted growth of children and morbid state of people living with HIV/ AIDS to inadequate access to clean potable water and proper sanitation. The national strategy for fighting poverty is therefore emphasizing the need for improved access to clean water and safe sanitation, as well as access to water for productive purposes that improve people's livelihoods. Thus, the NRWSSP in addition to contributing to the attainment of the MDG of halving the number of people without access to safe water by 2015, fits within GRZ's strategy for national development and fighting poverty.

4.3.2 The program falls within the priority sectors for GRZ's medium term expenditure plans stated in the current MTEF (2006-2009) and the Fifth National Development Plan (FNDP). The Bank's support to the program is also in line with the plans of the JASZ (currently in draft), which is being developed jointly by the cooperating partners and GRZ. The Bank has joined the other cooperating partners and GRZ in the preparation of the JASZ, in the context of the ongoing harmonization framework.

4.3.3 The program emphasizes the role of women in decision making at all levels of planning and implementing the program, as well as managing the facilities at community level. The program therefore conforms to GRZ's Gender Strategy for water supply and sanitation which recognizes that in order to ensure sustainability, women must be fully involved in the whole process of delivery and management of services.

4.3.4 The program is in line with the Bank's Integrated Water Resources Management Policy and the Rural Water Supply and Sanitation Initiative (RWSSI). The program adopts the fast track implementation mechanisms of the Bank's RWSSI, which takes into account the experience and lessons learnt from the implementation of similar RWSSI activities in other countries. The sector is prioritized in the current Bank's Results Based Country Strategy Paper (2006 -2009), which is anchored to the JASZ, and the intervention in the NRWSSP will complement the Bank's other interventions in the sector.

4.4 Goal and Objectives

4.4.1 The overall sector goal is to improve the quality of life and productivity of all Zambians by ensuring an equitable provision of an adequate quantity and quality of water to all competing user groups, and improved sanitation services for all, at acceptable cost and on a sustainable basis. The goal of the National Rural Water Supply and Sanitation Programme is to provide equitable and sustainable access to water supply and sanitation to meet basic needs for improved health and poverty alleviation for Zambia's rural population and contribute towards achievement of MDG for water and sanitation of 75% and 60%, respectively by 2015.

4.4.2 The specific objectives of the National Rural Water Supply and Sanitation Program is to increase access to safe, reliable and convenient quantities of water supply from present 37% to 55% of the rural population by 2010; and to increase access to proper sanitation from 13% to 33% of the rural population by 2010. The program will also ensure that women comprise 50% of the V-WASHES, 30% of the D-WASHES, 50% of all participants in the training of water and sanitation infrastructure operations and management, and 25% of all artisans trained in construction of latrines. As a result of the first phase of the program (2006 to 2010), an additional 2.1 million people will have access to safe water and 2.3 million people will have access to improved sanitation services.

4.5 Program Description

4.5.1 The National Rural Water Supply and Sanitation Program has a number of activities which are put under four broad components, namely:

- a) Water Infrastructure Development
- b) Sanitation and Hygiene Education;
- c) Institutional Support and Capacity Building; and
- d) Program Management

The detailed description of activities under each component is provided in the following sections.

(A) Water Infrastructure Development

4.5.2 This component involves provision of new and rehabilitation of existing water supply services to communities, including related baseline studies where required, to increase the percentage of rural population served from the current 37% to 55% by 2010, and 75% by 2015. The component involves the rehabilitation of an estimated 3,400 existing schemes and construction of 7,200 new water points, based on the coverage criteria of 250 people per water point and within a maximum walking distance of 500 meters.

(B) Sanitation And Hygiene Education

4.5.3 This component involves provision of sanitation facilities in public institutions, including schools, health centres, and public places. Sanitation options will be limited to on-site sanitation systems, mostly improved traditional latrines with sanplats and VIP latrines for schools, health centres and public places. At the household level the programme finances hygiene education and sanitation improvement promotion activities aimed at promoting households constructing improved sanitation facilities. The program aims to increase the percentage of rural population served from the current 13% to 33% in 2010 and 60% by 2015. The programme involves construction of 3600 latrines in schools, health centres and public places, and hygiene education and improved sanitation promotion leading to more than 440,000 households to construct their own latrines.

4.5.4 The sanitation and hygiene education activities involve (i) the design and implementation of sanitation and hygiene education awareness campaign integrated with WSS investment programmes aimed at improving personal and environmental hygiene. The Sanitation and Hygiene Education Programme will be developed and implemented in close collaboration with the ministries of health, education, and community development. At district level these institutions already collaborate in water and sanitation programmes through the WASHE framework. The program will build on the existing capacities by integrating WASHE public education functions under the program.

(C) Institutional Support and Capacity Building

4.5.5 This component comprises sector development activities to promote the overall sector policies and activities and capacity building at the national or central government level and the district local authorities. The details of the activities are provided below.

(C.1) WSS Policy and Legal Framework Review and Development

4.5.6 This activity will involve a review of all existing policies and strategies for the development of rural water supply and sanitation to be in line with decentralization by devolution. Particular focus will be paid to elaborating policy on sanitation and regulatory framework for the enforcement of standards, clarification of roles and responsibilities at national, district and community levels, and definition of WSS service levels. Following the approval of the revised WSS policy by government, the legal framework will also be revised to give effect to the new policy. The review processes will be supported by short-term local and international consultants. The policy and legal framework review will lead to a comprehensive Water Supply and Sanitation Policy Framework that gives clear direction and well defined roles and responsibilities on the development and management of WSS sector in Zambia.

(C.2) Institutional Development

4.5.7 The program has a number of institutional development activities to facilitate successful implementation of the NRWSSP and the long term sector sustainability. The activities will lead to MLGH and local authorities (districts) to have sufficient capacity to facilitate and deliver RWSS services more effectively. These include:

(i) Capacity building for MLGH: In order to strengthen the water supply and sanitation functions within MLGH the program will assist with the strengthening of the RWSSU within the ministry. The RWSSU is to be upgraded to a section -RWSSS and will be provided with TA to build the capacity of the section to be able to implement the programme as well as play the long term role of policy development, development of standards and guidelines, mentoring and supporting of DLAs, coordination of sector activities, resource mobilisation and quality assurance. The TA is managed as a pool with a lead long term Program Management Advisor and a long term Financial Management Advisor supported by short-term inputs as required and be integrated in the national sector plans and budgets through pooled funding at the MLGH. The TA will work with government counterpart staff and not be used as gap fillers.

(ii) Development of a Sector Wide Approach (SWAp) for RWSS sub-sector: The programme will include support to MLGH to formalize mechanisms for sector coordination that will facilitate the RWSS SWAp.

(iii) Capacity building for local authorities: This involves training and provision of equipment and tools necessary for effective planning and implementation of RWSS activities by the LAs with full involvement of communities. Staff of the LAs will be trained in water and sanitation planning, community development and facilitation, health and hygiene promotion, and project management. Districts will be equipped with water quality testing kits and trained to carry out water quality monitoring. In addition, office equipment and transport will be provided to facilitate implementation of program activities by the LAs. The LA will appoint a focal person to be in charge of RWSS activities. TA to LAs will be provided through Area Support Teams of NGOs and/or Consultants. Training and capacity building in the areas of procurement and financial management will be closely coordinated with the capacity building undertaken as part of the DIP.

(C.3) Information Management

4.5.8 MLGH will be assisted to develop and maintain a comprehensive national and district based RWSS Information Management System (IMS) providing up-to-date information for national and district levels planning, monitoring and decision-making purposes. Activities will include: (i) establishing a national inventory of WSS facilities throughout the country (ii) design and implement the RWSS IMS with links to district and national level; (iii) equip DISS and district authorities/councils with the necessary equipment and facilities to enable them manage the IMS at the various levels; (iv) develop a monitoring and evaluation (M&E) system which is gender sensitive; and (v) training of district level staff to manage the installed IMS.

(C.4) Development of Operation and Maintenance System and Spare Parts Supply Chain

4.5.9 The program will support the development of an O&M policy complete with manuals and guidelines for the various types of WSS facilities, and spare parts supply chain. The activities include: (i) design, resourcing and implementation of multi-tier maintenance systems appropriate to local conditions and technologies; (ii) development of maintenance manuals appropriate to specific geological conditions and technologies in each province; (iii) investigating and development of supply chains and market structures to ensure attractive operating environment for the suppliers of spare parts for WSS facilities in rural areas; (iv) design and implementation of skills training courses to suit local conditions and technologies in specific regions. As part of the program, the executing agency (MLGH) supported by JICA is currently piloting O & M approaches in selected districts.

4.5.10 The program will disseminate supply for and launch the completed program including support to establish of the supply chain and follow up of the O&M training and promotional activities at community and district levels leading to 70% - 80% of rural water supply facilities operational all the time.

(C.5) Gender Mainstreaming and Sensitisation:

4.5.11 At the national or central level (MLGH), the programme provides for gender related short term training, national networking and coordination activities, monitoring and follow-up visits, and regional study tours for the gender expert, the HIV/AIDS focal person, and other related staff in RWSSU. Furthermore, the Programme will support the finalisation, national consultation forum and the eventual dissemination of the National Gender Strategy for the Water and Sanitation Sector. Moreover, the programme will support RWSSU to ensure that the information database, monitoring and evaluation systems, and reporting frameworks developed under the programme are gender sensitive, with relevant reporting on the identified gender specific indicators.

4.5.12 The NRWSSP provides for gender mainstreaming training of local authority officials and district staff, as well as members of the V-WASHEs, D-WASHEs, councillors and community members in order to promote gender awareness and increase women's participation including developing women's leadership capacities at all levels of the water supply and sanitation programme. This training will be done using the gender training modules developed under the programme. The RWSSU gender focal person will be responsible for ensuring implementation of the respective training and will monitor and guide the trained staff in implementing the new knowledge in the various Programme activities.

(C.6) HIV/ AIDS and Malaria:

4.5.13 The programme will also support HIV/ AIDS and awareness raising campaigns and training of voluntary counsellors from amongst peers and the stakeholders such as within the communities, women focal persons, the contractors, as well as other stakeholders who may be later identified¹. These activities will be planned and implemented by specialised service providers such as NGOs under the supervision and guidance of RWSSU gender expert and in collaboration with the National AIDS Council (NAC). The programme will also support awareness raising and promotion of Insecticide Treated Bed-nets as a means of protection against malaria.

¹ The training and advocacy material already exists from NAC and Ministry of Health and will be used in the delivery of the campaigns. No new material will be developed for these activities under this project.

(C.7) Community Development and Capacity Building

4.5.14 Under the new RWSS institutional framework, planning and budgeting for rural water supply and sanitation will be based on a ‘bottom-up’, community- and demand-driven system originating in “V-WASHES”, which are sub-committees of Village Development Committees. The Community Development and Capacity Building sub-component of the program will include community sensitization, awareness raising, organization and training and capacity building in water supply and sanitation services to enhance the community’s decision making and management capacities, aimed at facilitating the choice of technology based on informed analysis of costs, affordability and suitability for the environment, improving the rural population’s hygienic behavior, encouraging households investment in hygienic latrines and improved management of water and sanitation facilities. In the initial stages of the program when capacity building within the LAs is still at its infancy, a key activity will be training and equipping of extension staff with participatory tool kits to enable them implement gender sensitive community facilitation and training activities.

(D) Program Management

4.5.15 Program management involves the support to the central and local authority institutions as well as the logistical and office equipment support required for the implementation of the program. The institutions involved are the MLGH, MCDSS, MOH, MOE, ECZ, the Provincial and DLA institutions and extension staff offices at ward and health centre catchment levels. Program management support includes, cost of technical assistance, institutional support, allowances, office operation, office equipment and furniture. Program support also includes costs for annual technical reviews and other meetings i.e. inter-ministerial steering committee and district coordination meetings required for during implementation.

4.6 Program Planning, Implementation and Monitoring

4.6.1 The NRWSSP will be implemented as described in Annex 3A using manuals and guidelines developed by MLGH, MOH, MCDSS and MOE.

4.6.2 During phase I of the NRWSSP it is envisaged that prior to start up of activities in a district a detailed capacity needs assessment will be carried out and based on this, technical assistance (mainly on the job training support) will be provided to districts through area/regionally based support teams consisting of Consultants/NGOs.

4.6.3 The implementation of the program adopts demand responsive approach. In line with this approach planning for water supply and sanitation is bottom-up, starting at the community level through the V-WASHES, and is coordinated at local government level through the D-WASHE to national level. Communities identify water and sanitation sub-projects (sanitation improvements, rehabilitation of boreholes and construction of new water points) submit their proposals to the ADC which in turn compiles them and submit them to D-WASHE; that forwards to DDCC for analysis and submitted to the full council by the technical sub-committee of council responsible for works and development. The DLA plan is submitted for funding to the Central Government. It emphasises the empowerment of the rural population to take charge of their RWSS services, by providing them with skills development training, hygiene education, and technical support which will create the enabling environment for the communities to take on the responsibility for these services by themselves. In this sense, communities have to play a major role in the design, implementation, and the sustainability of interventions under the program.

4.6.4 To be included in the NRWSSP, a community sub-project must pass the LAs approval process. The RWSS focal person together with the Planning Committee of the Local Authority is responsible for the prioritization and selection of RWSSP activities in each LA. The prioritization and selection criteria are summarized in Table 2 of annex 3. The criteria include level of poverty, coverage of water supply and sanitation services, incidences of water and sanitation diseases, the community's preparedness to contribute, and proportion of community supporting the request.

4.6.5 For operation and maintenance of facilities the program promotes a community based management system. Communities are sensitised, facilitated and mobilised to set up V-WASHES and establish O&M plans; women will constitute at least 30% of the V-WASHE members. Local artisans (Pump minders) are trained, of which 50% are women, for repair of water supply systems. The program promotes the set up of spare parts distribution systems at Water Utilities where these exist or through the LA or private entities. The program promotes post construction follow up and continuous monitoring to ensure that deficiencies are corrected.

4.7 Environmental and Social Impact

4.7.1 The programme is classified in the ADB environmental and social category 2 as its nature responds to the ADB Environmental and Social Guidelines criteria defining category 2 projects: 1) rural water supply and sanitation; 2) Small-scale rehabilitation of water points and sanitation; 3) projects contributing to poverty reduction and to HIV/AIDS prevalence reduction; 4) Women are the major targets of the program.

4.7.2 The village level sub-projects to be funded under the programme that will be designed following requests by communities will be small in size and are likely to have limited adverse environmental and social impacts. Also the individual sub-projects have not yet been identified which prohibits any project specific environmental impact assessment at this point in time. Environmental and social impact assessments will be carried out as sub-projects are prepared. Considering the small size of many of the expected sub-projects it would not be required to carry out ESIA for each of them as per ADB and country procedures. However because of their numbers and the potential cumulative impacts an alternative environmental and social review template is tailored and designed to respond to the specific requirements. The program supports the mainstreaming of environmental and social streamlining for sub-projects.

4.7.3 Social impacts are expected to be positive, especially the gender aspects, as women are the key stakeholders for water and sanitation. The program as outlined in section 4.5 is gender responsive and is aimed at improving health by providing safe, well distributed, and sustainable drinking water sources, improving hygienic behavior and environmental hygiene.

4.7.4 Measures for adverse impacts mitigation and positive impacts maximisation and their costing will be determined from the conclusions of the environmental and social review of the sub-project proposal and will be implemented along with the sub-project. The review will indicate what needs to be monitored and how. The local population will be the principal actors of the design of the request as well as for the environmental review. This approach is beyond mere consultation.

4.7.5 The environmental concern is therefore focused on precautions to protect the water resources from pollution by latrines, animals, etc. Hygiene focuses primarily on protection of water point sources from pollution, mishandling, and degradations as well as on handling of drinking water from source to the point of consumption as well as safe excreta disposal.

4.7.6 The water points will be designed and constructed in such a way as to ensure proper drainage of wastewater, preventing water stagnation and avoiding the risk of groundwater/water points' contamination by pit latrines and development of breeding grounds for mosquitoes, flies and other insects. Such care reduces the transmission of water borne diseases such as malaria and diarrhoeas, and contamination from animals, and improves hygiene. The capacity building and sensitisation component will raise local communities' awareness on the environmental health hazards associated with water infection and poor drainage, the need to keep the facilities clean and, the importance of "safe water chain" from the sources to the mouth (point of drinking). People will also be advised against utilizing the same water points for both livestock and human. As well, perfectly known good practices for designing and implementing sanitation facilities will be used to protect water points, groundwater and populations' health. A brief water point design guideline is attached to the template for use at village level.

4.7.7 However despite the unlikely risk of severe adverse impacts, a close review of the potential impacts on surface and groundwater resources will be done at each site for both water points and sanitation facilities. Also human health risks such as contamination of the water resources and proliferation of disease vectors will be assessed (i.e.: malaria with stagnant waste waters, contamination related to mishandling of domestic water, etc...). The environmental template is designed in such a way that most of the potential risks are taken into account.

4.7.8 The environment and social streamlining component of the sub-projects will be implemented along side with other project components by the Local Authorities under the supervision of DISS, and the Environmental Council of Zambia. Village Development Committees and Local Authority Officials responsible for the sub-projects and DISS are charged with environmental monitoring of the program, with support from ECZ.

4.8 Cost Estimates And Financing

Cost Estimates

4.8.1 The overall cost of the National Rural Water Supply and Sanitation Program 2006-2015 is estimated at US\$ 292 million. The total program cost consists of Water Infrastructure Development (70.2%), Sanitation and Hygiene education (10.3%), Institutional Support and Capacity Building (IS and CB) (9.2%), and program management (10.3%). The National Program is to be implemented in two phases – I (2006-2010) and II (2011-2015).

4.8.2 The total cost of Phase 1 of the program for the period 2006 to 2010 is estimated at USD 116 million, equivalent to UA 77.4 million. The summary of NRWSSP Phase 1 cost estimates are provided in Table 4.2 below. These cost estimates are derived from the NRWSSP based on a set of technology choices, population of the community to be served, and unit rates obtained from suppliers and contractors, as well as from experience of ongoing activities in the rural water supply and sanitation sub-sector.

Table 4.2 – NRWSSP Phase 1 Cost Estimates by Component (Thousands)

Component	In US			In UA			%
	FC	LC	Total	FC	LC	Total	
Water Infrastructure Development*	56,856	24,367	81,222	38,051	16,308	54,359	70.2
Sanitation and Hygiene Education*	5,982	5,982	11,964	4,004	4,004	8,007	10.3
Institutional Support and Capacity Building	4,237	6,355	10,592	2,836	4,253	7,089	9.2
Program Management	5,960	5,960	11,920	3,989	3,989	7,978	10.3
Total	73,035	42,664	115,699	77,433	48,880	77,433	100
	63.1%	36.9%		63.1%	36.9%		

* These estimates include the cost of streamlining environmental and social issues (about 3%) during the implementation of the different sub-projects.

Source of Finance

4.8.3 Phase 1 of the national program is being financed by GRZ, cooperating partners, and NGOs on parallel financing. Table 4.3 below presents the funding required and sources of funding for the Phase 1 of the program.

Table 4.3 Financing of NRWSSP Phase 1 (UA million)

	Amount	%
Funding Required	77.4	
Source of Funds		
Communities	3.9	5.0
NGOs	3.3	4.3
DANIDA	12.0	15.6
UNICEF	12.0	15.6
IrishAid/Government of Netherlands	4.8	6.2
Government of Germany	13.1	16.9
JICA	2.2	2.8
World Bank (Institutional Support)	0.7	0.9
ADF	15.0	19.4
GRZ	10.3	13.3
Total Funds	77.4	100.0

4.8.4 As shown in table 4.4 above, GRZ contribution is currently estimated UA 10.3 representing 13.3%, and the communities will contribute not more than 5%. The beneficiary communities contribution is mostly in kind in the form of provision of labour and/or local materials. The proposed contribution by the communities is in line with the experience of similar activities in the sector.

4.8.5 The Bank will provide an amount not exceeding UA 15 million to finance the program activities in the LAs in Northern and Luapula provinces, as part of the NRWSSP Phase 1. The cost tables and financing plan for the ADF financing are given in Annex 5, and the detailed cost estimates are provided in Annex 6.

5 PROGRAM IMPLEMENTATION

5.1 Executing Agency

The MLGH is the executing agency of the program. It will work closely with the MoFNP, MEWD, MOH, MOE, and MCDSS. The RWSSU unit within the MLGH will coordinate the program activities. It will monitor the progress of the program, the flow of funds and report on the achievement of performance targets. The MLGH will coordinate with the MoFNP for the funding aspects of the program, in mobilizing and channeling funds for the implementation of the program activities. The LAs are in charge of planning, managing, coordinating and implementing the RWSS activities in their areas.

5.2 Institutional and Implementation Arrangements

5.2.1 In line with GRZ policies, national objectives, and sector strategy, the LAs will implement the program activities throughout the country. This approach reinforces participatory approach in the implementation of the program. The RWSSU, within the MLGH coordinates the program activities and ensures linkage and synergies among the program activities and different sectoral policies.

5.2.2 The implementation of the program will use the existing institutions, notably the MLGH, MOFNP, MEWD, MOH, MOE, MCDSS and the decentralized structures with communities playing a leading role in the identification, planning and implementation of their schemes. At national level, the MLGH will be responsible for implementing the program.

5.2.3 A Program Steering Committee (PSC) comprising of representatives from the MLGH, MEWD, MFPED, MOH, ME, MCDSS, and the lead cooperating partner in the sector as well as representatives of districts will be established to provide overall guidance in the planning and implementation of the program. The steering committee for the Central Province Rural Water Supply and Sanitation Project (CPRWSSP) will be transformed into a national PSC. The PSC will provide overall guidance in the implementation of the program. Key functions of the PSC include: overseeing the implementation of the National RWSSP, facilitating learning between the area based activities, approval of program operational guidelines, review and approve annual work plans and budgets, and assess program performance through its quarterly progress reports, annual reports and audit reports. The transformation of the existing Central Province RWSSP Steering Committee into a national PSC will be a condition precedent to first disbursement.

5.2.4 The RWSSU serves as the Program Implementation Team (PIT). The PIT coordinates all the activities of the program. The RWSSU consists of six professional officers (head of the unit, Rural WSS Engineer, Monitoring and Evaluation Officer, Sociologist, Public Health Officer and Documentation and Communications Officer), who are to be fully integrated civil servants of the DISS. It is recognized that the RWSSU has capacity constraints and could not cope with the activities of the program. Therefore a TA team comprising of Lead Program Manager, Water and Sanitation Engineer, Financial Expert and Water and Sanitation Policy expert is to assist the PIT. The TAs will be gradually phased out after strengthening of the RWSSU. Key functions of the PIT include, preparation of the annual national program and coordination of implementation activities, administration of program accounts and ensuring speedy disbursement of funds as per the approved budget and work plans of the LAs, monitoring the replenishment of special accounts and release of funds to the LAs, providing

adequate financial and procurement guidance to the LAs, serving as information clearinghouse for the program and disseminating the program operation reports to all stakeholders, establishing and maintaining a computerized database on program activities and statistical data, and commissioning studies aimed at compiling tested and working approaches for water services delivery, and to assess the impact of the program on target beneficiaries. The integration of the staff of the RWSSU within the DISS before 30 June 2007 will be one of the other conditions of the ADF Loan.

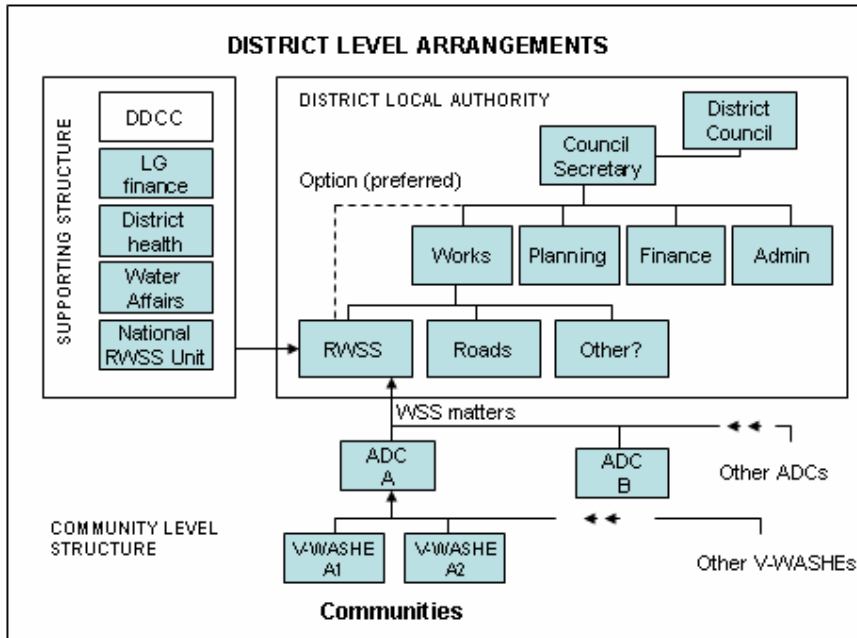
5.2.5 At the LA level the implementation of the program will adopt the existing strategy of the WASHE concept, i.e. integrated development of water, sanitation, and health education. Each LA is responsible for the planning and implementation of infrastructure and sector development activities within the District. The LAs, through the respective focal person for rural water supply and sanitation activities /D-WASHE, will be responsible for the review, approval, and consolidation of Area Development Plans, procurement, monitoring and supervision of water supply and sanitation development.

5.2.6 Technical assistance will be provided at the district level to provide support for (i) capacity development within the districts and (ii) implementation of program activities, particularly in planning, procurement, monitoring and supervision during the initial stages of the program. The area based TA team, will assist the LAs in the implementation of the program activities in their respective areas. The area based TA team will comprise of six professionals (a program manager, water resource expert, sanitation expert, procurement expert, financial expert, and community development expert). The role of the area based TAs will diminish as capacity is improved within the LAs. It is envisaged that the area based TA teams will comprise NGOs and/or consultants recruited by DISS.

5.2.7 At the community level, the Village Water, Sanitation and Health Education Committee (V-WASHE) or existing community development organization will be responsible for community mobilization and demand driven planning, collection of user charges, operation and maintenance of water points. At ward level the area development committees, comprising of extension staff (community development assistants, environmental health technician), consolidate and prioritize the water supply and sanitation related plans and activities.

5.2.8 The provisional implementation arrangement at LG level is as shown in the diagram below.

Figure 5.1 Local Authorities Institutional Arrangements



5.3 Supervision and Implementation Schedule

The activities under the first phase of the program will be implemented over 4 years, 2007 to 2010. The Bank will monitor its implementation through field supervision missions and participation by the Zambia Country office in the monthly Water and Sanitation Cooperation Partners informal Group (WSDPG) meetings, quarterly WSS sector meetings and the annual joint GRZ/development partner review meetings. The detail of the implementation schedule is provided in Annex 9 of this report, while the tentative key milestones are presented below:

Loan Approval	November 2006
General Procurement Notice	November 2006
Signing of Loan Agreement	December 2006
Disbursement of Funds	March 2007 – June 2010
Mid-Term Review	June 2008
Completion of the phase	December 2010

5.4 Procurement Arrangements

5.4.1 Procurement activities of the Program will be carried out by the Central (MLGH) and DLAs. Goods, works and services for the various components of the Program will be procured using the modalities summarised in Table 5.2 below.

Table 5.2 - Summary procurement thresholds

Category	ICB	NCB	Shortlist	Other
Civil Works	> UA 1.00 million	Between UA 0.10 million and UA 1.00 million		Simplified bidding or Direct shopping: < UA 0.10 million
Goods	> UA .50 million	Between UA 0.10 million and UA .50 million		Simplified bidding or Direct shopping: < UA 0.10 million
Consulting Services			> 40,000 UA	Limited selection, Simplified bidding or Direct selection: < UA 40,000
Miscellaneous				Limited selection, Simplified bidding or Direct selection

5.4.2 Procurement using ICB procedures shall be carried out on the basis of the financiers' Rules and Procedures, while for procurement using other procedures, the national procedures will be applied, taking into account the requirements of the financier's procurement rules and procedures.

Financial Thresholds

5.4.3 To ensure accelerated delivery of the Program, procurement will be organized on the basis of the financial threshold itemized in Table 5.2. Procurement of consultancy services, including the technical support team will be by short listing. The procurement of works for sanitation, wells and springs will be by simplified bidding and procurement of services for community mobilization will also be by direct negotiations. Beneficiary communities will be involved in the procurement of all works and services for the respective communities.

Procurement Packaging

5.4.4 Procurement under the Program will involve into major groups: (i) large bulk procurement of goods and works; and (ii) smaller individual contracts.

5.4.5 The detailed procurement table for ADF financing is presented in Annex 7.

5.5 Disbursement Arrangements

5.5.1 The ADF Loan will be disbursed using the Direct Disbursement and the Special Account methods of disbursement. Disbursements for major contracts procured through International Competitive Bidding (ICB) or National Competitive Bidding (NCB) with value above UA 250,000 will be through Direct Disbursement, in accordance with Bank Group rules. Disbursements for the other contracts valued below UA 250,000 or other activities involving monthly payments or payments in amounts of less than UA 20,000 will be paid using the Special Account method. As a condition precedent to first disbursement, the executing agency will open a Special Account in foreign currency at a bank acceptable to the ADF for the ADF loan.

5.5.2 The use of the Special Account to disburse funds to the Local Authorities (LAs) will adopt the proposed arrangement of the NRWSS Program, whereby funds will be transferred to the MLGH and the LAs accounts. In line with the established funds flow channels of the Government of Zambia, the resource allocations to the LAs will be made according to the Government's formula. A system of Special Accounts will be operated at the national and LA levels, and reimbursements will be authorized based on Statements of Expenditure.

5.5.3 Proceeds from the ADF Loan shall be deposited in a separate Special Foreign Currency Accounts (FCA) to be opened at a Bank acceptable to the Bank and co-managed by MoFNP and MLGH. A corresponding Local Currency Account (LCA), also co-managed by MoFNP and MLGH, will be opened at the same Bank for transfer of funds from the FCA to cover eligible expenditures in local currency (ZK), and for the purpose of transferring funds to the various LAs. Funds will be transferred to the LAs to finance eligible expenditures, based on the approved annual work plans, budgets and procurement plans. Each of the LAs will submit regular reports on the utilization of the funds to the MLGH for consolidation.

5.6 Monitoring and Evaluation

5.6.1 In accordance with the proposed framework for the National RWSS program, MLGH in collaboration with the LAs has the overall responsibility for monitoring the implementation of the program. DISS (within MLGH) will compile and submit to GRZ and its cooperating partners, including the Bank, quarterly progress reports, and half-yearly RWSS Monitoring Reports for activities of the program. These reports shall include information on environmental assessment, monitoring and mitigation measures taken on sub-projects implemented under the program. In addition, MLGH will perform annual tracking studies for RWSS to track the flow of funds, assess compliance with established regulations and procedures; assess the performance and efficiency of LAs procurement systems, and make appropriate recommendations.

5.6.2 The activities of the NRWSSP shall be monitored and evaluated using participatory Monitoring and Evaluation framework that will be applied to all the NRWSSP activities in the country irrespective of financier. The comprehensive M&E system is currently under development as part of the NRWSSP. As part of development of the NRWSSP a preliminary set of monitoring indicators was included in the logframe of the program. The NRWSSP annualized performance indicators and targets are provided in Annex 3B. The targets are not entirely static and can be revised by the Program Steering Committee.

5.6.3 The national RWSS performance indicators shall be used as means of monitoring sector performance, thus the impact of the program. The M&E system has two tier - National level and LA level monitoring and evaluation frameworks. The M&E framework shall comprise a detailed list of indicators for village, LA, and national level activities, including a) assessment of the effect on improving the health and productivity of the population linking to the FNDP themes of reducing Infant and Maternal Mortality rates through health records by MOH, b) measuring the achievement of water quality standards and per capita consumption of water, c) measuring the access rate of people with access to safe water to improve from 37% in 2006 to 55% in 2010 and 75% by mid 2015, and for sanitation, access to increase from 13% in 2004 to 33% by 2010 and to 60% by 2015, d) participation of women in water and sanitation management committees comprising at least of 30% women, e) assess whether investments in the sector are delivering the results that MLGH/DISS and its partners are supporting, the implementation of NRWSSP in line with national policies and ensuring the adherence by district authorities of performance standards, and f) number of water points constructed, functioning and with adequate O&M by the communities.

5.6.4 The indicators and targets are not entirely static and can be revised by the NRWSSP Steering Committee and the Sector Reviews. Some of the targets for equity, gender and community management capacity will be established after detailed studies as part of the inception/start up of the NRWSSP.

5.6.5 The ADF supported activities of the national RWSSP shall be monitored and evaluated as an integral part of the overall Monitoring and Evaluation framework which will be shared by all development partners and GRZ supporting the RWSSP. ADB will actively participate in the M&E of the program through field supervision missions and the Zambia country office by participating in the quarterly WSS sector meetings, and joint sector reviews.

5.7 Financial Reporting and Auditing

5.7.1 The MLGH shall be responsible for keeping original documents and maintain consolidated accounting records for all the funds received and disbursed in the implementation of the program. The LAs will also be responsible for ensuring compliance with the financial management and reporting requirements of the national RWSSP.

5.7.2 The DISS (under the MLGH) and the Implementing Local Authorities shall maintain separate records and accounts for the NRWSSP activities in order to permit identification of commitments and expenditures by category and financing source for all the Program components. The LAs will keep all original supporting documents at their level. The Program Manager will be responsible for maintaining the accounts and records of the program, preparation and submission of withdrawal applications and replenishments of the Special Account to the Bank.

5.7.3 Program activities, including the Special Account, will be subjected to annual technical, financial and management audits by independent firms appointed by the Government, and acceptable to the Cooperating Partners, including the Bank. These audits shall review the record-keeping, financial management, program management, procurement, disbursements and technical quality of the works. The audited financial statements of the overall program will be submitted to the Bank by the Government within six months after the end of the year.

5.8 Partnership and Aid Coordination

5.8.1 The NRWSSP is prepared by the MLGH with the support of the cooperating partners active in the sector. The Bank participated during the preparation of the rapid assessment of the RWSS and the preparation missions, in extensive dialogue with GRZ and the cooperating partners to discuss the Bank's RWSSI and the country's RWSS program. Meetings were held in Lusaka with development partners, including the World Bank, DANIDA, DCI, GTZ, JICA and other collaborating partners in defining the ADF's support to the implementation of the program.

5.8.2 Close cooperation is emerging among development partners active in the water supply and sanitation sector in Zambia. The development partners have formed an informal Water and Sanitation Cooperation Partners working group, which meets monthly. The development partners active in the water and sanitation sector have a rotating lead role. The GRZ together with the CPs (including the ADB) are developing the JASZ as a framework for a coordinated approach to support the country's development. The Bank has shared with the WSS sector working group, the implementation arrangement of the program.

5.8.3 A joint GRZ – cooperation partners’ coordination mechanism for the water and sanitation is developing to ensure harmony, avoid duplication, and facilitate effective and efficient utilization of available resources. The lead development partner in the WSS sector is responsible for sharing information among the development partners active in the sector and in endorsing all development activities for the sector in order to ensure conformity with existing policies and strategies. The proposed program has been endorsed by the water and sanitation informal working group and its implementation will also be subject to its review.

5.8.4 The MLGH and the steering committee of the NRWSSP will ensure coordination of all the activities under the program. Annual Joint Sector Reviews of the program will be undertaken by the Government and Cooperation Partners. Annual work progress will be assessed jointly, and the ADF will continue to take part in the joint reviews with the other development partners.

6 PROGRAM SUSTAINABILITY AND RISKS

6.1 Program Sustainability

6.1.1 The participatory nature of the program ensures the overall sustainability of the program. Communities are to take better care of services that they selected and contributed to the capital costs and responsibility for their O&M. Moving away from the project approach to program approach is enhancing sustainability through more efficient and effective use of human and financial resources. The implementation of the program will be based on a demand responsive approach whereby all the stakeholders, including the communities are involved to ensure a sense of ownership and commitment towards the program. In addition, the integrated approach to be adopted in the design and implementation of the program, which combines the provision of water and sanitation, sensitization and mobilization of the communities, by promoting the participation of the communities in the identification and implementation of the facilities in their areas enhance the sustainability of the services to be provided by the program.

6.1.2 The sustainability of the program also lies in the ability of the Government to engender ownership by the communities and LAs where the activities are implemented. The program supports decentralization and promotes the communities to be the real owners of the facilities provided under the program. The communities, equally represented by both women and men, will be actively involved in the planning, selection and implementation of the facilities thereby increasing the sense of ownership. The communities will contribute towards the capital costs of schemes in their respective areas. Through their gender balanced water user committees/associations, they will manage and fully cover their operating and maintenance costs, ensuring continued safeguarding of the installed facilities. They will also monitor and report through the LAs to the RWSSU on the status of their facilities. In addition, periodic supervision and monitoring by the DISS will ensure sustainability in the provision of quality services. The skills of staff at community and LA levels will be enhanced through capacity building, in management, operation and maintenance, to ensure institutional sustainability of the program.

6.1.3 Financial sustainability will be assured by ensuring that the overall least cost option, which takes into account both the investment and the O&M, are selected for the subprojects and making the beneficiary communities fully responsible for the operation and maintenance costs as well as the management of the services. MLGH supported by JICA is preparing a

national Operation and Maintenance Framework for RWSS. The adoption of the framework followed by all the communities fully adhering to its principles will enhance the sustainability of the program. The adoption of the framework will ensure that water user communities are in place and are appropriately trained, O&M funds are kept appropriately, and the communities are well sensitized. Furthermore, choice of technology will take into account affordability, O&M cost recovery and sustainability. Communities will apply the community based maintenance system, whereby water users are mobilizing water and sanitation associations to manage the operations and maintenance of their facilities and manage their funds.

6.1.4 Technical sustainability of the program is assured through the use of simple technologies for which the relevant technical expertise exists in the country. In addition, there will be training of community representatives and local service providers in operations and maintenance of the selected technology options. Environmental sustainability will be assured by mainstreaming that all negative impacts of subprojects are identified and addressed as part of sub-project implementation activities. The program will make use of the community development plans to identify and assist the poorest of the poor access their basic needs for water and sanitation services.

6.2 Risks and Mitigating Measures

6.2.1 The many new and inexperienced staff at the National and LA level poses a risk to the timely implementation of the program which can lead to delays and the failure to fulfill the MDGs and the program targets. The risk is reduced by the high level of capacity building for government institutions at the Central and LAs level, and for beneficiary communities and artisans during the early stages of the program implementations.

6.2.2 A major issue surrounding operations and maintenance of rural water supply and sanitation functions is that no proper maintenance systems for rural water supply has been established in most of the rural areas in the country. This risk is being mitigated in the program, by the preparation and adoption of the national O&M framework for water supply and sanitation, as part of the priority outputs of the national RWSSP.

6.2.3 Another potential risk of the program is related to the timely mobilization of communities and ensuring their willingness to contribute financially or provide labor and local materials for the program. However, this risk is minimized through community mobilization and participation which is designed to encourage the involvement of the communities in the identification/selection of the activities in their areas as well as by helping them in establishing community based water and sanitation committees/associations. The existing WASHE concept will also be integrated into the implementation of the program, as the members of the D-WASHE will eventually be staff of the LA and reporting to the LAs in the long-term.

6.2.4 A survey conducted in May 2006, on the LAs capacity in procurement and financial management, revealed that there is a serious concern in the financial and management capacity of LAs. This poses a major risk in the operation of special accounts and procurements, which might affect the achievement of the objectives of the program. The program will address this potential risk by ensuring that the DISS and participating LAs are supported with procurement and financial management expertise and counterpart staff are attached to the TAs and training is provided to the concerned staff at the central and LA levels.

6.2.5 **Affordability and Willingness to Pay:** Beneficiary communities are required to contribute to the installation and maintenance costs of the physical components. The average contribution is estimated to be US\$9.00 per household, and will mostly be in the form of local materials and labour. This would not impose undue burden on the population. With respect to maintenance costs, beneficiary households are expected to contribute less than 1% of the average annual income to maintain the facilities. This will be in the range of \$10 - \$12 per household per year in the case of the most expensive option (boreholes with hand pumps). Experience from similar projects in the country demonstrates that beneficiary communities that are well sensitized on project benefits readily contribute labour and local materials during construction and are able to mobilize contributions for maintenance.

7 IMPACT EVALUATION

Socio Economic Impact

7.1 The proposed programme will generate positive impact, which will enhance the livelihood and well being of the target population. Readily accessible potable and affordable water for domestic use, especially to the rural population has been proven by many studies to have a direct impact on human health and an indirect one on labour productivity. Equitable and readily available water will also reduce the burden of women and children who are usually responsible for collecting water in rural areas.

7.2 The first phase of the program will make potable water accessible to an estimated 2.25 million people by 2010, and assist them to construct improved sanitation facilities. The provision of water supply and sanitation services will impact positively on the other MDGs, such as reducing poverty, improving health, promoting gender equity, etc. Studies have shown, for example, that the provision of clean water and improved sanitation could reduce water-borne disease by 30% among the affected population.

7.3 Another important impact of the program is the improvement of skills in community planning and maintenance culture among the population, in addition to development of artisan skills and income opportunities for pump menders in the rural areas. This new approach will have a significant impact on the sustainability of the sub-projects, particularly in terms of the feeling of ownership, local acceptance and responsibilities as well as the function and use of water supply systems and the willingness to pay.

7.4 Direct benefits of the program quantified for the purpose of an economic analysis are the health benefits, and the time savings in fetching water. As a result of their improved health conditions, the population will be able to engage more effectively in productive activities. Moreover, household incomes and time that would otherwise be spent treating or caring for the sick will be freed for other basic needs, or for investment in education and new income generating activities.

7.5 The benefits of the program are assessed by computing the Economic Internal Rate of Return (EIRR) for the program. This is done by quantifying the benefits identified in section 6.4 above. The assumptions for the analysis are given in Annex 10. The analysis focuses on Phase 1 investment activities. The results give an EIRR of 26% which is higher than the economic cost of capital taken as 10% for Zambia. This result shows that the program is economically viable and would compete favourably with other public investment programs in the country.

8 CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

8.1.1 The RWSS Program in Zambia will assist the government to achieve the water and sanitation related MDGs by increasing the access rate for water supply and sanitation from the current level of 37% and 13%, respectively, to 55% and 33% by 2010, which will increase further to 75% and 60% by 2015. The ADF supported program activities in the Local Authorities of Luapula and Northern provinces will increase their access rate to water and sanitation from about 20% in 2006 to 75% for water and 60% for sanitation by 2010. The capacity of the LAs and other key actors (private sector contractors, consultants, and artisans) will also be strengthened. It would also leave communities better organized to manage their own water and sanitation services in a more sustainable way. The Program is technically feasible, economically viable, environmentally sustainable and provides socio-economic benefits.

8.1.2 By increasing awareness of hygiene and health issues leading to improved hygienic behaviors and sanitation practices, the program will also help reduce the incidence of water borne diseases and associated high health care costs. The program will also impact positively on the achievement of other MDGs such as reducing extreme poverty and hunger, promoting gender equity and empowerment of women, reducing child mortality, improving maternal health and combating malaria and HIV/AIDS.

8.1.3 The proposed Bank support will enhance development impact as it will contribute to the development of the sector and improve the sustainability of previous Bank financed activities in the water sector. The program is consistent with the priority sectors for GRZ's Fifth National Development Plan, in line with the proposed plans of the Joint Assistance Strategy for Zambia (JASZ – currently in draft form), and the Bank Group's development objectives in its Results Based CSP for 2006-2009. The program is also in line with the Bank's RWSSI to address the challenge of providing basic water supply and sanitation services to the bulk of the continent's population living in the rural areas.

8.2 Recommendations

8.2.1 It is recommended that an ADF Loan not exceeding UA 15.00 million be extended to the Republic of Zambia for the implementation of the RWSSP during 2007 to 2010 as described in this proposal, subject to the following conditions:

A. Conditions Precedent to Entry into Force of the Loan Agreement

8.2.2 The entry into force of the Loan Agreement shall be subject to fulfillment by the Borrower of the conditions set forth in Section 5.01 of the General Conditions Applicable to Loan Agreements and Guarantee Agreements of the Fund.

B. Conditions Precedent to First Disbursement of the Loan

8.2.3 The Borrower shall have, to the satisfaction of the Fund provided evidence:

- confirming the transformation of the existing steering committee to a national Program Steering Committee. The composition of the PSC should include senior officials from the following organizations: MLGH (Chair), MEWD, MoFED, MOH, MOE, MCDSS, representatives from the Provinces (para. 5.2.3); and

- opened a foreign currency special account for the loan proceeds, in a bank acceptable to the Fund and on terms and conditions acceptable to the Fund; (para. 5.5.1).

C. Other Condition of the Loan

8.2.4 The Borrower shall have provided evidence, to the satisfaction of the Fund, that not later than 30 June 2007 the staff of the RWSSU has been fully integrated into the MLGH (para. 5.2.4).

Map of the Republic of Zambia



This map has been prepared by the ADB Group’s staff exclusively for the convenience of the readers of the report of which it is attached. The denominations used and the boundaries shown on this map do not imply, on the part of the Group and its affiliates, any judgement on the legal suits of any territory or any endorsement or acceptance of such boundaries.

ZAMBIA: SUMMARY OF ON-GOING PROJECTS AS AT 28 AUGUST 2006

	PROJECT	APPROVED	SIGNED	EFFECTIVE	SOURCE	AMOUNT	DISBURSED	UNDISBURSED	DISBURSEMENT	DISBURSEMENT
									Ratio(%)	DEADLINE
	AGRICULTURE SECTOR									
1	Agricultural Sector Investment Program	17/12/1996	24/04/97	22/04/1998	ADF	15.000	8.00	7.00	53.33	31/12/2007
2	Small-Scale Irrigation Project	07/09/2000	06/02/2001	15/03/2002	ADF	5.290	1.14	4.15	22.55	31/12/2007
	Small-Scale Irrigation Project	07/09/2000	06/02/2001	15/03/2002	TAF	0.760	0.31	0.45	40.79	31/12/2007
3	Lake Tanganyika Integrated Regional Management Programme	17/11/2004	18/05/2005	-	TAF	3.26	-	-	-	31/01/2012
	Agriculture Marketing and Processing project	28/08/92	28/11/92	03/03/95	ADF	9.21	8.72	0.49	94.68	31/12/07
	Multi-Sector									
3	Support for Fiscal Transp & Accountability	28/06/2001	17/07/2001	2/10/2001	ADF	16.20	9.92	6.28	61.23	30/06/06
	Support for Fiscal Transp & Accountability	28/06/2001	17/07/2001	2/10/2001	TAF	0.53	0.50	0.03	94.36	30/06/06
	PUBLIC UTILITIES SECTOR									
4	Central Province 8 Centres Water Supply & Sanitation	17/12./2003	22/04/2004	16.12.2004	ADF	16.25	1.03	15.22	6.34	31/12/2010
	Central Province 8 Centres Water Supply & Sanitation	17/12./2003	22/04/2004	16.12.2004	TAF	5.78	0.09	5.69	1.56	31/12./2010
5	Victoria Falls Katima-Mulimo Project	01/12/1999	17/02/2000	01/12/1999	ADF	4.85	4.17	0.68	85.98	31/12/06
	Central Province Rural Water Supply	13/12/2000	20/06/2001	12/11/2001	ADF	12.41	8.18	4.23	65.91	31/12/06
	SOCIAL SECTOR									
6	Health II (Health Sector Support Project)	14/07/1999	01/10/1999/	01 /02 /2001	ADF	8.92	3.88	5.04	43.50	31/12/06
7	Education III	01/12/1999	17/02/2000	09/02/2001	ADF	8.50	5.36	3.14	63.06	31/12/06
8	Support to HIV/AIDS Control Program	25/04/2001	20/06/2002	20/06/2002	TAF	1.000	0.73	0.27	73.00	31/12/2005
9	Child Welfare Support project ²	13/10/04	-	-	ADF/TAF	13.66	0	0	0	-

² Project cancelled in December 2005

NRWSSP - Program Planning, Implementation and Monitoring

1 The overall mechanism by which Government allocates its resources is the Medium Term Expenditure Framework (MTEF). The MTEF sets sector and LA budget over a three year rolling framework, the 1st year being the annual budget. The level of expenditure is determined by the resource envelope. Government utilizes MTEF to allocate resources in line with spending priorities articulated in FNDP.

2 The activities in the annual cycle for identification and implementation of rural water supply and sanitation projects can be grouped into an eight stage process plus some continuous activities like monitoring and follow up support, which take place during all the stages of the project cycle. The stages and the activities are as shown in table 1 below

Table 1 - Activities in RWSS planning, implementation and monitoring

STAGE	ACTIVITIES
Stage 1 Preparation of community profiles and proposals	<p>Prior to this stage, DISS would have to hold preliminary meetings in all the selected districts to inform about the overall programme and annual allocations and criteria for project selections.</p> <ul style="list-style-type: none"> • LA staff will hold workshops and inform of all the features of the programme • ADCs hold meetings in all communities to inform of the possibilities offered by the NRWSSP • Community sensitisation through profiling, with special focus on getting women’s views and needs assessment (animated by ADCs) • Preparation of community profile, including priority needs identified by women • Communities that are interested in receiving support complete the application forms (available at the ADC and District Planning Unit) • Communities will present their profiles, completed application forms, which will include an indicative cost, operations, management and maintenance plan, to the Area Development Committee (ADC). • Other proposals from district departments would be received at the same time. These will include school sanitation and hygiene education (District Education Office) and, health centre sanitation and hygiene education (District Health Office).
Stage 2: Desk Appraisal of community proposals by District Planning Unit	<ul style="list-style-type: none"> • Compilation of community profiles and proposals, and other departmental proposals • Checking each proposal against agreed guidelines and criteria • Verification of any presented data against existing data base • Project applications will be prioritised and those meeting the criteria will be selected • Consolidation of appraised proposals for field appraisal
Stage 3: Field Appraisal by the RWSS focal officer with assistance from the D-WASHE	<ul style="list-style-type: none"> • Checking each proposal against agreed guidelines and criteria (socio-economic (inclusion of women’s needs), environmental, affordability, O&M, etc) • Verification of any presented data against existing situation on ground • Sample field survey to verify proposed interventions and budget modifications

STAGE	ACTIVITIES
Stage 4: Approval of WSS plans by full council	A consolidated WSS plan presented to a full council for approval; including a complete gender sensitization and HIV/ AIDS mitigation training activities; The full council will check the ranking for implementation and endorse the plans The full council may request for further appraisal of certain proposals The full council will approve the signing of the Memorandum of Understanding (MOU) between the community and ADC for community plan included in the District plan The full council will approve the signing of the MOU between the Council administration and relevant district department included in the district plan Selected communities will be informed on the outcome of a full council meeting and encouraged to start mobilising 10% cash contribution. For school and health water and sanitation, the school and clinic boards will decide how cash contributions will be mobilized
Stage 5 Submission for Acknowledgements and Funding to MLGH	The approved district plan is forwarded to DISS for inclusion in MTEF DISS will scrutinise the plans to ensure that they adhere to the national priorities and standards DISS will sign MOUs with district councils spelling out the targets and criteria for the utilisation of the approved allocation. DISS will request the MoFNP to release the allocation to the district for implementation of WSS projects, including gender and HIV/ AIDS training activities.
Stage 6: Implementation	Actual procurements (for feasibility, design, preparation of tender and contract documents, tendering, evaluation, etc) Procurement of supervising contracts. Preparation of monitoring systems
Stage 7 Construction	Mobilisation of available local construction materials by communities Mobilisation of contractors and consultants to site. Mobilisation of community project committees, with 50% women participation, responsible for monitoring. Procurement of hardware and software materials Actual physical works Community training in O&M, with 50% female participation, (create maintenance fund) Construction and completion reports
Stage 8 Post Construction	Handover to community O&M of facility Community, school and clinic hygiene education Project evaluation Review failed proposals and request for new submissions (link back to stage 1)
Continuous Activities	Follow up on community Monitoring and evaluation Gender sensitization and HIV/ AIDS mitigation training and follow-up on activities to be gender responsive.

3 The RWSSP activities are selected on the basis of the prioritization and selection criteria summarized in Table 2 below. The RWSS focal person in the LAs is responsible on behalf of the Planning Committee of the Local Authority.

Table 2- Prioritisation and Selection Criteria (to be agreed and formally endorsed by the Council)

Pre-selection Criteria		Source of information	Decision point or rating
Eligibility	Rural area	Official	Yes/no
	Poverty reduction focus area	Official	Yes – high priority

			No – low priority
	Prone to refugee influx	Official	Yes – high priority No – low priority
	Request presented	community	Yes/no
Coverage	High coverage	Official	Low priority
	Low coverage	Official	High priority
Vulnerability	Drought prone	Official	Yes – higher priority No – lower priority
	High incidence of water and sanitation related diseases	Govt. health data – MoH	Rank according to priority
Need	Adequacy of current sources of water – based on hardship (time and distance to collect water)	Community request	Rank on scale
	Why community would like assistance	Community request	Rank on scale
	Preparedness to contribute	Community request	Rank on scale
	Proportion of community supporting request	Community request	Rank on scale

4 Implementation using consultants/contractors is done by competitive bidding conducted by the Zambia National Tender Board (ZNTB) or District Tender Boards (DTBs). The community mobilization program ensures that communities are trained to manage the schemes before they are commissioned. Dedicated budgets for pre-construction and post construction community training, and for sanitation promotion are included and amount to 10% of the total NRWSSP budget.

NRWSSP - RURAL WATER AND SANITATION SUB-SECTOR PERFORMANCE TARGETS

Indicators			Theme	Target				
				2007	2008	2009	2010	2015
Main indicators								
1	% of people within 0.5 km of an improved water source	communities	Access/use water	40	43	47	55	75
2	% of improved water sources that are functional at time of spot-check	communities	Functionality	65	67	70	75	80
3	% of people with access to improved sanitation (household and schools)	Rural HHs	Access/use sanitation	15	18	23	33	60
	<i>Pupil to latrine/toilet stance ratio in schools</i>	Girls		45	39	32	25	25
		Boys		54	49	44	40	40
4	% of water samples taken at the point of water collection that comply with national standards	Protected	Quality water	95	95	95	95	95
5	% of people with access to and using hand-washing facilities	Households	Access/Use hygiene	10	14	20	23	50
		Schools		50	60	75	85	90
6	% of water points with actively functioning V-WASHE Committees		Community management capacity				95	95
7	% of V-WASHE Committees with women holding key positions	communities	Gender					
2	% of people that use improved sanitation (households and schools)	Households	Use sanitation	12	16	21	25	54
		Schools		66	73	81	90	95
6	% of sector annual approved budgets that is actually spent on water and sanitation investment programmes		Management					
7	% of staff positions in central and local government that are filled	Central Authorities	Management				100	100
		Local Authorities					100	100
Operational level indicators								
1	% new water and sanitation facilities built vs plan	communities	Quantity	80	90	100	100	100
2	Average total time in minutes to collect the daily water for the household (from all sources)	communities	Management	60	52	37	30	20
3	% of V-WASHEs where at least 30% of members are women	communities	Gender				100	100

Technology Choices for Rural Water Supply and Sanitation

Technology choices for water and sanitation infrastructure are listed in the table below and are based on effective community demand, taking into account the ability of women and children to operate and maintain the schemes. Additionally, this will be supplemented during mobilization by hygiene education in schools, health centres and other public places.

Technologies for RWSS

Technology	Extent of Application
Water Supply	
Personal well	Dominant in the well watered Northern and Luapula provinces. In relatively drier areas, wells are communal.
Protected spring	Not widely applied, but common in Northern Provinces and part of Central Province.
Hand dug well with bucket and windlass	Together with personal wells (which are also presumably hand dug) this technology dominates in Northern and Luapula Provinces. In the remainder of the country hand dug wells are widely used; more than 40% of all water points use this technology.
Hand dug well with hand pump	About 17% of water points in Central Province use this technology. Not widely used elsewhere.
Tube well with hand pump	About 6% of water points in North West, Northern and Copperbelt provinces use this technology. Not used much elsewhere.
Tube well with bucket & windlass	Very small level of application.
Jetted well with hand pump	16% of water points in Western Province use jetted well technology. Not widely used elsewhere.
Borehole with a hand pump	About 13% of all water points use this technology, with the proportion being higher in the drier Southern and Central Provinces.
Windmill	4% of water points in Copperbelt Province are fitted with windmills. Not widely used elsewhere.
Sanitation	
Flush toilets	Not cheap and require water. Not affordable for majority of rural community
Ecological sanitation	Not cheap and requires skilled labour. No water needed, but requires spread of ash after each use No smell or fly nuisance. Sensitization campaign required to remove traditional and religious barrier and to ensure proper use.
VIP latrines	Built with permanent materials, with a vent pipe to eliminate smells and flies. Require skilled labour. Need no water. Not cheap. Currently recommended as the safe sanitation option for rural areas in Zambia
Sanplat Pit latrines	Do not need water. Cheap to construct but require a tradesman. Slab more durable and safer
Traditional pit latrine	Simple and cheap to construct. Do not need water for operation. Have smell and fly nuisance. Limited lifespan.

**ZAMBIA: NATIONAL RURAL WATER SUPPLY AND SANITATION PROGRAM
COST ESTIMATES AND EXPENDITURE SCHEDULES FOR ADF FINANCING**

1 The ADF funding will cover program activities in 15 Districts (3 in Luapula Province and 12 in the Northern Province) and will entail rehabilitation of 777 water points, construction of 1,876 new water points, about 747 sanitation facilities for schools, health centres and for public places such as markets; as well as sector development activities at district level and program management. The ADF support will also ensure that women comprise 50% of the V-WASHES, 30% of the D-WASHES, 50% of all participants in the training of water and sanitation infrastructure operations and management, and 25% of all artisans trained in construction of latrines.

2 The cost of the ADF supported program activities in Northern and Luapula Provinces is estimated at US\$ 25.3 million (UA 16.9 million). The summary cost estimates by component, by category of expenditure as well as the financing plan are provided in the following tables. The detailed cost estimates is also provided at the end of the section.

Program Cost Estimates by Component (Thousands)

Component	In US			In UA			%
	FC	LC	Total	FC	LC	Total	
Water Infrastructure Development *	9,478	4,062	13,540	6,343	2,718	9,062	62
Sanitation and Hygiene Education *	993	1,490	2,483	665	997	1,661	11
Institutional Support and Capacity Building	947	1,420	2,367	634	950	1,584	11
Program Management	1,429	2,143	3,572	956	1,434	2,390	16
Sub Total	12,846	9,115	21,961	8,597	6,100	14,697	100
Physical Contingency	1,285	911	2,196	860	610	1,470	
Price Contingency	605	551	1,155	405	369	773	
Total	14,735	10,577	25,312	9,862	7,079	16,940	
	58%	42%					

* These estimates include the cost of streamlining environmental and social issues (about 3%) during the implementation of the different sub-projects.

Program Cost Estimates by Category of Expenditure (Thousands)

Component	In US			In UA			%
	FC	LC	Total	FC	LC	Total	
Goods	872	1,308	2,181	584	876	1,459	10
Works	9,478	4,062	13,540	6,343	2,718	9,062	62
Services	1,486	2,228	3,714	994	1,491	2,486	17
Miscellaneous	1,011	1,516	2,526	676	1,014	1,691	12
Total	12,846	9,115	21,961	8,597	6,100	14,697	100
Sub Total	1,285	911	2,196	860	610	1,470	
Physical Contingency	605	551	1,155	405	369	773	
Price Contingency	14,735	10,577	25,312	9,862	7,079	16,940	
Total	58%	42%					

Expenditure Schedule by Component (UA x 1000)

Component	2007	2008	2009	2010	Total
Water Infrastructure Development	1,779	2,493	2,981	3,233	10,486
Sanitation and Hygiene Education	381	460	518	559	1,918
Institutional Support and Capacity Building	542	444	397	432	1,815
Program Management	1,122	518	533	549	2,722
Total	3,824	3,915	4,429	4,773	16,940

Expenditure Schedule by Source of Financing (UA x1000)

Component	2007	2008	2009	2010	Total
ADF Loan	3,386	3,480	3,920	4,205	14,991
GRZ	342	305	358	409	1,414
Communities	97	130	150	158	535
Total	3,824	3,915	4,429	4,773	16,940

Detailed Cost Estimates of the ADF Financed Program Activities 2007-2010

				US Dollar					in UA (1000)					
	Description	Units	Unit Cost	Total Cost	2007	2008	2009	2010	Total	2007	2008	2009	2010	Total
1.00	Water Supply Development *													
1.10	New Water Points development													
1.11	Boreholes	1,585	7,000	11,097,800	1,912,400	2,650,200	3,171,000	3,364,200	11,097,800	1,280	1,774	2,122	2,252	7,427
1.12	Hand Dug Wells	190	500	95,100	19,200	23,900	25,200	26,800	95,100	13	16	17	18	64
1.13	Intermediate	100	3,000	300,000	57,000	76,200	81,000	85,800	300,000	38	51	54	57	201
1.20	Rehabilitations													
1.21	Boreholes	655	3000	1,966,200	412,200	517,200	517,200	519,600	1,966,200	276	346	346	348	1,316
1.22	Hand Dug Wells	82	250	20,500	3,950	5,350	5,600	5,600	20,500	3	4	4	4	14
1.23	Intermediate	40	1500	60,000	12,000	15,000	16,500	16,500	60,000	8	10	11	11	40
1.00	Total Water Supply Development			13,539,600	2,416,750	3,287,850	3,816,500	4,018,500	13,539,600	1,617	2,200	2,554	2,689	9,062
2.00	Sanitation and Hygiene Education *													
2.10	Schools	620	2,000	1,240,000	280,000	300,000	320,000	340,000	1,240,000	187	201	214	228	830
2.20	Health Centres	127	2,000	253,000	58,250	62,250	66,250	66,250	253,000	39	42	44	44	169
2.30	Other Public Institutions	150	2,000	300,000	60,000	80,000	80,000	80,000	300,000	40	54	54	54	201
2.40	Hygiene Education	897		689,574	119,316	165,018	196,632	208,608	689,574	80	110	132	140	462
2.00	Total Sanitations			2,482,574	517,566	607,268	662,882	694,858	2,482,574	346	406	444	465	1,661
3.00	Institutional Support and CB													
3.01	Gender Mainstreaming Activities At Central G.	4	50,000	200,000	50,000	50,000	50,000	50,000	200,000	33	33	33	33	134
3.02	Capacity Building of Communities (Com mob and Training)													
3.03	Kits for Pump Minders	360	200	72,000	72,000	-	-	-	72,000	48	-	-	-	48
3.04	Bicycles for Pump Minders	360	100	36,000	36,000	-	-	-	36,000	24	-	-	-	24
3.05	Spare Parts	15	10,000	150,000	150,000	-	-	-	150,000	100	-	-	-	100
3.06	Training of extension Staffs	600	500	300,000	150,000	150,000	-	-	300,000	100	100	-	-	201
3.07	Planning, implementation and Proc Workshop			229,858	39,772	55,006	65,544	69,536	229,858	27	37	44	47	154
3.08	WASHE Training			344,787	59,658	82,509	98,316	104,304	344,787	40	55	66	70	231
3.09	M & E Training			229,858	39,772	55,006	65,544	69,536	229,858	27	37	44	47	154
3.10	Rollout of O&M			229,858	39,772	55,006	65,544	69,536	229,858	27	37	44	47	154
3.11	Environment and Cross Cutting Mains.			459,716	79,544	110,012	131,088	139,072	459,716	53	74	88	93	308
3.12	District Awareness Campaigns			114,929	19,886	27,503	32,772	34,768	114,929	13	18	22	23	77
3.00	Total			2,367,006	736,404	585,042	508,808	536,752	2,367,006	493	392	341	359	1,584
4.00	Program Management													
4.10	TA for National Program Management Support													
4.11	Program Auditing	4	50,000	200,000	50,000	50,000	50,000	50,000	200,000	33	33	33	33	134
4.12	Program Monitoring and Evaluation	4	100,000	400,000	100,000	100,000	100,000	100,000	400,000	67	67	67	67	268
4.13	For the TA Support Team	-	-	-	-	-	-	-	-	-	-	-	-	-
4.14	Technical Assistance Team Area Based Support (6 pers)	288	2,000	576,000	144,000	144,000	144,000	144,000	576,000	96	96	96	96	385
4.15	TA Running costs	288	1,000	288,000	72,000	72,000	72,000	72,000	288,000	48	48	48	48	193
4.16	Office Equipment	6	3,000	18,000	18,000	-	-	-	18,000	12	-	-	-	12
4.17	Vehicles	3	30,000	90,000	90,000	-	-	-	90,000	60	-	-	-	60
4.18	Office Space (by GRZ)	48	500	24,000	6,000	6,000	6,000	6,000	24,000	4	4	4	4	16
	Sub Total - TA for National Prog Mgt Support (4.1)			1,596,000	480,000	372,000	372,000	372,000	1,596,000	321	249	249	249	1,068
4.20	TA and Institutional Support for the Local Authorities													
4.21	Vehicles	15	30,000	450,000	450,000	-	-	-	450,000	301	-	-	-	301
4.22	Motorcycles	45	3,500	157,500	157,500	-	-	-	157,500	105	-	-	-	105
4.23	Bicycles	360	100	36,000	36,000	-	-	-	36,000	24	-	-	-	24
4.24	Computers	30	2,500	75,000	75,000	-	-	-	75,000	50	-	-	-	50
4.25	Office Equipment	30	500	15,000	15,000	-	-	-	15,000	10	-	-	-	10
4.26	Program Implementation Costs	1,152	1,000	1,152,000	288,000	288,000	288,000	288,000	1,152,000	193	193	193	193	771
4.27	Training of District Staffs	60	1,500	90,000	22,500	22,500	22,500	22,500	90,000	15	15	15	15	60
	Sub Total - TA for the LAs (4.2)			1,975,500	1,044,000	310,500	310,500	310,500	1,975,500	699	208	208	208	1,322
4.00	Total Program Support			3,571,500	1,524,000	682,500	682,500	682,500	3,571,500	1,020	457	457	457	2,390
	Total Base Cost			21,960,680	5,194,720	5,162,660	5,670,690	5,932,610	21,960,680	3,477	3,455	3,795	3,970	14,697
	Physical Contingency			2,196,068	519,472	516,266	567,069	593,261	2,196,068	348	346	380	397	1,470
	Sub Total			24,156,748	5,714,192	5,678,926	6,237,759	6,525,871	24,156,748	3,824	3,801	4,175	4,368	16,167
	Price Contingency			1,155,372	-	170,368	379,880	605,124	1,155,372	-	114	254	405	773
	Grand Total			25,312,120	5,714,192	5,849,294	6,617,639	7,130,995	25,312,120	3,824	3,915	4,429	4,773	16,940
* These estimates include the cost of streamlining environmental and social issues (about 3%) during the implementation of the different sub-projects.														

Procurement Summary for ADF Financing

1 All procurement of goods, works and services financed by ADF will be in accordance with the ADF *Rules of Procedure for Procurement of Goods and Works*, or as appropriate, *Rules of Procedure for the Use of Consultants*, using the relevant Bank Standard Bidding Documents. Adherence to ADF procedures will be stipulated in the Program Implementation Manual (PIM), and taking into account the Bank's *Guidelines for Procurement Under Community-Based Investment Projects* (CBIP). Financial threshold will be as indicated in Table 5.2. Procurement arrangements are summarized as follows.

2 **Civil Works.** Civil Works contracts, estimated at about UA 11.9 million in aggregate will be procured through ICB or NCB on the basis of the financial threshold. These works will include: (i) Construction of 1585 Boreholes; (ii) construction of 190 Hand-Dug Wells and 100 other Water Points; (iii) rehabilitation of 655 Boreholes, 82 Hand-Dug Wells, and 40 other Water Points, and (iv) construction of Promotional Sanitation facilities in 747 Public Institutions (schools, rural health centres and other public places). Contract packages under National Competitive Bidding (NCB) are justified by the fact that the character, location or size of the construction works to be undertaken are such that they are unlikely to attract bids from outside Zambia, and there are local contractors, sufficiently qualified and in number sufficient to ensure competitive bidding.

3 **Goods.** Goods contracts, estimated at about UA 810,000.00 in the aggregate, will include: (i) equipment such as computers, printers, photocopiers, and information communication equipment; (ii) furniture for office; (iii) vehicles, (iv) motorcycles, (v) bicycles, and (vi) kits for pump menders. The use of NCB is justified by the fact that the value or quantities or character of the goods are such that they could not possibly attract bids from outside Zambia, and there are local suppliers, sufficiently qualified and in number sufficient to ensure competitive bidding.

4 **Consultancy Services and Training.** Consultancy Services for Technical Assistance Team in support of Program implementation at district level, and to conduct annual procurement reviews and audits, will be procured through shortlists, using the selection procedure of the technical quality with price consideration. Individual consultants for specific assignments will be recruited on the basis of shortlists, in line with Bank procedures. Services for community-based training, seminars and workshops, will be procured on the basis of shortlists of NGOs and consultants (individuals or firms including national educational institutions). For contract services costing less than UA 100,000 [individuals] and UA 350,000 [firms] the beneficiary may limit the publication of the advertisement to national/regional newspapers. Promotional activities, radio campaigns, design and creation of posters and booklets for Program related activities will be procured through direct negotiations with responsible national authorities.

5 **Miscellaneous.** Operating Costs covering Program Management costs like staff allowances, office operations, stationery, communications, will be procured using existing GRZ procedures acceptable to the Bank.

6 **Executing Agency.** MLGH will be responsible for procurement by the participating Local Authorities (LAs) and will monitor implementation through communication with its focal persons in the LAs. A procurement specialist with experience in community-based investment projects (CBIP) has been included as part of the TA Teams supporting the participating LAs.

7 **General Procurement Notice.** The text of a General Procurement Notice will be agreed during Negotiations and will be issued for publications in Development Business upon approval by the Board of Directors of the proposed Grant.

8 **Review Procedures.** The following documents are subject to review and approval by the Bank for contracts subject to prior review:

- Specific Procurement Notices (SPN);
- Prequalification invitation documents (if appropriate);
- Tender documents or requests for proposals from consultants;
- Tender evaluation reports or reports on the evaluation of consultants proposals, including recommendations for Contract Award;
- Draft contracts, if these have been amended from the drafts included in the tender invitation documents.

9 **Post Review.** Given the numerous contracts of small value all agreements up to an amount of UA 45,000 will be subject to Post Review. Procurement documents, including solicitations of price quotations, evaluation sheets and contract awards will be kept at the MLGH for periodic review by ADF supervision missions. Six months after effectiveness, the MLGH will recruit procurement consultants who will review, at least annually, procurement activities. This review will determine the need for modifications and improvement of the procurement arrangements. Information on procurement processing will be collected by the MLGH quarterly and shall be included in detailed in the Program Quarterly Progress Report to be submitted to ADF.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN SUMMARY

Program Title: ZAMBIA NATIONAL RURAL WATER SUPPLY AND
SANITATION PROGRAM

Program Number: Country: ZAMBIA
Department: OWAS Division: OWAS.2

a) Brief description of the program and key environmental and social components

The program creates **an enabling environment for the communities to take charge of their RWSS services**, by providing them with knowledge and resources to provide these services by themselves in addressing the needs for water supply and sanitation. In this sense, communities have to play a major role in the design, implementation, and follow-up of interventions under the program. The program has the following components:

- i) Water Supply Infrastructure Development - Provision of new and rehabilitation of existing water supply services to communities;
- ii) Sanitation and Hygiene Education –Provision of new sanitation facilities in public places and for schools and health centers;
- iii) Institutional Support and Capacity building; and
- iv) Program Management.

The Zambia RWSSP is aiming at: 1) developing capacity at Government, District and Community levels (including environmental management); and 2) provide funds for development of safe water drinking points and sanitation at the community level.

As a rural water supply and sanitation program, the Zambia RWSSP is classified in the environmental category 2 in accordance with ADB environmental and Social Procedures. The program activities are aiming at developing small water supply - mainly point sources (boreholes, hand dug wells, jetted wells) and sanitation facilities (on site sanitation mainly pit latrines with sanplats and VIP latrines) at the level of local communities that will not affect significantly, taken individually any sensitive environmental areas or social issues. However, in areas where high concentration of water points and/or sanitation facilities is planned, a careful assessment should be undertaken.

b) Major environmental and social impacts

Social impacts are expected to be positive, especially the gender aspects, as women are the key stakeholders for water and sanitation. The program is aimed at improving health by providing safe, well distributed, and sustainable drinking water sources, improving hygienic behaviour and environmental hygiene.

Development of one or a limited number of water and sanitation points would not have significant impacts on the environment. However, considering the large number of water points and sanitation facilities that are to be developed throughout the programme area, precautions shall be taken in the design and operation of these facilities. The environmental features that will be most likely affected by the development of a large number of small water points and sanitation facilities are: the water table, the surface water resources, downstream users, and sensitive areas. Pollution from agricultural activities or degradations resulting from erosion and silting may affect the water points. Poor handling of water and/or poor drainage around the water points may ultimately result in contamination of the water sources and water related illnesses among the users.

There will be no displacement of people living in the sub-project areas. However, small parcels of land will be required for the construction of the water points and protecting the areas around the water points, while construction

activities could lead to very limited temporal and permanent loss of land and/or crops at sub-projects sites. The communities will compensate for such losses.

Depending on the type of technology adopted for individual sub-projects, the extent, and likelihood of affecting sensitive areas, an environment and social assessment/review will be carried out at the design stage of each sub-project. To that effect the Rural Water and Sanitation Unit (RWSS) of the Directorate of Infrastructure Support Services (DISS) and the Environmental Council of Zambia (ECZ) with support from ADB, have prepared an Environmental and Social Streamlining Template for Water and Sanitation to provide guidance for preparing the environmental and social impact assessment, mitigation and monitoring at the local level. The template includes also a brief reference guide for designing and locating water points. The template is attached to the ESMP summary.

The Template will be applied to all water and sanitation sub-projects under the program regardless of the source of financing.

c) Enhancement and mitigation program

Environment and social assessment will be prepared at the local level for each district sub-project during design, and reviewed by the DISS and ECZ. The District Rural Water and Sanitation Focal Officer will implement the mitigation measures and the monitoring activities.

The water points will be designed and constructed in such a way as to ensure proper drainage of wastewater, preventing water stagnation and avoiding the risk of groundwater/water points' contamination by pit latrines and development of breeding grounds for mosquitoes, flies and other insects. Such care reduces the transmission of water borne diseases such as malaria and diarrhoeas, and contamination from animals, and improves hygiene. The capacity building and sensitisation component will raise local communities' awareness on the environmental health hazards associated with water infection and poor drainage, the need to keep the facilities clean and, the importance of "safe water chain" from the sources to the mouth (point of drinking). People will also be advised against utilizing the same water points for both livestock and human. As well, perfectly known good practices for designing and implementing sanitation facilities will be used to protect water points, groundwater and populations' health.

Despite the unlikely risk of severe adverse impacts, a close review of the potential impacts on surface and groundwater resources will be done at each site for both water points and sanitation facilities. Also human health risks such as contamination of the water resources and proliferation of disease vectors will be assessed (i.e.: malaria with stagnant waste waters, contaminations related to mishandling of domestic water, etc...). The environmental template is designed in such a way that all the potential risks are taken into account.

d) Environmental and Social Monitoring of the program and complementary initiatives

Districts are provided with simple portable water quality monitoring kits that will be used to test samples from all the watering points. The kits will be used to monitor a small number of water quality indicators, and in case of alarming results; detailed water quality analyses from the specific water point will be undertaken in a lab. The results will be reported to the Directorate of Water Affairs (DWA) who produces a national water quality status report. Indicators to be monitored both for water and sanitation will be determined for each sub-project according to the findings of the environmental and social assessment, and the critical sensitivity of its environment.

Monitoring of water supply and sanitation issues is carried out at two levels:

- (i) At the level of the community where it would be expected that the communities use the most simple monitoring indicators/factors-checklists to evaluate the status of their water sources and the related status of sanitation. By making the communities responsible, the awareness and responsibility for environmental protection and carrying out mitigation measurements is enhanced and costs are minimized (there are no capital investments required at this level).

- (ii) At the district/central government levels where more sophisticated monitoring indicators like pH, coliform counts are used, which require more sophisticated instrumentation and financial investment that goes with acquisition and use of such equipment as well as the need to move staff from their stations to the water supply points and sanitation facilities where monitoring is to be done.
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e) Institutional arrangements and capacity building requirements

During program implementation, once the environmental and social assessment is completed using the template, a draft copy is handed over to DISS and if necessary to ECZ for review and approval. After the assessment is finalized, the “final copy is delivered to the District Rural Water and Sanitation Focal Officer for possible action”.

It has to be noted that Government requires that: 1) a Water User or Village Committee V-WASHE be created with a mandatory gender balance of 50%; 2) users make a contribution towards the construction of the water points and the sanitation facilities, and; 3) users are fully responsible for Operation and Maintenance Plan meet the operation and maintenance costs of their facilities.

f) Public consultations and disclosure requirements

Public consultation is a permanent exercise during sub-project design and implementation as all of these activities are carried out at the local level by the direct stakeholders. During design the template is used to assess the environmental and social issues related to sub-projects. Either the water facility caretaker or a member of the V-WASHE will complete the draft template primarily then, it is passed on to the District Rural Water and Sanitation Focal Officer, for review, complementary assessment, approval and action. The implementation of the mitigation measures and the monitoring activities will intimately involve local population, at the village/user and ward/area levels. As planned the assessment will be a continuous consultation exercise with users of the facilities/local population and disclosure up to final approval and implementation.

g) Estimated costs

The program provides an informed estimate of streamlining environmental and social issues (assessments, and implements the mitigation and monitoring measures) in sub-projects (about 3% of the cost of infrastructure sub project costs). At the sub-project design level the cost of environmental and social streamlining will be accurately estimated. The budget estimate will include: 1) the cost of environmental and social assessment, 2) the cost of processing of the assessment report for large sub-projects, 3) the cost of implementing the mitigation measures and 4) the cost of monitoring.

h) Implementation schedule and reporting

The LAs implement the environment and social streamlining component of the sub-projects along side with other sub-projects components under the supervision of DISS, ECZ, District Rural Water and Sanitation Focal Officers and District Environmental Health Officers.

Zambia: National Rural Water Supply and Sanitation Program (Phase 1)

Assumptions for EIRR

These assumptions are based on the experience of the Central Province RWSS project in Zambia

1. Most rural dwellers do not purchase water. Rather, they spend considerable amount of time collecting water. It assumed that this time would other wise be used for income generation, which translates into their coping cost for water.
2. Per capita water consumption in unserved areas is 5 litres per day; while the value is 20 litres per day for areas covered with adequate water supply.
3. Average time spent on water collection in unserved areas is 1.5 hours
4. Average time spent on water fetching in served areas 30 minutes
5. The value of time spent fetching water (or attending health centres in the event of water related illness) is based on the average household income in rural Zambia (ZMK 334,308 per month). The time is valued at 50% of the average income given that both children and adults (women) are involved in this activity.
6. Project input costs are net of local taxes and duties, as well as price contingencies
7. Foreign exchange premium is assumed as 10% to account for taxes on external trade
8. **Health Benefits:** health related savings considered in the analysis, and the assumptions used to evaluate them are as follows:
 - The potential increase in cases of water-borne diseases is projected with reference to the population without access to clean water. Without the program, the incidence of water-borne disease is projected to increase by 1% per annum.
 - A 30%³ reduction in the incidence of water related diseases as a result of increased water use and improved personal hygiene.

Travel cost:

- per round trip to consult a health centre in the event of illness related to water born disease is 2000 ZK. Payment is for one person, either an adult traveling alone or accompanying a child who travels free; Time for traveling to hospital and seeing a doctor is taken to be 3 hours and applies to an adult patient or a parent accompanying a sick child.
- **Cost of consultation:** is determined as 2000 ZK payable by all patients;
- **Cost of treatment:**
20000 ZK payable once per disease event for medication.
- **Public subsidy (for hospital equipment, supplies & staff costs):**
Government subsidy on health services covering hospital equipment, supplies & staff costs is taken as twice the cost of treatment.

³ This figure is based on the 1991 WHO report “Effects of improved water supply and sanitation on ascariasis, diarrhoea, hookworm infections, schistosomiasis and trachoma”

Computation of Economic Internal Rate of Return

ECONOMIC APPRAISAL - Phase 1

	Coping Costs ZMK per litre of clean water		rural population growth rate		Exc. Rate	3036 ZMK per USD									
	without coverage	with coverage	2007-2015	2015-2025		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Coverage of Rural Population	25	6													
	difference														
Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026				
Rural Population	9,857,406	10,103,841	10,356,437	10,615,348	10,880,731	11,152,750	11,431,568	11,717,357	12,010,291	12,310,549	12,618,312				
Without project															
Rural population with access	2,849,218	2,849,218	2,849,218	2,849,218	2,849,218	2,849,218	2,849,218	2,849,218	2,849,218	2,849,218	2,849,218				
Rural population without access	7,008,187	7,254,623	7,507,219	7,766,129	8,031,513	8,303,531	8,582,350	8,868,139	9,161,073	9,461,331	9,769,094				
With project															
Coverage	52%	50%	49%	48%	47%	46%	45%	44%	42%	41%	40%				
Rural population with access	5,100,006	5,100,006	5,100,006	5,100,006	5,100,006	5,100,006	5,100,006	5,100,006	5,100,006	5,100,006	5,100,006				
Rural population without access	4,757,400	5,003,835	5,256,431	5,515,342	5,780,725	6,052,744	6,331,562	6,617,352	6,910,286	7,210,543	7,518,307				
Increase in rural population with access	2,250,788	2,250,788	2,250,788	2,250,788	2,250,788	2,250,788	2,250,788	2,250,788	2,250,788	2,250,788	2,250,788				
Health Aspects															
Without project scenario: increase															
Incidence of Water related Disease	308.1	308.4	308.7	309.0	309.3	309.6	309.9	310.2	310.5	310.8	311.2				
Number of cases	3,036,709	3,115,740	3,196,827	3,280,024	3,365,387	3,452,971	3,542,835	3,635,037	3,729,639	3,826,703	3,926,293				
With project scenario: decrease															
Incidence of Water related Disease	213.5	213.5	213.5	213.5	213.5	213.5	213.5	213.5	213.5	213.5	213.5				
Number of cases	2,104,556	2,157,170	2,211,099	2,266,377	2,323,036	2,381,112	2,440,640	2,501,656	2,564,197	2,628,302	2,694,010				
Decrease in number of cases	932,153	958,570	985,728	1,013,648	1,042,351	1,071,859	1,102,195	1,133,381	1,165,442	1,198,401	1,232,283				
Benefits															
Consumer surplus from reduction in coping costs and increased water consumption	551,115,513	551,115,513	551,115,513	551,115,513	551,115,513	551,115,513	551,115,513	551,115,513	551,115,513	551,115,513	551,115,513				
Health related savings:															
-travel costs for consultation*	1,864,306,691	1,917,139,612	1,971,455,369	2,027,295,249	2,084,701,680	2,143,718,265	2,204,389,812	2,266,762,369	2,330,883,254	2,396,801,095	2,464,565,863				
-time costs for consultation	936,377,165	962,913,326	990,194,263	1,018,240,715	1,047,073,992	1,076,715,994	1,107,189,227	1,138,516,818	1,170,722,534	1,203,830,800	1,237,866,714				
-costs of consultation	1,864,306,691	1,917,139,612	1,971,455,369	2,027,295,249	2,084,701,680	2,143,718,265	2,204,389,812	2,266,762,369	2,330,883,254	2,396,801,095	2,464,565,863				
-costs of treatment	18,643,066,907	19,171,396,123	19,714,553,692	20,272,952,486	20,847,016,797	21,437,182,649	22,043,898,124	22,667,623,689	23,308,832,540	23,968,010,950	24,645,658,629				
Public subsidy of health costs	37,286,133,814	38,342,792,246	39,429,107,383	40,545,904,971	41,694,033,593	42,874,365,298	44,087,796,249	45,335,247,379	46,617,665,081	47,936,021,901	49,291,317,259				
Total benefits (ZMK)	60,594,191,268	62,311,380,919	64,076,766,076	65,891,688,669	67,757,527,741	69,675,700,472	71,647,663,225	73,674,912,624	75,758,986,664	77,901,465,841	80,103,974,328				
Investment cost															
Maintenance costs	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000	2,468,502,000				
Net benefits (mts million)	58,125,689,268	59,842,878,919	61,608,264,076	63,423,186,669	65,289,025,741	67,207,198,472	69,179,161,225	71,206,410,624	73,290,484,664	75,432,963,841	77,635,472,328				
NPV	= ZMK														
EIRR															