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AFRICAN DEVELOPMENT FUND

PROJECT: Zaria Water Supply Expansion and Sanitation Project
COUNTRY: Nigeria

PROJECT APPRAISAL REPORT

October 2011

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Currency Equivalents

As of September 2011

1 UA	=	248.321 Naira
1 UA	=	1.60936 USD
[Currency III]	=	[Currency IV]

Fiscal Year

January December

Weights and Measures

1 metric tonne	=	2204 pounds (lbs)
1 kilogramme (kg)	=	2.200 lbs
1 metre (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (“)
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

Acronyms and Abbreviations

ADF	African Development Fund
AfDB	African Development Bank
BADEA	Arab Bank for Economic Development in Africa
CBO	Community Based Organisation
CSI	Core (Water) Sector Indicators
CSP	Country Strategy Paper
DFID	Department for International Development, UK
DP	Development Partner
EC	European Commission
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
EOCK	Economic Opportunity Cost of Capital
ESIA	Environmental and Social Impact Assessment
FGN	Federal Government of Nigeria
FIRR	Financial Internal Rate of Return
FNPV	Financial Net Present Value
ICB	International Competitive Bidding
IFRSs	International Financial Reporting Standards
ISAs	International Standards on Auditing
IsDB	Islamic Development Bank
IWRM	Integrated Water Resources Management
JAS	Joint Assistance Strategy
JICA	Japan International Cooperation Agency
KSG	Kaduna State Government
KSWB	Kaduna State Water Board
LIHSS	Low Income household Strategy
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MM	Mitigation Measures
MWR	Ministry of Water Resources
NCB	National Competitive Bidding
NEEDS	National Economic Empowerment Development Strategy
NGO	Non-Governmental Organization
O&M	Operation and maintenance
OWAS	Operations, Water and Sanitation Department
PFMU	Project Financial Management Unit
PMT	Project Management Team
PRSP	Poverty Reduction Strategy Paper
RBCSP	Results Based Country Strategy Paper
SEEDS	State Economic Empowerment Development Strategy
UA	Unit of Account

Loan Information

Client's information

BORROWER:	Government of the Federal Republic of Nigeria
EXECUTING AGENCIES:	Kaduna State Water Board

Financing plan

Source	Amount (UA)	Instrument
ADF	63.92 million	Loan
Kaduna State Government	85.4 million	Grant (Parallel financing)
FGN	73.4 million	Grant (Parallel financing)
IsDB	51.7 million	Loan
TOTAL COST	274 million	

ADB's key financing information

Loan / grant currency	UA
Interest type*	1%
Commitment fee*	0.5%
Service charge	0.75% per year on the undisbursed loan amount starting 60 days after signature of loan agreement
Tenor	30 years
Grace period	8 years
FIRR, NPV (base case)	(14.52%) N8,421 million
EIRR (base case)	(37%) N32,799 million

**if applicable*

Timeframe - Main Milestones (expected)

Concept Note approval	8 th September 2011
Project approval	December 2011
Effectiveness	June 2012
Completion	June 2016
Last Disbursement	June 2017
Last repayment	June 2042

Project Summary

1. Project Overview

1.1 The Federal Government of Nigeria (FGN) has placed high priority on the development of safe and adequate water supply and sanitation services as a key instrument for fighting poverty and accelerating socio-economic development in the National Economic Empowerment and Development Strategy (NEEDS), Nigeria's Vision 2020 and State Economic Empowerment and Development Strategy (SEEDS).

1.2 Currently, service coverage in urban areas in Nigeria is approximately 54%, and rural coverage is estimated to be 35% of actual demand for water supply. Water production facilities in urban areas are rarely operated to capacity due to broken down equipment, or lack of power or fuel for pumping. Mechanical equipment and pipes are poorly maintained, leading to frequent breakdowns and to high loss of water through leakage. Lack of metering, outdated information systems and inconsistent billing practices cause severe revenue losses. Cost of production, including costs for distribution, chemicals, equipment, and electricity are frequently not factored into tariffs. State Water Authorities (SWA) are weak in the commercial areas of the business and rarely are proficient at customer billings, collections and cash flow management. As a result, most SWAs do not recover their operating expenses from their own revenues, and remain dependent on state governments for subsidies.

1.3 The proposed Zaria Water Supply and Sanitation Expansion Project aims to contribute to Government's efforts to increase access to water supply and sanitation from the current level of 54% for water and 32% for sanitation to 100% access by 2020. The objectives of the proposed project are : (i) To improve access to safe water supply by residents (51% female) in the city of Zaria and its environs, from current levels of about 30% to 80% by 2016, and improve sanitation in schools, health centres and other public places like markets and motor parks (to 90%) by 2016, (ii) To improve service provision and commercial viability of Kaduna State Board, and (iii) to improve personal hygienic practices among school pupils and residents

1.4 On the whole, the project will improve public health and standard of living in Zaria City and surroundings as well as increase the investment and operational conditions for industrial and commercial activities in the city, thereby enhancing opportunities for employment with improved livelihood of the residents the city and environs.

2. Needs Assessment

2.1 Zaria City water supply system was originally constructed in 1939. It was expanded in 1975. The current production capacity of Zaria Water Supply System is 26,000 m³/d (below the current demand of 100,000 m³/d), out of a designed capacity of 60,000m³/d. The water distribution system in Zaria is generally characterised by old, poorly maintained infrastructure, with low coverage, high unaccounted-for-water of over 60%. The high unaccounted rate for water of 60% is due to serious leakages, illegal connections. In addition there is inadequate metering, poor billing and revenue collection. Due to the low and intermittent piped water coverage most residents depend on shallow wells that are unsanitary and exposed to contamination from surface runoff and proximity to pit latrines.

2.2 For sanitation, the bulk of the households in Zaria are served by household pit latrines or to a limited extent on on-site septic tanks, while over 75% of public schools do not have

toilet facilities (average pupil per toilet ratio is 723 in Sabon Gari Local Government Area-LGA and 507 in Zaria LGA) and public centres such as markets and lorry parks lack adequate sanitation facilities. Consequently, there is a high incidence of water-related diseases like diarrhoea, dysentery, typhoid and frequent outbreaks of cholera.

2.3 To address the above problems, the Kaduna State Government embarked on the Zaria Water Supply Expansion Programme consisting of construction, construction of a new water treatment plant and the rehabilitation of a water transmission and distribution system of Galma dam. The Federal Government of Nigeria and Kaduna State Government are financing the construction of Galma dam and Water Treatment Plant. In October 2010, the Islamic Development Bank carried out an appraisal mission and will present to its Board for approval the financing of the water transmission system in January 2012. The proposed project for Bank financing is part of the Programme and will facilitate the rehabilitation and expansion/construction of the water and sanitation infrastructure in Zaria City and environs as well as provide technical support to Kaduna State Water Board (KSWB) to improve service delivery and cost recovery. The project will also facilitate the setting up in KSWB, a Unit of Urban Low Income Households responsible for urban poor in KSWB and establish a social connection fund to pre-finance water connection fees for those who cannot afford them. The project will promote improved hygiene and sanitation among residents.

3 Bank's Added Value

3.1 In terms of comparative advantage, the Bank, since 1986, has supported the FGN in the development of the Country's water and sanitation sector through ten projects covering fourteen states. Financing the proposed Project will consolidate the Bank's continued involvement and support for the water sector in Nigeria. The project will also complement the efforts of other donors in the sector. The Bank's experience in Nigeria and throughout Africa and lessons learned were built into the project design including: (i) reduction and streamlining of loan conditions for easier fulfilment; (ii) Ensure quality-at-entry to have clearer definition of components, advance preparation of a procurement plan and proper consultation during appraisal regarding implementation arrangements; (iii) capable utility management is key to successful operations and long term sustainability. The Project will provide support to Kaduna State Water to increase utility capacity in both technical and commercial areas.

4. Knowledge Management

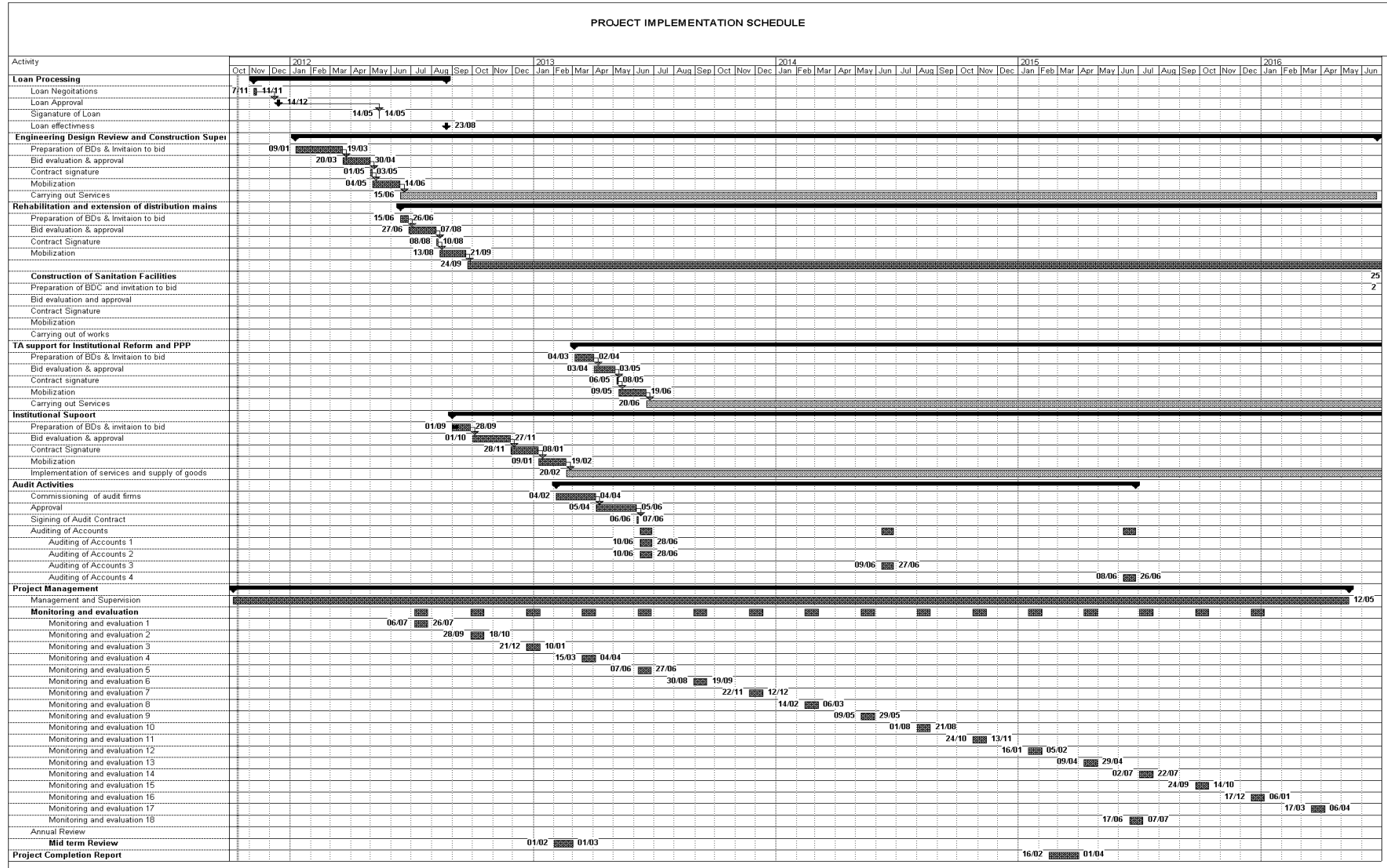
The experience gained from the implementation of this project will be well documented from the various project reports including project completion reports, quarterly progress reports, audit reports, supervision reports and midterm review reports. The knowledge will be disseminated within the Bank to be applied in the design and implementation of new urban water and sanitation projects.

Nigeria: Results Based Logical Framework

Country and project name: Zaria Water Supply and Sanitation Expansion Project						
Purpose of the project : Contribute to the Improvement of the social wellbeing and health of the population of Nigeria and contribute to poverty reduction through sustainable development of water supply and sanitation services						
RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS/MITIGATION MEASURES	
	Indicator (including CSI)	Baseline- 2010	Target			
IMPACT	Impact: Improved quality of life of citizens through reduced incidences of water-borne diseases and poverty	1. Incidence in water related diseases. 2. Incidence of poverty	1) Under 5 mortality 194 per 1000 2) people living in poverty from 54%	1) Under 5 mortality 100 per 1000 in 2020 2) people living in poverty 21% in 2020	National Statistics, MOH reports, NEEDS Documents	
OUTCOMES	Outcome 1 Coverage and service level of water supplies and sanitation increased.	1.1 Number of residents benefiting from water access including female. (CSI) 1.2 Number of residents benefiting from sanitation facilities of which % of female (CSI) 1.3 Number School pupils (boys and girls with access to adequate sanitation facilities	260.000 in 2010 150.000 in 2010 67,600 (37,735 boys and 29895 girls) in 2010	960.000 in 2016 (51% female) 450.000 in 2016 (51% are female) 203,000 (105206 boys and 98,000 girls) in 2016	<i>Monitoring and Evaluation Reports</i> <i>KWSB financial and performance reports</i> <i>In depth Survey Reports</i>	<i>Policy reversal due to changes in political leadership.</i> <i>MM: Awareness activities included to build consensus among stakeholders.</i> <i>Very high construction costs.</i> <i>MM: Rigorous procurement and contracts management.</i>
	Outcome 2 Improved Service delivery and commercial viability of Kaduna State Water Board	2.1 Unaccounted for Water 2.2 Daily Hours of supply 2.3 degree to which operating costs are recovered from water sales revenues	60% in 2010 4 in 2010 50% in 2010	25% in 2016 24 in 2016 100% O&M costs in 2016		
	Outcome 3 Improved personal hygienic practices among school pupils and residents	3. 1 Percentage of people / pupils practising improved hygiene practices (washing hands at critical times, hygienic use of sanitation facilities).	5% in 2010	20% increase by 2016		

KEY ACTIVITIES	OUTPUTS	1.1 Distribution networks rehabilitated and constructed	1.1 Kilometres of distribution network rehabilitated and constructed	180 km in 2010	350 in 2016	<i>Construction Supervision Reports. Quarterly Progress Reports,</i>	<i>Delays in Kaduna States funding MM: loan covenant which will require the State Government to authorize FMF to pay counterpart funds for one year up front directly from project accounts against the Sates allocation of Federal Funds.</i>	
		1.2 Water kiosks constructed	1.2 Number of water kiosks constructed	20 in 2010	100 in 2016			
		1.3 Metered household connections	1.3 Number of metered connections (CSI)	1000 in 2010	50.000 by 2016			
		1.4 Gender-segregated public and school sanitation facilities constructed	1.4 Number of sanitation installations in schools and public places with hand washing facilities constructed with separate compartments for males and females (CSI)		175 by 2016	<i>Supervision Reports</i>		
		1.5 study for Solid Wastes management and cost recovery system	1.5 Solid Wastes and cost recovery study report		Study Report		<i>Delays in implementation MM: 1.Recruitment and capacity building of relevant staff.</i>	
		2.1 Provision of technical assistance support for institutional reform, capacity building	2.1.1 Management, commercialisation and tariff study and implementation support consultancy		Management and commercialization study report		2.Constant dialogue with partners and review/effective monitoring on project	
		2.2 Staff from KSWB are trained in management and customer care.	2.1.2 PSP Study and PPP transaction design and tendering		support reports		3. Strengthen NGFO with Water and sanitation staff for projects oversight	
		2.3 Staff from Ministry of Water Resources, Ministry of Women Affairs, Ministry of Education, Ministry of Health, LGAs and Kaduna Environment management Agency (KEPA) trained	2.2 Number of KSWB staff		300 KWSB staff trained by 2016			
		2.4 Revolving Social Connection Fund established and accessed	2.3 Number of Ministry of Water Resources, Ministry of Women Affairs, Ministry of Education, Ministry of Health, LGAs and Kaduna Environment management Agency (KEPA) trained		100 staff of Ministry of Water Resources, Ministry of Women Affairs, Ministry of Education, Ministry of Health, LGAs and Kaduna Environment management Agency (KEPA) trained			
		3.1 Trained teachers and community facilitators for hygiene and sanitation promotion	2.4 Number of agreements for connections through the social connection fund		5000 Agreements signed with 50% of the legible population by 2016			
		4.1 Audits reports and quarterly reports are submitted on time	3.1 Number of female and male teachers trained in hygiene and sanitation promotion (CSI)		100 (55 female) teachers and health inspectors trained by 2016			
			4.1 Audits reports and quarterly reports are submitted on time.		100%			
		COMPONENTS				INPUTS		
		1. Infrastructure Provision				By Components (mill UC) ADF loan: 63.92		
		2. Institutional reforms and capacity building				1) 44.02, 2) 4.05, 3) 5.0, 4) 3.0,5) Contingency -7.85		
		3. Sanitation, Hygiene Education and Environmental awareness						
		4. Project Management						

PROJECT IMPLEMENTATION SCHEDULE



REPORT AND RECOMMENDATION OF THE MANAGEMENT OF THE ADB GROUP TO THE BOARD OF DIRECTORS ON A PROPOSED LOAN TO NIGERIA FOR THE ZARIA WATER SUPPLY AND SANITATION PROJECT IN KADUNA STATE

Management submits the following Report and Recommendation on a proposed loan of UA 63.92 million to finance the Zaria Water Supply and Sanitation Project for Kaduna State in Nigeria

I – STRATEGIC THRUST & RATIONALE

1.1. Project linkages with country strategy and objectives

1.1.1 The importance of increasing access to clean water and safe sanitation is emphasised in the need for economic development which will lead to the reduction of poverty in Nigeria as outlined in the NEEDS II and SEEDS. Increasing access to water and sanitation is a key strategy for: a) improving the living standards and health condition of the population, b) achieving the MDGs of safe water and sanitation- 80% access to clean water and sanitation by 2015 and universal coverage by 2020, and c) sectoral contribution to MDGs of health (reduction of maternal and child mortality), education, gender and environment.

1.1.2 The Project falls within the Bank's development objectives stated in the Country Strategy Paper (CSP) for 2005-2009 extended to 2011, especially Pillar II which relates to stimulating of non-oil growth through enhanced infrastructure, thus contributing to the NEEDS' higher level objective of creating a more conducive environment for private sector activity. In addition, the project supports Pillars I of the CSP, as it will support the development of human capital through improved health condition of the population. The Bank Group's intervention is also consistent with the priorities of ADF-12, which focuses on the promotion of poverty reduction through growth driven by investment in two key priority areas of infrastructure and governance. The project is in line with the key priorities of the State Economic Empowerment Development Strategy (SEEDS) of Kaduna State, which emphasizes sustainable service delivery of water supply and sanitation as an important element towards achieving improved health, education and labour productivity in fighting poverty. The project is also in conformity with the National Water Supply and Sanitation Policy 2007. The Project is in line with Nigeria's vision 2020 which states that "Water and Sanitation remain one of the major primary drivers of public health. Access to potable, water supply and sanitation remain basic human needs that should be satisfied in adequate quantities that meet at least minimum health standards. Government recognizes the fact that drinking water is critical and limiting resource that must be distributed and protected against pollution. Also, government is aware that water supply and sanitation lead to welfare improvement because it is not only an important sector in its own right, it is also cross cutting affecting infant mortality, maternal mortality, nutritional values, environmental hygiene, etc. Therefore, the type of access and quantum of water supply as well as the quality of sanitation facilities available to a household or community determines the quality of life of the people and the potential for poverty alleviation."

1.2. Rationale for Bank's involvement

1.2.1 The Bank Group intervention is justified because the project addresses Pillar II of the RBCSP 2005-2009 extended to 2011. The Bank Group's intervention is also justified because the project is consistent with the priorities of ADF-12 and the Bank's MTS 2008-2012, which has refocused on the promotion of poverty reduction through growth driven by investment in three basic operational priorities: infrastructure, governance and regional integration. The Bank will also bring other experiences gained from supporting urban water and sanitation sector development in other States of Nigeria and other regional member countries.

1.2.2 The Bank's comparative advantage and added value is derived from its cumulative experience and positive achievements in the implementation of water and sanitation operations in the country. In particular, the Bank is in a unique position to finance the proposed project as it would build on the work done during its past intervention under Ibadan Water Supply Project Phases I and II as well as bring other experience on supporting urban water and sanitation sector development from within Nigeria and other countries on the continent. Financing the proposed Project will consolidate the Bank's continued involvement and support for the water sector in Nigeria.

1.3 Donors coordination

Sector or subsector*	Size		
	GDP	Exports	Labor Force
Water and Sanitation	Na	Nr	Na
Players - Public Annual Expenditure (average)**			
Government	Donors	(UAm)	
[UA m]			
	World Bank	240	
	DFID	15	
	EU	103	
	UNICEF	20	
	AfDB	101	
	Water Aid	20	
	JICA		
Level of Donor Coordination			
Existence of Thematic Working Groups			Yes
Existence of SWAPs or Integrated Sector Approaches			No
ADB's Involvement in donors coordination***			M

* as most appropriate ** Years [yy1 to yy2] *** for this sector or sub-sector

**** L: leader, M: member but not leader, none: no involvement

1.3.1 Donor activities are coordinated through the Water Supply and Sanitation Donor Coordination Group (WSSDCG) which has been set up with a Secretariat at the Federal Ministry of Water Resources (FMWR), headed by an Assistant Director. The Group meets

every quarter to review donor strategies in the sector and implementation issues, to coordinate and harmonize design and implementation of projects and programmes, and to present a common voice on policy and governance issues in the sector. A five (5) year Memorandum of Understanding (MOU), was signed in 2007 between FGN and the different Donors including the Bank, which commits Donors to implement programmes that would lead to the attainment of water related MDGs, and to implement these programmes along the lines of the Paris Declaration. Selection and allocation of states to the various donors for their interventions are done through consultations among donors and is coordinated by the Federal Ministry of Agriculture and Water Resources and Ministry of Planning using bench-marking for selection of states.

II – PROJECT DESCRIPTION

2.1. Project components

2.1.1 The water sector development objective of the FGN is to improve the social wellbeing and health of the population and contribute to poverty reduction through sustainable development of water supply and sanitation services to increase access from the current level of 54% for water and 32% for sanitation to 100% access by 2020.

2.1.2 In order to cope with the fast growing population resulting in a persistent shortage of water supply, the Kaduna State carried out detailed feasibility studies and designs for the rehabilitation and expansion of the Water Supply System. The proposed Water Supply System consists of a new multi purpose dam (power supply, irrigation and domestic water supply), a water intake, a new water treatment plant, water transmission and water distribution system for Zaria City and its environs. The Federal Government of Nigeria (FGN) and Kaduna State Government (KSG) are financing the construction of Galma dam, raw water intake works and water treatment plant estimated at US\$ 300 million. The construction of the dam is 75% and construction of the Water Treatment Plant is scheduled for completion in 2013. In October 2010, the Islamic Development Bank carried out an appraisal mission and will present to its Board for approval the financing of the water transmission system in January 2012. The proposed project consists of rehabilitation and expansion of the distribution system. If approved by AfDB the proposed complements the works co-financed in parallel by Government and IsDB and will contribute to the achievement of FGN development objective for the Water and Sanitation sector.

2.1.3 The project components are described below, with more details provided in Annex B2.

Table 2.1: project components

nr.	Component name	Est. cost ('000UA)	Component description
1	Infrastructure Provision	54.130	This component will involve: (i) rehabilitation, extension of the existing water distribution networks. The network will be densified to maximize access to piped supply; (ii) installation of customer and bulk meters- 50,000 metres will be installed of which 10,000 will be for low income households; (iii) construction of improved sanitation with Hand Washing, Septic Tank for schools: a) primary schools (1103 for boys, 1082 for girls, 281 for male teachers and 343 for female teachers) b) junior schools (212 for boys, 154 for girls, 50 for male teachers and 50 for female teachers and c) secondary schools (137 for boys, 102 for girls, 50 for male teachers and 25 for female teachers) ; construction of sanitation facilities with bathrooms at a) 120 in markets and b) 55 in

nr.	Component name	Est. cost ('000UA)	Component description
			motorparks. The component also includes consultancy services for Engineering services for detailed design review and preparation of tender documents, and project supervision, Detailed study for Solid Wastes management and cost recovery and design and construction supervision of sanitation facilities.
2	Institutional Reforms and Capacity Building	7.099	This component will facilitate the State to implement the institutional reforms in line with the National Strategy and provide capacity building support to KWSB aimed at the Water Board function at increasing efficiency and self sustainability cost recovery. <u>Institutional Reform</u> : The subcomponent will include support for (i) establishment of Kaduna State sector regulatory agency (ii) establishment of unit for low income household connections and (iii) establishment of M&E Unit. <u>Capacity Building and training</u> : The sub-component will include technical: (i) consultancy studies/audits and implementation support to KSWB (ii) training of KSWB staff, PPP studies and transaction support to help state enter into a public-private partnership for management of the Water Supply to rebuild technical and commercial capacity and assure adequate operation and maintenance arrangements (iv) support to small scale service providers including Supply of water and sanitation materials, management of water and sanitation facilities in particular targeting women groups/entrepreneurs (v) support the Provision and implementation of a social connection revolving fund to promote access to water services by the poor and (vi) Capacity building support to the Ministry of Water Resources, Ministry of Women Affairs, Ministry of Education, Ministry of Health, LGAs and Kaduna Environment management Agency (KEPA) to play their respective roles
3	Hygiene and Sanitation Promotion	1,650	This component will include public health and hygiene education and promotion of improved sanitation, and Community awareness creation and mobilization activities for schools, households and public places. The education and promotion aims at promoting improved hygienic behaviour, and at encouraging households' investments in hygienic latrines, and improved solid wastes management practices to promote clean and hygienic environment. This component will also include to setting up supply chain for sanitation products including capacity support small scale contractors and suppliers in particular targeting women groups/entrepreneurs.
4	Project Management	920	This component under the Projects department which is responsible for for timely delivery of all the proposed project's outputs within budget, based on up-to-date work and procurement plans. The component will involve: (i) Project Management and Operations, (ii) Project Audit, (iii) environmental compliance monitoring and evaluation implementation – for each selected site ensure implementation of Environmental and Social Management Plan (ESMP) and cross-cutting social issues (iv) Annual and Mid Term Reviews.

2.2. Technical solution retained and other alternatives explored

2.2.1 The project considered various technical alternatives, taking into account the available design capacity of the Water Treatment Plant, various technologies, investment and operation and maintenance costs, availability of spare parts, as well as staffing requirements. The distribution system will be rehabilitated and expanded to meet the demand up to 2020. The network will be densified/ designed to saturation to ensure easy access by all residents to the pipe water supply. In addition to the infrastructure improvements, institutional and capacity building in both technical and commercial areas will be provided to Kaduna State Water Board

2.2.2 Solid Wastes Management (SWM) systems in Zaria were considered as part of the sanitation intervention. Due to high costs (non availability of funds), SWM systems were not retained. The sanitation intervention retained construction of faecal disposal facilities for schools, motor parks and markets as well as hygiene promotion and health education. A Study and pilot project on improved Solid wastes was included as elaborated in B2.

Table 2.2: project alternatives considered and reasons for rejection

Alternative name	Brief Description	Reasons for Rejection
(i) Working with KSWB without PPP.	Legal and Institutional reforms plus capacity building to achieve Autonomy and commercialisation of KSWB.	Previous experience in Nigeria to improve water utilities' capacity to efficiently operate and maintain water supply system did not yield required results. PPP approach (strategy of FGN/FMWR) holds better promise as shown for Lagos and Cross River states.
(ii) Sewer based Sanitation.	Construction of sewer based sanitation systems for schools and health centres	No existing network
(iii) Solid Wastes systems and Drainage	Construction of sanitary landfills, drainage channels and procurement of solid wastes management equipment	Due to insufficient funds, only a study and pilot programme for improved solid wastes management is retained.

2.3. Project type

2.3.1 The project is part of the programme for the Zaria Water Supply Expansion programme financed by Federal Government of Nigeria, the State of Kaduna and the Islamic Development Bank.

2.4. Programme cost and financing arrangements

2.4.1 As noted in section 2.1.2 the FGN and KDSG are already financing the Construction of Galma dam and the Water Treatment works. ADF, IsDB and IsDB will in parallel finance the water transmission and distribution networks as well as sanitation activities. The financing proposed plans by component are as shown below:

Table 2.3: Sources of financing [amounts in million UA equivalent, UA = 1.6 USD as September 2011)

Component	Source Financing (Million UA)				
	FGN	KSG	IsDB	AfDB	Total
Construction of Galma Dam and Dredging of Shika Dam	66.3	0.0	0.0	0.0	66.3
Rehabilitation and Construction of new Water Treatment Plant	6.3	84.1	0.0	0.0	90.4
Water Transmission mains and Reservoirs	0.0	0.0	44.0	0.0	44.0
Water Distribution Networks	0.0	0.0	0.0	39.68	39.68
Sanitation infrastructure	0.0	0.0	0.0	5.67	5.67
Environmental mitigation and climate change adaptation measures	0.0	0.0	0.0	0.18	0.18
Institutional Support and Capacity Building	0.0	0.0	0.6	6.27	6.87
Engineering Consultancy Services	0.8	1.3	2.5	1.77	6.37
Sanitation, Hygiene Education and Environmental awareness	0.0	0.0	0.0	1.46	1.46
Project Management	0.0	0.0	1.3	0.87	2.17
Contingencies	0.0	0.0	3.3	8.04	11.34
Total Cost	73.4	85.4	51.7	63.92	274.42
Percentage of Total	27%	31%	19%	23%	100%

2.4.2 The total contribution of the Bank, net of taxes and duties is UA 63.92 million. The costs in UA million by component and financing plan are as follows:

Table 2.4: Project cost estimates by component [amounts in million UA equivalents]

Component	Loc. currency costs	For. currency costs	Total UA'000	%
Infrastructure Provision				
Water supply distribution network	9,271.5	21,633.5	30,905	54.8
Water meters	883	7,947.0	8,830	15.6
Sanitation for schools, health centres and public areas	5,563	0	5,563	9.9
Environmental protection facilities	177	0	177	0.3
Engineering design review and construction supervision services	883.0	883.0	1,766	3.1
Solid Waste Management Study/pilot scheme	265	397	662	1.2
Sub-total	17,042	30,861	47,903	84.9
Institutional Support and Capacity Building				
Management and Commercialization study/Implementation Support	503.31	336	838.85	1.5
Capacity building and training	794.70	530	1,324.50	2.3
PPP Transaction Support	139	258	397	0.7
Social Connection Fund	221	1,987	2,208	3.9
Operational and Office equipment	450	1,051	1,501.10	2.7
Sub-total	2,108	4,161	6,269	11.11
Hygiene and Sanitation Promotion				
Sanitation, hygiene education and environmental awareness creation	1059.6	0	1,059.60	1.9
Hygiene and Sanitation promotional materials	397	0	397	0.7
Sub-total	1,457	-	1,457	2.58
Project Management				
Staffing costs	275	0	275	0.49
Operating costs	305	0	305	0.54
Logistics support for project management	161	0	161	0.29
Project audit	18	0	18	0.03
Project Monitoring and evaluation	53	0	53	0.09
Project Environmental compliance Monitoring and Evaluation	53	0	53	0.09
Sub-total	865	-	812	1.44
Total Base Cost	21,472	35,022	56,441	100
Physical Contingency (4%)	542	1,716	2,258	
Price Contingency (9.25%)	1,253	3,968	5,221	
Grand Total	23,267	40,706	63,920	

Note: Exchange rates are provided in the introduction of this report (page (i)). [specify exchange rates used and reference date if different]

Table 2.5: Project cost by category of expenditure [‘000 UA)

	Category of Expenditure	Foreign	Local	Total
A.	Works	15,011	21,634	36,645
B.	Goods	1,495	8,998	10,492
C.	Services	4,693	2,404	7,097
D.	Miscellaneous	221	1,987	2,208
	Total Base Costs	21,419	35,022	56,441
	Physical Contingencies	542	1,716	2,258
	Price Contingencies	1,253	3,968	5,221
	Total Project Cost	23,267	40,706	63,920

Table 2.6 Expenditure schedule by component [‘000 UA]

Component	2012	2013	2014	2015	2016	Total
Infrastructure Provision	2,393	9,570	14,355	14,355	7,178	47,850
Institutional Reform and capacity Building	627	1,567	1,881	1,567	627	6,269
Hygiene and Sanitation Promotion	73	364	437	219	364	1,457
Project Management	130	173	173	260	130	865
Total Base Costs	3,222	11,675	16,846	16,400	8,298	56,441
Physical Contingencies	129	467	674	656	332	2,258
Price Contingencies	298	1,080	1,558	1,517	768	5,221
Total Project Cost	3,649	13,221	19,078	18,573	9,398	63,920

2.5. Project's target area and population

2.5.1 The project will improve access to clean water and sanitation for an estimated population of 1.2 million residents in the city of Zaria and its environs (Zaria and Sabon Gari LGAs), including men, women and children. The main cross-cutting benefits of the project will be the improvement in living conditions and public health in the cities with the associated gender impacts. The lack of clean water and sanitation facilities at markets is a hindrance to women fully patronising them; similarly girls are reported to find it challenging to attend school where sanitation and water supply facilities are lacking (school attendance by girl children is 7% lower than boys). The project is designed to address these particular concerns by providing clean water and safe sanitation for markets, schools and other public places. Residents will benefit from employment generation during the construction phase. Local NGOs and CBOs will benefit from capacity building in carrying hygiene and sanitation promotion.

2.6. Participatory process for project identification, design and implementation

2.6.1 Public consultations started during the project identification phase in December 2009 and were continued during the preparation Mission which was jointly carried out with the IsDB in 2010. These entailed consultations with health authorities, local government officials, beneficiary community groups, water vendors and NGOs. A participatory workshop was conducted in Zaria City with key stakeholders to develop the project log frame. The appraisal team held work sessions with Authorities and key stakeholders including key consumer groups (i.e. schools, women groups, market vendors) and validated the feasibility study report and detailed designs. A log frame validation and project consultation workshop was held in the Palace of the Emir of Zazzau attended by traditional rulers (including the Waziri of Zazzau); government officials from the Local governments of Zaria and Sabon Gari and from Kaduna State (Ministry of Water Resources, Ministry of Health, Ministry of

Education, Kaduna State Water Board, Kaduna Environmental Protection Authority-KEPA, Ministry of Women Affairs), representatives of women groups, NGOS, CBOs and representatives from schools and markets.

2.6.2 Consultations amongst the programme financiers (Kaduna State and Federal Government, IsDB and AfDB) began during preparation and continued during appraisal led agreement on sequencing and connectivity of various program activities (program implementation plan, procurement arrangements, program costing etc.) to ensure smooth implementation. These engagements will continue during implementation.

2.7. Bank Group experience, lessons reflected in project design

2.7.1 Lessons learned from the Bank's current water and sanitation project portfolio which includes the on-going Rural Water and Sanitation Sub programmes in Yobe and Osun States and the Urban Water Supply and Sanitation improvement Project in Oyo and Taraba, the PCR of First Multistate Water Supply Project (2008), the Nigeria CPPR (2008), and the experiences gained by other donors and NGFO are fully used in preparation and design. Lessons learned from Bank Group operations in the Sector and from implementing similar projects in other countries have also shaped the project design.

The lessons are in the following areas:

Effectiveness/Disbursement: (i) simplification of loan conditions to speed-up effectiveness and disbursement; (ii) Prior to negotiations Federal Government and State draft subsidiary agreement which should be completed before the signing of project agreement (iii) During Appraisal detailed Project work plan and procurement plan were prepared and finalised during negotiations; (iv) Identify Priority procurements and their timeline and commence preparation of draft documents and (v) Provide continuous follow up through transfer of Task Manager to NGFO to provide field technical assistance and oversight to the Water Sector activities. These lessons learned from Bank Group operations in the Country, Sector, and from implementing similar projects in other countries have shaped the project design in the following areas:

Utility Performance: Capable Utility management is key to successful operations and long term sustainability. The project will: (i) strengthen the capacity of the Project Management Team of Kaduna State Water Board (KSWB) to implement, monitor and evaluate project progress; and (ii) provide technical support to KSWB to improve service delivery. Support will also be provided to build capacity of other sector service providers and actors (i.e. private operators of sanitation facilities);

Tariff Structure: the project will fund a tariff study aiming at full recovery of operation and maintenance (OM) costs by the end of the project (2015) and full cost-recovery in 2020.

Pro poor Strategy for Access: in accordance with the National Strategy for Low Income Household Service Strategy (LIHSS), the project will facilitate the setting up of the Unit of Urban Low Income Households responsible for urban poor in KSWB and establish a social connection fund to pre-finance water connection fees for those who cannot afford them. The capacity of the poor to repay the loan is estimated based on the high water costs that the low income households buy from vendors. The Unit for Low Income Households will ensure inclusion and provision of services for the poor and marginalised groups.

Sustainability: the capacity of service providers in O&M, leak detection/control, reduction in unaccounted-for-water (UFW), and provision of reliable services, timely billing and bill collection for cost-recovery and cash generation, and financial management will be enhanced.

2.8. Key performance indicators

2.8.1 The project key performance indicators will reflect achievement of the expected outcomes. These include the improvement in the rate of access to clean water and schools and health centres with safe sanitation, improvement in the financial performance of the state water utilities, reduction in non-revenue water and the reduction in the number of water and sanitation related diseases, all of which are reflected in the Results Based Matrix.

2.8.2 The State Ministries for Water and Health as well as the FMWR will monitor these. The Kaduna Environment Protection Agency (KEPA) will monitor the implementation of Environment Protection measures. The State and Federal Ministries of Water Resources and of Finance will be responsible for monitoring and evaluation of the project outputs and the agreed performance indicators in accordance with the log frame. The M&E capacity of the sector Ministry at the Federal level is being developed through donor support. However, state monitoring and evaluation of sector indicators are inadequate and are done on ad-hoc basis. The project will assist the state sector ministries to build the capacity for M&E. Joint sector reviews will be carried out annually together with FGN, relevant State Ministries and key stakeholders to monitor and review progress on the key target indicators. The detailed monitoring matrix with assigned responsibilities is included in Annex B.9. The NGFO/Headquarters will also provide close monitoring and evaluation of the project during implementation through regular follow-up, review and supervision missions.

III – PROJECT FEASIBILITY

3.1. Economic and financial performance

3.1.1 The main assumptions are: the cost streams include investment cost; operations and maintenance (O&M) cost to run the water systems and reinvestment cost of 10 % after ten years of the project's life. The economic life of the project is estimated over 20 years with a 20% salvage value. The financial benefits of the project from the water utility's perspective consist of incremental water production and sales in Zaria of 150,000 cubic meters per day; additional revenue generated by increases in tariffs from the current N21 Naira to N120 per by 2012 then to N200 per cubic meter per day by the year 2017. The project offers highly favourable financial and economic outcomes and benefit in terms of affordability for the end-users. The economic benefits of the project mainly consist of increased economic activities and that will spur further industrial and commercial outputs in the Zaria city as reflected in the consumer surplus resulting from the availability of reliable water supply and the resultant improvement in the sanitation services provided to the population. Other benefits captured in the analysis are health savings, income gained due to avoided time lost for illness and income from off work days avoided.

3.1.2 The Net Present Values (NPV) and the Internal Rates of Return (IRR) are shown in Table C.1 below.

Table C.1: key economic and financial figures

FIRR, FNPV (base case)	(14.52%) N8,421 million
EIRR, ENPV (base case)	(37%) N32,799 million

The detailed assumptions that serve as the basis for calculations of the FIRR and the EIRR are provided in **Annex B 7.2**. The FIRR of 14.52 % is well above the Financial Opportunity Cost of Capital (FOCK) reflecting the ADB lending rate of 1 %. The EIRR is estimated at

37.00 % compared to Economic Opportunity Cost of Capital (EOCK) of 10 % for Nigeria. The high EIRR is attributable to consumer surplus and indirect benefits that have been captured in the analysis. The Zaria Water Supply and sanitation Expansion project is therefore financially and economically viable.

3.1.3 The revenue streams have been calculated on the basis of an average weighted tariff of Naira 120 per M³ for the first 5 years, followed by a tariff review yielding a weighted average of Naira 200 per M³, then an average tariff increase of 25% every 5 years over the project life. Tariff pricing takes into account the framework of “cost-recovery” as against the current reliance on government subsidy to the water utility, KDSG. The tariff increases upon completion of this project would eliminate the need for KDSG subsidy on the Zaria Water District of KSWB.

Sensitivity Analysis

3.1.4 Sensitivity analysis has been carried out and tested against the IFRR and IERR reflecting critical risks associated with the project. Resulting from examination of the risks the following variations have been used:

Scenario 1: No tariff increases during the period

Scenario 2: Non realization of operating efficiency (10 %)

Scenario 3: Non realization of management efficiency (5 %)

Scenario 4: Increase in investment costs (10 %)

Scenario 5: Combination of all the above adverse effects

The table C.2 below summarized the results:

Scenario/Variations	FIRR (%)	EIRR (%)
Base Case	14.52	37.00
No tariff increases during the period	5.05	14.00
Non realization of operating efficiency (10 %)	2.50	11.65
Non realization of management efficiency gains (5 %)	<0	12
Increase in investment costs (10 %)	13.25	34.00
Combination of all the above adverse effects	<0	<0

3.1.5 Overall the project is both financially and economically viable. The implication for project implementation is that regular tariff increases as well as improved management efficiency is very important for the project’s sustainability. The importance of improved service if higher tariffs are anticipated is equally important.

3.2. Environmental and Social impacts

Environment

3.2.1 The project is classified as Category 2, 7 July 2011 based on the AfDB Environmental and Social Policies and Procedures. Categorization is justified on the basis that the project is mainly: 1) rehabilitation and extension of water distribution networks, 2) Construction of sanitation facilities in public places such as public schools, hospitals, market places and car parks; 3) Institutional Support and, 4) Project Management. An Environmental and Social Impact Assessment (ESIA) and Environmental and Social management Plan (ESMP) have been prepared and finalized in September 2011. The following impacts are expected: **negative impacts**- Effects during construction i.e. dust, noise could affect the health of communities in the cities. These effects will be mitigated by the implementation of the measures described in the ESMP reports i.e. through a strict environmental monitoring program to ensure measure for reduction of noise and dust are adhered to; and **positive**

impacts- the project aims at improving access to safe water supply and hygienic sanitation services thereby improving on the urban environment and reducing the pollution of underground water. Detailed cost of mitigation is in annex B8. The total mitigation cost for the project is UA 0.18 million and is a subcomponent of the works. Through the ESMP, environmental and social mitigation measures have been added to the project to enhance sustainability.

Gender Impact

3.2.2 The lack of safe water and sanitation facilities at households, schools and public centres have been major barrier to women fully patronising markets, parks, health facilities etc.; similarly girls are reported to find it challenging to attend and be retained in schools where sanitation and water supply facilities are lacking. The project is designed to address these particular concerns by increasing number of residents having access to clean water and safe sanitation from 260,000 to 960,000 and 150,000 to 450,000 for water and sanitation respectively of which, 51% will be females. Women will constitute 50% of consumer committees and women groups will be trained on hygiene education and promotion in the communities thus empowering them to participate in decision making and actions affecting them. The government's projected improvement in gender parity index for senior secondary pupils from 0.59 in 2011 to 0.72 by 2015 will be greatly assisted by the project through the water and sanitation access. Available data shows that only 31.8 % of public primary schools have access to safe water while over 75% of public schools do not have toilet facilities (average pupil per toilet ratio is 723 in Sabon Gari Local Government area and 507 in Zaria LGA) and public centres such as markets and lorry parks lack adequate sanitation facilities.

3.2.3 Consideration shall be given to the vulnerable groups particularly poor women heads of households with respect to house water connections through a revolving social connection fund to be established. Also for the physically challenged, specially designed and gender separated toilets shall be constructed in schools. The project will provide institutional capacity training for staff of the ministry of women affairs and social development to enable the ministry effectively engage in promoting women's issues and concerns in the water and sanitation sector. The project shall also have a gender and social expert in the management team to support gender mainstreaming.

3.2.4 The women of whom more than 80% are into farming and petty trading will have freed time from the burden of fetching water, taking care of sick children following illnesses due to water related diseases for their farms and other economically viable activities thereby improving their income. The available of sanitary facilities in schools and public places will increase the dignity of women and girls in the society and schools.

Social Impact

3.2.5 The main cross-cutting benefits of the project will be the improvement in living and public health conditions of people in the project area. Residents will benefit from employment generation during the construction phase. About 150 artisans and unskilled labour will be employed for digging of pipe lines, plumbing, welding, and other semi-skilled labour. About 10 local NGOs and CBOs will benefit from capacity building and some shall be employed in conducting the hygiene and sanitation promotion activities. Management of sanitation facilities as well as water kiosks at public places will be through PPP (Small Scale Private Sector Providers) which will generate employment for women and youths particularly. These people shall also receive training under the project.

3.2.6 The health status of the citizens is expected to improve with maternal and infant mortality rates reducing from the current high levels of 1025 per 100,000 and 91 per 1000 live births respectively. This will be a consequence of malaria, cholera, dysentery and diarrhoeal incidence reduction following the improved water, sanitation and hygiene conditions in households and health facilities. The project will impact on HIV/AIDS by reducing the chances of opportunistic infections related to poor water and sanitation in AIDS cases and also chances of contracting the virus through the public health enlightenment campaigns.

3.2.7 The average pupil: toilet ratio in public primary schools in the intervened schools shall be brought to below 100 from the present figures of 723 and 507 for Sabon Gari and Zaria local government area respectively.

IV – IMPLEMENTATION

4.1. Implementation arrangements

4.1.1 The Federal Government of Nigeria (FGN) will be the borrower of the loan and will be responsible for the fulfilment of the loan conditions. The Federal Ministry of Water Resources (FMWR) will be coordinating body between the FGN, the State Government and the Kaduna State Water Board (KSWB) regarding the implementation of the project. The KSWB will be the executing Agency for the project. The existing Projects Management Team in the projects department of KSWB, which is executing the World Bank project for Kaduna City (launched in 2005 and scheduled for completion in 2012) and the State financed Zaria Water Treatment Plant, will assume the implementation of the entire project. The Current Project Management Team consists of a Project Manager/Assistant General Manager Projects, HRD officer, 2 procurement officers, Project Accountant, M&E officer, Environmental safeguards officer, Legal officer, PR officer and project auditor and will be strengthened with an Institutional development expert, a sanitation expert and social development/gender expert. The sanitation expert and the social development/gender expert coordinate the promotion of improved hygiene and sanitation as well as the integration of gender and management of water kiosks and public sanitation facilities at local levels.

Procurement

4.1.4 Procurement: Procurement of Works, Goods and Related Services and Consultancy services financed by ADF will be procured in accordance with the Bank's 'Rules and Procedures for the Procurement of Goods and Works, May 2008' and 'Rules and Procedures for the Use of Consultants, May 2008' using the Bank's Standard Bidding Documents. The KSWB will be responsible for procurement activities under the project. The Kaduna State Government is currently revising the detailed engineering design for the water supply distribution network. (Detailed procurement arrangements is in the technical annex B5)

Financial Management

4.1.5 Project financial management will be the responsibility of the Kaduna State Projects Financial Management Unit (PFMU) which is independent of the Kaduna State Water Board. The PFMU is long established, and currently handles the accounting for 8 ongoing donor funded (primarily World Bank) projects. An Assistant Project Accountant and a Project Finance Officer from the KSWB will be seconded to the PFMU to work on the project under the supervision of a PFMU appointed Project Accountant. As detailed in the FM technical annex, an FM capacity assessment of the PFMU was conducted as part of appraisal. The FM capacity assessment concluded that the residual FM risk is moderate, and that the PFMU has sufficient manpower and technical capacity to meet the accounting and reporting

requirements of the proposed project. Use will therefore be made of the State's existing project financial management arrangements, meaning that this project will comply fully with the Bank's requirement to use the existing FM system where it is deemed capable.

Disbursement

4.1.6 Direct Disbursement will be used for the larger payments on contracts; while a USD Special Account will be opened specifically for the project in a commercial bank, to handle all other project related payments. The Special Account will be managed outside of KSWB, by the PFMU. The PFMU will also open a local currency (Naira) Project Account to support operation of the Special Account and facilitate payments in local currency. All disbursement will follow the procedures outlined in the Bank's *Disbursement Handbook*.

Audit

4.1.7 The project will make use of the existing PFMU audit arrangements as detailed in the FM technical annex. The Kaduna State Auditor General outsources the audit of the PFMU to approved private audit firms. The PFMU has one primary auditor at any one time, with a contract not exceeding four years, who will become the auditor of the Bank's proposed project without the need for further independent selection or procurement (current auditor was selected in accordance with World Bank procurement rules). In the spirit of harmonization, any subsequent audit appointment will be in accordance with TORs and a process jointly agreed between the Bank and the World Bank as the co-financiers of projects managed by the PFMU, The PFMU will invoice the project for the full audit fee as charged by the auditor. The PFMU will also ensure that the audited project financial statements reflect the Bank's full requirements, including an audit management letter, and are submitted to the Bank annually within 6 months of the end of the year audited.

4.2. Monitoring

4.2.1 The indicators for M&E are presented in the project log frame. The water corporation/agency under the states with collaboration of the State Ministries of Water Resources/Environment will be responsible for monitoring and evaluation of the project in accordance with the log frame. The M&E capacity of the sector Ministry at the Federal level is being developed through donor support. However, in Kaduna State monitoring and evaluation of sector indicators are inadequate and are done on ad-hoc basis. The project will support the setting up of M&E unit in KSWB and assist the state sector ministries to build the capacity for M&E. In addition to regular supervision missions, Joint sector reviews will be carried out annually together with the state governments and key stakeholders to monitor and review progress on the key target indicators. The NGFO/Headquarters will also provide close monitoring and evaluation of the project during implementation through regular follow-up, review and supervision missions.

<u>Timeframe</u>	<u>Milestone</u>	<u>Monitoring process / feedback loop</u>
Dec. 2011	Board	Loan Approval
Dec. 2011	Start of Procurement	Procurement and contract documents; Bank's "No objection"
June 2012	Loan effectiveness	Launching mission; Loan conditions approved by the Bank
	Engineering Consultant engaged	Procurement and contract documents; Bank's "No objection"
Aug. 2012	Hygiene and sanitation, community management NGOs/consultants engaged	Procurement and contract documents; Bank's "No objection"
Sept. 2012	Institutional Reform/capacity building consultants engaged /consultant	Procurement and contract documents; Bank's "No objection"

July 2013	Start of construction works	Bidding and contract documents; Bank's "No objection"; supervision monthly reports; Annual and quarterly reports and Bank's comments on the reports; supervision missions
Sept 2014	Mid-term review	Annual and quarterly reports and Bank's comments on the reports; Audit reports; supervision missions
June 2016	Project completion	Commissioning of works
May 2016	Project completion report	Project completion mission

4.3. Governance

4.3.1 Implementation of the program requires good governance at all levels starting from the Federal through State and the beneficiary Cities, right down to the implementing entity. This means that there should generally be more responsiveness, more transparency, more accountability and more efficient use of the resources provided by both the Government and the Development Partners, more so as Nigeria continues to languish at number 134 out of 178 with a score of 2.4 (down from 2.5 and number 130 in 2009) in terms of Corruption Perception Index (CPI - 2010). Good governance should permeate the modalities of effective social organization, coordination and interaction for development. This will be achieved by an institutional framework which is capable of mobilizing all the capacities in society and coordinating action for development. Hence, the proposed institutional arrangements are designed to ensure good governance as an instrument for the promotion and realization of program objectives for the ultimate benefit of the population at large. Deliberate efforts must be made to ensure participation by citizens in key decisions, thereby empowering the beneficiaries and encouraging their contribution to decisions that affect their well being. Working together with key stakeholders, the governance strategy should entail empowering target local communities and promoting broad-based grassroots participation in knowledge dissemination and advocacy regarding the new mode of water supply and sanitation.

4.3.2 Since 2001, substantial progress has been made in public procurement reform in Nigeria especially at the federal level. A Public Procurement Act was enacted by the Government in June 2007 and a procurement regulatory body, the Bureau for Public Procurement (BPP) has been established. However, the Federal Government of Nigeria operates a decentralized federal system with sub-national entities; and the provisions of the Act do not apply to expenditures under the States' budgets. The Kaduna State Government is yet to enact legislation to guide implementation of procurement activities in the State. Presently, procurement activities of the KSWB are guided by an administrative instrument – the 'Due Process' Guidelines.

4.3.3 An assessment of the capacity of the KSWB to implement procurement actions for the project was carried out using standard questionnaire for the 'Assessment of Agency's Capacity to Implement Procurement'. The objectives of the assessment is to (a) evaluate the capability of the implementing agency and the adequacy of procurement and related systems in place; (b) assess the risks (institutional, political, organizational, procedural, etc.) that may negatively affect the ability of the agency to carry out the procurement process; (c) develop an action plan to be implemented as part of the project, as necessary, to address the deficiencies detected by the capacity analysis and to minimize the risks identified by the risk analysis. The detailed analysis of the assessment is available in the project file.

4.3.4 The KWSB is an Agency of Kaduna State Government set up by an edict in 1971 (now Kaduna State Water Board Law, 2004). The assessment of the Agency revealed some lapses in the management of procurement activities using the States 'Due Process' Guidelines. The Assessment also found satisfactory the capacity of the Agency carry out

procurement under donor-funded project. The department of projects of the Agency has substantially built capacity over several years of managing donor-funded projects. The Agency adopts international standard procurement procedures like the World Bank and FIDIC for major works, supplies and consultancy contracts. Since 2005, it has been implementing the World Bank assisted National Urban Water Sector Reform Project. The overall procurement risk is moderate. The proposed mitigation measures include development and approval by Kaduna State Government of a procurement manual to guide the procurement activities of the Agency. It is envisaged that the official endorsement of the manual will sensitized the Government on the need to speed up its procurement reforms.

4.4. Sustainability

4.4.1 The Federal Government of Nigeria is fully committed to the improvement of living conditions of its citizens through provision adequate supply of potable water supply and sanitation services in all parts of the country. To achieve these goals and attract investment in the sector, the FGN has recently embarked on a full range of sector reforms aimed at advancing the governance and the performance of the sector. It is in the process of revising the Water and Sanitation Sector Policy and has recently presented the Water Resources Bill to the Federal Parliament for approval. Government also is engaged with the donor community, specifically the World Bank and the European Union, for the purpose of implementing extensive reforms in the water supply and sanitation sector both at the Federal and state levels. Several projects are already ongoing to achieve these goals. Further, the FGN has fully engaged the state governments to implement the sector reforms at the state level.

4.4.2 The executing agency has the necessary capability to ensure the completion and operation of the project after its completion. It has implemented two projects under the WB financing and it has been operating its present water supply system in Zaria for many years and is fully conversant with the equipment and the technology involved in the project. Sufficient number of staff has been trained in the operation and maintenance of similar equipment under previous projects.

4.4.3 The long-term sustainability of the project would be assured by the implementation of the sector reforms and institutional strengthening. In parallel to infrastructure improvements, at the beginning of the project management, tariff and commercialisation studies will be carried out. The recommendations for these studies will be carried out as part of the project. The commercialization of the utility and the introduction of private sector participation in the service provision would add to financial sustainability of the project in the long-run.

4.5. Risk management

4.5.1 **Policy reversal:** In event of change of political leadership there a risk that the state government may not implement the institutional reforms needed and the required tariff increases to make KSWB more viable so that it can operate on more commercial basis. The risk will be mitigated through awareness creation and consensus building among stakeholders and civil society, including the leading political groups in the state. Institutional changes and introduction of cost reflective tariffs will be started early during implementation to ensure their completion during the project implementation period.

4.5.2 **Delays in project implementation** Detailed Project work plan and procurement plan prepared during project appraisal were finalised during negotiations will be periodically updated during implementation to ensure timely delivery. Constant dialogue with key

stakeholders and review/effective monitoring of project will be carried out and enhanced through strengthening NGFO with Water and sanitation staff for projects oversight.

4.5.3 Delays in financing of components financed by Government: The delays in the funding from the state government will be addressed through a loan covenant which will require the State Government to authorize the Federal Ministry of Finance (FMF) to pay counterpart funds for one year up-front directly to the project accounts against the State's allocation of federal funds. This approach has been adopted for the RWSS project approved by the Bank in October 2007 and is working well.

4.6. Knowledge building

4.6.1 Various project components are geared to improve operational and management performance of KDSWB responsible for the future operational management of the WSS system in partnership with the private sector. The project is therefore expected to generate knowledge and experiences that will add value and build up lessons learnt for planning, design and management of future WSS infrastructure extensions and rehabilitation projects, and for performance improvement projects in Zaria, replicable in Nigeria as well as in other RMCs.

4.6.2 The implementation of the project will involve urban and peri-urban communities therefore creating public knowledge and awareness for lifelong changes of attitudes mainly regarding the importance of paying for the WSS services, proper use of the services, consumer rights and responsibilities, personal hygiene, and public and environmental health. It will also engage schools creating awareness and knowledge amongst teachers and children, which will benefit in particular the future generations.

4.6.3 The Bank's supervision missions, quarterly and annual progress reports, mid-term review, audit and completion reports will also provide information on various aspects of the project for further diagnosis. The knowledge obtained will be shared within the Bank and with other development partners as well as with RMCs.

V – LEGAL INSTRUMENTS AND AUTHORITY

5.1. Legal instrument

An ADF loan will be used to finance this project.

5.2. Conditions associated with Bank's intervention

A. Conditions Precedent to Entry into Force

The entry into force of the Loan Agreement shall be subject to the fulfilment by the Borrower of the provisions of Section 5.01 of the General Conditions Applicable to Loan Agreement of the ADF.

B. Conditions Precedent to First Disbursement

The Borrower shall submit documentary evidence that:

- (i) A subsidiary loan agreement has been signed between the Federal Government and Kaduna State Government, transferring the entire proceeds of the loan from the former to the latter on terms and conditions acceptable to the Bank.

- (ii) The opening of a Special Account for the project in a commercial bank acceptable to the Bank.
- (iii) The nominated and seconded staff of Project Management Team, have the necessary qualifications and experience. (CVs to be submitted to the Bank for review).

C. Undertakings

- (i) Undertake that the execution of the reforms and PPP arrangements recommended by the commercialization/ institutional reforms study will be implemented.

D. Other Conditions

- (i) Provide evidence to the Bank not later than 31 December 2013 that the recommendations for sector and institutional reforms, PPP arrangements and commercialization have been fully implemented.

5.3. Compliance with Bank Policies

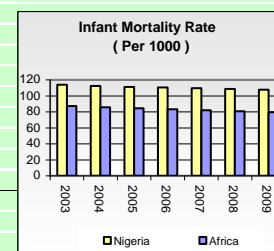
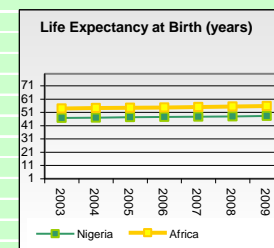
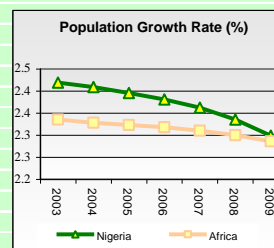
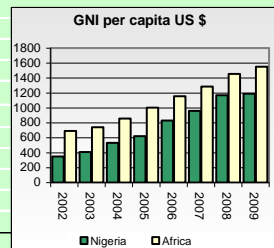
This project complies with applicable Bank policies.

VI – RECOMMENDATION

Management recommends that the Board of Directors approve the proposed ADF loan of UA 63.92 million to the Government of the Federal Republic of Nigeria for the purposes and subject to the conditions stipulated in this report.

Appendix I. Country's comparative socio-economic indicators

	Year	Nigeria	Africa	Developing Countries	Developed Countries
Basic Indicators					
Area ('000 Km ²)		924	30 323	80 976	54 658
Total Population (millions)	2010	158.3	1,031.5	5,659	1,117
Urban Population (% of Total)	2010	49.8	39.9	45.1	77.3
Population Density (per Km ²)	2010	171.3	34.0	69.9	20.4
GNI per Capita (US \$)	2009	1 190	1 525	2 968	37 990
Labor Force Participation - Total (%)	2010	32.4	40.1	61.8	60.7
Labor Force Participation - Female (%)	2010	35.2	41.0	49.1	52.2
Gender -Related Development Index Value	2007	0.499	0.433	0.694	0.911
Human Develop. Index (Rank among 169 countries)	2010	142	n.a	n.a	n.a
Popul. Living Below \$ 1 a Day (% of Population)	2005-08	...	42.3	25.2	...
Demographic Indicators					
Population Growth Rate - Total (%)	2010	2.3	2.3	1.3	0.6
Population Growth Rate - Urban (%)	2010	3.7	3.4	2.4	1.0
Population < 15 years (%)	2010	42.4	40.3	29.0	17.5
Population >= 65 years (%)	2010	3.5	3.8	6.0	15.4
Dependency Ratio (%)	2010	83.5	77.6	55.4	49.2
Sex Ratio (per 100 female)	2010	100.5	99.5	93.5	94.8
Female Population 15-49 years (% of total population)	2010	23.6	24.4	49.4	50.6
Life Expectancy at Birth - Total (years)	2010	48.4	56.0	67.1	79.8
Life Expectancy at Birth - Female (years)	2010	48.9	57.1	69.1	82.7
Crude Birth Rate (per 1,000)	2010	38.7	34.2	21.4	11.8
Crude Death Rate (per 1,000)	2010	16.0	12.6	8.2	8.4
Infant Mortality Rate (per 1,000)	2010	106.6	78.6	46.9	5.8
Child Mortality Rate (per 1,000)	2010	181.4	127.2	66.5	6.9
Total Fertility Rate (per woman)	2010	5.1	4.4	2.7	1.7
Maternal Mortality Rate (per 100,000)	2008	840.0	530.2	290.0	15.2
Women Using Contraception (%)	2005-08	61.0	...
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2008	40.0	58.3	109.5	286.0
Nurses (per 100,000 people)*	2008	87.6	113.3	204.0	786.5
Births attended by Trained Health Personnel (%)	2005-08	...	50.2	64.1	...
Access to Safe Water (% of Population)	2008	58.0	64.5	84.3	99.6
Access to Health Services (% of Population)	2005-08	...	65.4	80.0	100.0
Access to Sanitation (% of Population)	2008	32.0	41.0	53.6	99.5
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2007	3.1	4.9	0.9	0.3
Incidence of Tuberculosis (per 100,000)	2009	295.0	294.9	161.0	14.0
Child Immunization Against Tuberculosis (%)	2009	67.0	79.9	81.0	95.1
Child Immunization Against Measles (%)	2009	81.0	71.1	80.7	93.0
Underweight Children (% of children under 5 years)	2005-08	...	30.9	22.4	...
Daily Calorie Supply per Capita	2007	2 741	2 465	2 675	3 285
Public Expenditure on Health (as % of GDP)	2008	6.8	5.7	2.9	7.4
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2007	93.1	102.7	107.2	101.3
Primary School - Female	2007	86.8	99.0	109.2	101.1
Secondary School - Total	2007	30.5	37.8	62.9	100.1
Secondary School - Female	2007	26.5	33.8	61.3	99.6
Primary School Female Teaching Staff (% of Total)	2007	48.3	47.0	60.5	81.4
Adult literacy Rate - Total (%)	2008	60.1	64.8	80.3	98.4
Adult literacy Rate - Male (%)	2008	71.5	74.0	86.0	98.7
Adult literacy Rate - Female (%)	2008	48.8	55.9	74.8	98.1
Percentage of GDP Spent on Education	2005-08	...	4.6	3.8	5.0
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2008	41.2	7.8	10.6	10.9
Annual Rate of Deforestation (%)	2005-09	...	0.7	0.4	-0.2
Annual Rate of Reforestation (%)	2005-09	...	10.9
Per Capita CO2 Emissions (metric tons)	2009	0.5	1.1	2.9	12.5



Sources : ADB Statistics Department Databases; World Bank: World Development Indicators;

last update : May 2011

UNAIDS; UNSD; WHO, UNICEF, WRI, UNDP; Country Reports.

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

Appendix II. Table of ADB's portfolio in the country

List of disbursement effective projects (loans and grants) by Sector:

Sector: Rural and Environment

Name	Type ¹	Rating	Amount (UA)	Date approved	Amount Disbursed	Disburs. Rate
1. Community-Based Agricultural and Rural Development Project	L	2.00	13.00	11.09.03	6.99	53.8%
2. National Fadama Development Project	L	2.13	22.00	10.12.03	13.61	61.9%
3. Support to National Food Security Programme	L	2.21	22.00	18.10.06	4.82	21.9%
TOTAL APPROVALS			57.00		25.43	44.6%

Sector: Infrastructure and Transport

1. Rural Access and Mobility Program (RAMP)	L	-	35.27	18.07.07	1.13	3.2%
2. Rural water supply and Sanitation Sub Programmes (RWSSI)	L	1.7	51.00	10.10.07	0.84	1.7%
TOTAL APPROVALS			136.27		1.97	2.3%

Sector: Social

1. Skills Training and Vocational Education Project	L	1.65	30.00	27.07.05	5.93	19.8%
TOTAL APPROVALS			30.00		2.9	19.8%

Sector: Regional

1 Multinational NERICA Rice Dissemination Project	L	1.81	5.57	26.09.03	4.43	79.6%
2. Integrated Management of Aquasive Weeds Project	L	1.63	1.60	22.09.04	1.1.3	69.2%
3. ECOWAS Peace and Development Project	L	2.44	11.87	27.11.02	1.13	69.2%
4 Capacity building prog. For the supervision of Aviation safety in WA	L		4.60	26.09.03	1.77	38.5%
5 Transport facilitation prog. For the Bamenda-Mamfe-Abakalikienugu corridor	L		98.25	20.03.08	33.60	34.2%
6 Lake Chad sustainable development project	L		5.24	19.04.08	1.92	6.4%
TOTAL APPROVALS			120.03		45.13	37.6%

Sector: Private Sector

1 Nigeria Liquefied Natural Gas Project	L	2.84	65.36	20.11.02	65.36	100%
2. Zenith Bank I (LOC)	L	2.07	47.36	02.03.05	47.36	100%
3. Zenith Bank II (LOC)	L	2.07	31.27	13.12.09	31.27	100%
4. United Bank of Africa (LOC)	L	-	93.79	12.10.01	93.79	100%
5. Guarantee Trust Bank (LOC)	L	-	40.00	12.12.05	40.00	100%
6. Access Bank (LOC)	L	-	35.00	13.12.06	35.00	100%
7. Lekki Toll Road Project	L	-	85.00	18.06.08	85.00	100%
8. Helios Towers	L		18.76		18.76	100%
9. FAPA Grant to Africa Business round table			0.31		0.12	40%
10. Access Bank Microfinance			0.70		0.51	72.8%
TOTAL APPROVALS						

¹ L: loan, G: grant

Appendix III. Key related projects financed by the Bank and other development partners in the country

No	Project	Area	Financier	Start of project	Cost	Status, Performance
1	National Urban Water Sector Reform Project	Kaduna, Enugu, Cross River, Lagos, Plateau states	World Bank	2004	USD 140 million	In progress, S
2	Water Supply and Sanitation Sector Reform Programme	Anambra, Cross River, Jigawa, Kano, Osun and Yobe states	EC	2005	USD 103 million	In progress, S
3	Rural Water Supply and Environmental Sanitation	Benue, Ekiu, Enugu, Jigawa, Bornu and Zamfara States	DFID/UNICEF	July 2002	GBP 19.4 million	In progress, S
4	Rural Hygiene, Sanitation and Water Programme	To be implemented in 5 states yet to be selected	DFID/UNICEF	August 2009	GBP 20 million	Project Design ongoing
5	Closing the gap: Improving Water Supply and Sanitation provision for Small towns in Nigeria	Jigawa and Enugu States	EC- 75% Water Aid- 25%	2007	Euro 3.9 Million	In progress, S
6	Rural Water Supply & Sanitation	Yobe and Osun States	AfDB	2007	UA 51 million	In progress, S
7	a) Grant Aid Project on Rural Water and Sanitation b) In Country Training Programme on water supply and sanitation	Yobe State	JICA	a) 2007 b) 2008-2010	a) 265 million JPY b) 10.5 million Naira	a) Ended b) In progress, S
8	Water Supply and Sanitation Project in Oyo and Taraba States	Oyo and Taraba States	AfDB	2009-2013	UA 50 million	Subsidiary agreement with State not signed

Appendix IV. Map of the Project Area



 Project Area

This map was provided by the African Development Bank exclusively for the use of the readers of the report to which it is attached. The names used and the borders shown do not imply on the part of the Bank and its members any judgement concerning the legal status of a territory nor any approval or acceptance of these borders. The use of this map for any other purposes is strictly prohibited.