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Report No. 12296-UG

STAFF APPRAISAL REPORT

REPUBLIC OF UGANDA

SMALL TOWNS WATER AND SANITATION PROJECT

FEBRUARY 17, 1994

Energy and Infrastructure Operations Division
Eastern Africa Department

CURRENCY EQUIVALENTS

Currency unit	=	Uganda Shilling (U Sh)
US$ 1.00	=	U Sh 1174 (October 29, 1993)
U Sh 1	=	US$0.0008517
SDR 1	=	US$1.3934 (October 31, 1993)
US$ 1.00	=	SDR 0.7177

WEIGHTS AND MEASURES

Metric System

ABBREVIATIONS AND ACRONYMS

ADF	African Development Fund
AfDB	African Development Bank
CTB	Central Tender Board
DANIDA	Danish International Development Agency
DUIWD	Department of Urban and Institutional Development (in DWD)
DWD	Directorate of Water Development (formerly the Water Development Department, WDD)
EEC	European Economic Commission
FY	Fiscal Year of the World Bank Group, July 1 - June 30
GDP	Gross Domestic Product
GNP	Gross National Product
GOU	Government of Uganda
GTZ	Gesellschaft fuer Technische Zusammenarbeit
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDA	International Development Association
KfW	Kreditanstalt fuer Wiederaufbau
LCB	Local Competitive Bidding
MOH	Ministry of Health
MNR	Ministry of Natural Resources (formerly the Ministry of Water, Energy, Minerals and Environment Protection, MWEMEP)
MFEP	Ministry of Finance and Economic Planning
NGO	Non-Governmental Organization
NWSC	National Water and Sewerage Corporation
OMR	Operation, Maintenance, and Replacement
PIU-NWSC	Project Implementation Unit in NWSC
PPF	Project Preparation Facility
RC	Resistance Council
RTWSP	Rural Towns Water and Sanitation Program
STWSP	Small Towns Water and Sanitation Project
TWST	Town Water and Sanitation Team
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WSC	Water and Sanitation Committee
WUA	Water User Association
WUG	Water User Group

GOVERNMENT FISCAL YEAR

July 1 - June 30

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REPUBLIC OF UGANDA
SMALL TOWNS WATER AND SANITATION PROJECT
STAFF APPRAISAL REPORT

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This report is based on the findings of a Bank appraisal mission which visited Uganda in April 1993. Mr. Gerhard Tschannerl (Sr. Municipal Engineer, AF2EI) was the Mission Leader and Task Manager. The mission consisted of Messrs/Mmes. Rainer Bergthaler (Consultant on Water Supply Engineering), Rama Chandran (Procurement Specialist, AF2EI), Fred Fisher (Consultant on Training), Toshihiro Fujiwara (Urban Financial Specialist, AF2EI), Joseph Gadek (Sanitation Specialist, AFTES); Rowena Martinez (Operations Analyst, AF2EI), Denyse Morin (Institutional Specialist, Rural Water and Sanitation Group, Nairobi), Robert Roche (Sanitary Engineer, AF4IN), and Wouter van den Wall Bake (Consultant on Rural Infrastructure). The peer reviewers were Ms. Pauline Boerma (AF2AE) and Mr. N.V. Jagannathan (TWUWS). Mr. Stephen J. Weissman and Mr. Francis X. Colaço are the Managing Division Chief and Department Director, respectively, for the operation.

REPUBLIC OF UGANDA
SMALL TOWNS WATER AND SANITATION PROJECT

CREDIT AND PROJECT SUMMARY

Borrower :	*The Republic of Uganda*
Implementing Agency and Beneficiary :	*Directorate of Water Development (DWD); National Water and Sewerage Corporation (NWSC) for a portion of the credit*
Credit Amount :	*SDR 30.4 million (US$ 42.3 million equivalent)*
Terms :	*Standard IDA terms with a maturity of 40 years*
Relending Terms :	*Out of a total passed on to NWSC of approximately US$ 22.0 million, 50 percent or approximately US$11.0 million would be passed on to NWSC as equity, and 50 percent relent at the prevailing minimum rate charged by commercial banks in Uganda for commercial loans to companies, plus 3 percent, repayable over 25 years including 5 years of grace. The foreign exchange risk of the NWSC portion of the credit would be borne by the Government.*
Project Objectives :	*The Project would support the Government's economic recovery program by extending the rehabilitation and upgrading of water supply and sanitation services to towns that have so far not been covered. It would (i) improve health conditions through better water supply, excreta disposal, waste water management, and public hygiene; (ii) alleviate poverty and improve the lot of women; and (iii) reduce environmental degradation through better waste management.*
Project Description :	*The Project would provide 12 small towns and Jinja with improved and sustainable water supply and sanitation through: (i) the rehabilitation and/or expansion of water supply and sanitation facilities; (ii) hygiene education related to water supply and sanitation; (iii) community participation in planning, implementation, operation, and maintenance of water supply and sanitation facilities; and (iv) institutional strengthening, technical assistance and training for the organizations in the sector.*

Benefits: *The creation of water supply and sanitation systems would improve the health and well-being of the population of the towns in the project area. A large share of the benefits would go to the poor by including them in the coverage with an appropriate technology. Women's traditional burden to provide water and look after the health of children would be lessened, and they would have more time to devote to other activities, including income generating activities, as a result of improvements in water supply and sanitation. Better sanitation at a household level would mean improved health for the entire family. The Project would also bring about environmental improvements thorough the safe disposal of excreta and waste water.*

Risks: *The implementation of the Government's administrative decentralization policy, which was approved in July 1992, has not yet progressed to a level where the new relationship between central government and the district and town administrations is completely defined. The risk of local government and central government institutional conflict does exist and needs to be monitored. Similarly, the newly established Water User Groups, Water User Associations, and Water and Sanitation Committees would require project implementation experience before the risk of management conflicts, due to overlapping responsibilities and functions, is removed. Periodic follow-up and supervision would be provided by DWD monitoring the performance of the Water User Groups and Associations and the related Water and Sanitation Committees to ensure that this concern is properly addressed. There is a risk that the technical and managerial capabilities of the town and district administrations may initially be insufficient for effective project implementation. Select staff of the town administrations and possibly some personnel from the district administrations directly involved with project implementation would receive appropriate training through the Project. Back-up arrangements would be made by DWD to support the town administrations particularly in the early stages of project implementation.*

Estimated Costs	*Foreign*	*Local*	*Total*	*% of Total*
		(US$ million)		
Small Towns	*11.1*	*4.4*	*15.5*	*39*
Jinja-Njeru	*15.4*	*5.6*	*21.0*	*52*
Institutional Strengthening	*0.9*	*1.1*	*2.0*	*5*
Project Preparation Facility	*1.2*	*0.3*	*1.5*	*4*
Total Base Cost	*28.6*	*11.4*	*40.0*	*100*
Contingencies				
Physical	*2.4*	*0.8*	*3.2*	
Price	*3.4*	*1.4*	*4.8*	
Sub-Total of Contingencies	*5.8*	*2.2*	*8.0*	
TOTAL PROJECT COST	*34.4*	*13.6*	*48.0*	
Taxes and Duties		*0.8*	*0.8*	
TOTAL COST NET OF TAXES AND DUTIES	*34.4*	*12.8*	*47.2*	

Financing Plan	*Foreign*	*Local*	*Total*	*% of Total*
		(US$ million)		
IDA	*34.4*	*7.9*	*42.3*	*88*
Government of Uganda		*2.5*	*2.5*	*5*
NWSC		*3.2*	*3.2*	*7*
TOTAL PROJECT COST	*34.4*	*13.6*	*48.0*	*100*

Estimated IDA Disbursements

IDA Fiscal Year	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*
				(US$ million)				
Annual	*4.0*	*5.2*	*6.2*	*9.5*	*6.1*	*4.7*	*3.7*	*2.9*
Cumulative	*4.0*	*9.2*	*15.4*	*24.9*	*31.0*	*35.7*	*39.4*	*42.3*

Rate of Return: *Not Applicable*

Poverty Category: *Program of Targeted Interventions*

Staff Appraisal Report No.: *12296-UG*

Map No.: *IBRD 25071*

I. BACKGROUND TO THE WATER AND SANITATION SECTOR

COUNTRY BACKGROUND

1.01 Uganda is a landlocked country bounded by Kenya, Tanzania, Rwanda, Zaire, and Sudan. It covers 241,000 square kilometers of which about 20 percent is taken up by numerous waterways and lakes, most notably the White Nile River and the Ugandan part of Lake Victoria. Uganda is situated on a plateau with four-fifths lying at an altitude of 1000 to 1500 meters, due to which most of the country enjoys a pleasant climate with plenty of sunshine and rain. There is little seasonal variation in temperature because of its position along the Equator. Mean maximum temperatures range from 20° C at night to 35° C during the day with mean minimum temperatures from 8° C to 23° C. Annual rainfall varies from about 1,400 mm per year in the southern part to 500 mm in the arid northeast. There are normally two dry seasons per year, one from December to February, and the other in June and July.

1.02 The population, as enumerated in the 1991 census, is 16.7 million and growing at about 2.7 percent annually. Per capita GNP is estimated to be US$170 (1992). About 90 percent of the population is rural. Due to Uganda's prolonged political and economic difficulties in the past, migration to urban areas was relatively low, but as the economy improves this is expected to increase. Kampala is by far the largest urban center with a 1991 census population of nearly 800,000. The next largest town is Jinja with a population of roughly 60,000 followed by 8 towns with populations between 30,000 and 60,000; 6 between 20,000 and 30,000; 14 between 10,000 and 20,000; 26 between 5,000 and 10,000; and 36 towns between 2,000 and 5,000.

ECONOMIC OVERVIEW

1.03 The political and economic turmoil in the country during the last twenty years has resulted in a severe decline in the living standard of most Ugandans. At independence (1962) Uganda had one of the strongest, most promising economies in Sub-Saharan Africa. The country is not well endowed with minerals or fossil fuel, but has rich soils and a favorable climate for agricultural production. It has extensive surface water resources as well as a very large hydroelectric potential which has only partially been exploited at Owens Falls, the headwaters of the White Nile. Agriculture was the backbone of the country, contributing 76 percent of GDP. The industrial sector, though small, supplied the economy with some basic inputs and consumer goods and contributed foreign exchange through the export of textiles and copper. Uganda's transport system was regarded as one of the best in Sub-Saharan Africa and included access to an effective network of road, railway, and air transport facilities. Along with a well established administrative network and infrastructure, Uganda's health services were one of Africa's best. Although school enrollment was considered to be low, the country had developed a reputation for quality education at all levels. The years

immediately after independence demonstrated the country's economic strength: real GDP grew by 5.8 percent per annum from 1962 to 1970, with per capita GDP increasing more than 2.8 percent per annum.

1.04 The period of political unrest that started in 1970 reversed the economic and social progress attained to that point. Skilled personnel fled the country, private industries were converted to parastatals, and professional standards in the public service eroded. The breakup of the East African Community in 1977 accelerated the decline, since the Community had provided a thriving market for Uganda's industrial exports and a reliable access route for foreign trade. Further damage was caused by the destruction and looting that occurred during the 1978/79 war.

1.05 When the National Resistance Movement took over the Government in January 1986, macroeconomic imbalances fueled inflation and contributed to an acute foreign exchange scarcity. Real GDP had declined by about 1 percent per year during the preceding 15 years, the greater part of the nation's major trunk roads and vehicle fleet had been lost, and industrial enterprises lay abandoned. Even the agricultural sector had been disrupted in some areas as farmers fled their farms to urban centers in search of refuge. The total external debt service laid claim to over 40 percent of export earnings.

1.06 By 1986 Government expenditure on education was one third of that in the 1970s; health expenditure, one tenth; and infrastructure expenditure, one quarter. This resulted in a massive disruption of essential services and a sharp decline in the country's capacity to sustain public services. Although school enrollment continued to grow, the deterioration of facilities and scarcity of learning materials resulted in an increase in the illiteracy rate. Various health programs were discontinued. Measles became the leading cause of child deaths in hospitals, and deaths from other preventable diseases, such as whooping cough, more than doubled. Outbreaks of waterborne and water-related diseases increased as a result of broken-down rural and urban water supply systems and unsanitary conditions created by the virtual absence of human and solid waste removal services in the towns. In rural areas the problem stemmed from a lack of both user contributions and Government finances to pay operations and maintenance costs, and in urban areas unrealistic tariff structures (not adjusted to inflation and devaluation) led to insufficient funds to operate and maintain the systems. The years of civil war and displacement of populations also led to the rapidly increasing spread of the Acquired Immune Deficiency Syndrome (AIDS).

1.07 In 1987 the Government introduced its Economic Recovery Program, the principal objectives of which were to promote economic rehabilitation and growth, restore internal financial stability, lower inflation, and reduce the imbalance in the external accounts, particularly through the expansion of non-traditional exports. In the period of FY88 to FY91, real GDP growth averaged about 6 percent per annum and the annual average inflation declined sharply from 168 percent in FY88 to about 28 percent in FY93 and further to around zero in mid-1993. The economy continued to

face severe external payments pressures, mainly due to the dramatic fall in international coffee prices and recently the decline in coffee production. A number of policy initiatives undertaken recently by the Government, including liberalization of the exchange rate and of coffee producer prices, lower taxes on coffee production, and an improved investment climate together with increased financial assistance from donors have helped ease the pressure on the balance of payments.

SECTOR ORGANIZATION

1.08 The following organizations are responsible for the water supply and sanitation sector:

a. The ***Ministry of Natural Resources (MNR)***, which until July 1993 was called the Ministry of Water, Energy, Minerals and Environment Protection, oversees the two major agencies concerned with water supply and sewerage, that is the Directorate of Water Development (DWD) and the National Water and Sewerage Corporation (NWSC). The Ministry's environmental protection portfolio also has obvious water supply and sanitation sector implications.

b. The ***Directorate of Water Development (DWD)***, until recently the Water Development Department, is part of MNR. It is responsible for water resources management and for urban and rural water supply not under NWSC. At the time of the NWSC decree in 1972, the self-accounting urban local authorities lost their responsibility for water supply and sewerage. NWSC assumed responsibility for the Kampala, Jinja, and Entebbe water supply and sewerage systems and DWD became responsible for all remaining systems. Towns which are not self-accounting were previously the responsibility of the Ministry of Works, but were similarly placed under DWD. In 1987/88 NWSC assumed the responsibility from DWD of the systems in Mbale, Tororo, Masaka, and Mbarara after extensive rehabilitation by DWD, and similarly in 1992 for Gulu and Lira.

c. The ***National Water and Sewerage Corporation (NWSC)*** is a parastatal organization responsible for water supply and the waterborne sewerage disposal systems in nine towns: Kampala, Jinja, Entebbe, Mbale, Tororo, Masaka, Mbarara, Lira, and Gulu (see Para. 1.08(b) above).

d. The ***Ministry of Local Government (MOLG)***, under the Urban Authorities Act, is currently responsible for sanitation in urban areas not under NWSC, as well as community mobilization. MOLG appoints senior staff in the urban administrations and determines whether urban authorities (i.e. Municipalities, Town Councils and Town Boards) are self-accounting. An urban authority classified as "self-accounting" is permitted to collect, maintain, and disburse its own revenues. MOLG has primary responsibility for the implementation of

the Government's decentralization policy which delegates considerable powers to the district level. The decentralization policy has not yet been fully implemented, leaving some uncertainty about the extent to which administrative responsibility will ultimately be transferred to local authorities.

e. ***Municipal and District Administrations*** - Municipal councils[1] are self-accounting and contain a Health Inspectorate Department which is responsible for health inspection, promotion of environmental health, promotion and inspection of on-site sanitation facilities, emptying of septic tanks, and refuse collection and disposal. Urban authorities which are not self-accounting are serviced by the district administration for health related issues.

f. The ***Ministry of Health (MOH)*** is responsible for primary health care in rural areas and is involved in rural sanitation and the upgrading of spring catchments. Small towns which are not self-accounting are regarded as rural areas in terms of administration, and the district health staff is responsible for health inspection and promotion of sanitation. MOH also operates some water supply systems for hospitals.

g. The ***Ministry of Finance and Economic Planning (MFEP)*** is responsible for investment planning and aid coordination in all sectors, negotiations with donors, and the monitoring of aid disbursements. MFEP plays an active role in the decentralization process currently being implemented in the public sector, giving the districts more responsibilities, including in the water supply and sanitation sector. The budget allocations to the different sectors apportioned to the districts and urban authorities are decided between MFEP and the Ministry of Local Government.

h. ***Other Organizations*** - A number of bilateral and multilateral external assistance agencies are involved in the sector (see Chapter II). National and international non-governmental organizations, including some churches, are involved primarily in rural programs and sometimes in peri-urban areas. The private sector is involved mainly in the implementation of development projects.

PRESENT COVERAGE AND SERVICE LEVELS

1.09 With the return of relative stability in the late 1980s, both urban and rural water supply systems have received increased attention with coverage slowly returning to the levels of the late 1960s when sector services were at their peak.

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1 A distinction in the type of administration is made between Municipal Councils (or Municipalities), Town Councils, Town Boards, and Trading Centers.

1.10 ***Access to water in urban areas*** - Out of the 34 urban centers in Uganda with some form of existing piped supplies, 24 towns depend on surface water sources and 10 on groundwater. In the 9 major towns operated by NWSC (Entebbe, Gulu, Jinja, Kampala, Lira, Masaka, Mbale, Mbarara, and Tororo) about half of the inhabitants get their drinking water from the piped network. The average distribution of different types of service provided by NWSC is as follows: public standposts, 45 percent of all supplies; private yard taps, 25 percent; and house connections, 30 percent. Design consumption figures for the NWSC schemes range from between 30 liters per day for standpost users to 250 liters per day for multiple household taps in high income areas. Most of the water supply installations in urban areas not served by NWSC, that is those under DWD, have virtually ceased to function due to the near absence of financing for operation and maintenance. It is estimated that only about 15 percent of the population in the small towns have an adequate improved water supply (see Para. 5.02).

1.11 ***Access to water in rural areas*** - It is estimated that 20 percent of the rural population (90 percent of the total population being rural) has access to safe water supply, mainly from boreholes with handpumps and protected springs. The remainder has to carry water, sometimes over a considerable distance, from unimproved and often polluted sources. Until recently the maintenance for the handpumps and protected springs has been the responsibility of DWD, which due to a severe lack of financial resources and equipment has not been able to keep most of them in good operating condition. Under various rural water supply projects now being implemented the shift of responsibility for maintenance to the community level has considerably improved the reliability of the installations.

1.12 ***Sanitation coverage*** - There are 13 public sewerage systems in Uganda designed to serve about 20 percent of the respective *urban* populations, but it is estimated that only half of the design population is being served due to a lack of system maintenance. Another 10 percent of the total urban population is estimated to be served by septic tanks and 40 percent by pit latrines; about 30 percent of the urban population has no adequate sanitation facilities. While *rural* household latrine coverage has fallen in absolute terms since the 1960s, there remains a high level of coverage with at least some form of basic, if not hygienic, latrine. Estimates indicate that approximately 60 percent of rural households have latrines, but only 10 to 15 percent of these are improved latrines, that is either with a hygienic concrete slab and/or a vent pipe.

WATER AND SANITATION SECTOR POLICY

1.13 In 1989 the Government of Uganda issued the *Water Supply and Sanitation Sector Development Strategy and Action Plan* in which the strategy for the water and sanitation sector was redefined in the context of the changing conditions in Uganda. The primary policy tenets of the strategy are:

a. Further strengthening of the National Water and Sewerage Corporation (NWSC) into an organization able to develop and operate urban water supply and sanitation systems on a self-accounting, commercial basis;

b. Strengthening of the Directorate of Water Development (DWD) enabling it to facilitate development and operation and maintenance of water supply and sanitation systems in all rural areas and urban areas not covered by NWSC; responsibility for managing water resources and providing technical advice on all water matters, including the establishment and management of operation and maintenance systems at the community level;

c. Promotion by DWD of community management, operation, and maintenance of water supply facilities, such as spring catchments, hand dug wells, boreholes fitted with handpumps, and simple reticulated systems under the supervision of resistance councils (RCs); and

d. Creation of a sound financial foundation for the sector through the setting of user charges sufficient to cover operation, maintenance, replacement, and, to the extent possible, investments in new works; in rural areas, individual communities will be responsible for operating and maintaining their facilities and will have to pay a portion of the capital costs of their system.

1.14 Another study in 1989, *Organization and Management of the Water Development Department*, recommended that the Department should be restructured into an organization with decentralized operation and maintenance functions down to the district and community levels.

THE GOVERNMENT'S PROGRAMS IN THE SECTOR

1.15 Since 1988 DWD has been addressing the major constraints and issues of the sector, in collaboration with external assistance agencies, in a more concerted fashion. The Government's investments in the sector are summarized in *Annex 1, Table A*. Implementation of the recommendations contained in the two studies, that is the *Water Supply and Sanitation Sector Development Strategy and Action Plan* (Para. 1.13) and the *Organization and Management of the Water Development Department* (Para. 1.14), has led to the formulation of three basic national programs.

1.16 ***Urban Program - by NWSC -*** In the late 1980s and early 1990s seven urban water supply and sewerage systems serving one million people were rehabilitated with assistance from Austria, Germany, IDA, ADF/AfDB, and EEC. Management responsibility for these systems was vested in NWSC. When NWSC was established in 1972, it was made responsible only for Kampala, Entebbe, and Jinja. Masaka, Mbarara, Mbale, and Tororo were added in 1989 and Gulu and Lira in 1992. Since the

water tariffs are uniform throughout the country, differences between the towns in the cost of producing water and other variations, such as the extent of metering, collection rate, and prevalence of Government institutions, result in a different profit or loss in the different towns. Thus the larger towns, mainly Kampala and Entebbe, operate at a profit while the others operate at a loss. Through its centralized management and accounting system NWSC has provided cross-subsidies between the towns to break even overall, but NWSC may not be able to remain financially viable if more towns, which are likely to operate at a loss under the current pricing policy, are added. While most inhabitants of the nine towns are served with water by NWSC, there is a significant proportion of the population in these urban areas which is not. In an effort to extend its service to lower-income users, NWSC has attempted to reach low-income consumers through the registration of communal taps under an individual's name, with limited success. Provisions are made in the proposed Small Towns Water and Sanitation Project to remedy this situation in Jinja (see Para. 4.05).

1.17 ***National Rural Water Supply and Sanitation Program - by DWD*** - DWD has been carrying out a comprehensive rural water supply program throughout the country primarily with the help of UNICEF and DANIDA. UNICEF is assisting with the South-West Integrated Project (SWIP) and with basic rehabilitation and capacity building in the rest of the country (Water and Sanitation Program, WATSAN), while DANIDA is assisting with Rural Water and Sanitation in Eastern Uganda (RUWASA). A *National Planning Strategy - Rural Water Supply Program* was finalized in July 1991 with assistance from DANIDA, containing the policy and procedures for the provision of water supply and sanitation services for rural areas with the chief characteristic of community-based maintenance (CBM) of suitable technologies, mainly improved springs and boreholes with handpumps. For ease of installation, maintenance and spare parts supply, one standard handpump design is being used throughout the country of the original India Mark II type or Mark III, in part imported and in part locally manufactured.

1.18 ***Rural Towns Water and Sanitation Program - by DWD*** - This program is contained in the *Development Strategy and Action Plan* and has been newly added by the Government to its investment plans in order to fill the gap between the large urban program under NWSC and the rural program, which does not cover the smaller towns. These urban areas have some of the characteristics of rural areas, and cannot be provided with piped water supply by NWSC on a financially self-sustaining basis. The program therefore focuses on municipalities, towns, and trading centers not under the responsibility of NWSC, currently comprised of 60 towns (see Chapter II and *Annex 1, Table B*). The chief characteristic of the program is that it employs a demand driven approach to the choice of technology, whereby the users are involved in the selection of technologies and assume the responsibility for the operation and maintenance of the systems. The proposed Project is one of several in the program.

SECTOR LEGISLATION

1.19 The existing water legislation dates back to colonial and early post-colonial times, requiring considerable modification to suit the current times. A water legislation study was conducted under the IDA-assisted Second Water Supply Project (Credit 2124-UG) and resulted in a draft of a new comprehensive Water Act. It was discussed at a workshop in Kampala on April 20, 1993, was finalized in May, and is now awaiting enactment. To supplement the provisions of the Act, which was drafted with considerable scope for modification of practices in a given framework of legally specified principles, a set of water regulations will shortly be prepared. The main provision of the Act relevant to the proposed Project is the legal framework for the status of the Water and Sanitation Committees and Water User Associations as the local organizations charged with operating and maintaining the water supply and sanitation systems. Under the Act the Minister in charge of the water sector will have the power to delegate the responsibility for managing the water and sanitation services, including collection of revenue, to a designated entity.

1.20 Following is a chronological listing of the relevant past and existing legislation in relation to water supply and sanitation:

a. ***Waterworks Act, 1929, amended in 1967*** - The act provides for the establishment of water authorities in defined urban areas. Much of the Act is devoted to methods of determining water rates.

b. ***Water Boards Act, 1958, amended in 1967*** - The Act provides for Water Boards to take over the activities and assets of the local water authorities; it was repealed by the NWSC Decree of 1972.

c. ***Public Health Act, 1935*** - The Act gives local authorities the power to provide sanitation and refuse collection services, to prevent pollution and treat water. It is thus implicit that local authorities have jurisdiction over water supply and sanitation services where the NWSC Decree of 1972 does not pertain.

d. ***Urban Authorities Act, 1958*** - The Act establishes the current local Government structure, that is Municipalities, Town Councils, and Town Boards. Local urban authorities are made responsible for the provision of water supply, sanitation and refuse collection where the NWSC Decree of 1972 does not pertain.

e. ***National Water and Sewerage Corporation Decree, 1972*** - The Decree has the effect of centralizing the management of all commercially viable urban water supply and sanitation facilities under NWSC. The Minister, through statutory instruments, can make NWSC responsible for any urban system. The systems should be nationally operated on a nationally self-supporting

basis, that is some of the towns may cross-subsidize others, but the whole operation should be financially viable. The possibility of receiving subsidies from Government is also noted in the Act.

f. ***National Resistance Councils and Committees Statute, 1987*** - This statute legally established the resistance council (RC) system. It provides for directly elected village resistance councils (RC-1) and indirectly elected RCs at parish (RC-2), sub-county (RC-3), county (RC-4), and district (RC-5) levels and the National Resistance Council (the equivalent of a parliament) at the national level.

ISSUES AND CONSTRAINTS

1.21 The main constraint in the urban water supply sector is directly related to the country's overall economic situation in that tariff levels have not kept up with inflation, resulting in insufficient funds to pay for operation, maintenance, and replacement of plant and equipment. Until recently, those consumers who were served received water for free or at a nominal cost, giving the false impression that everyone has a right to free water from a tap. One effect of this has been a high wastage of water in the distribution system and by the consumers, which has only recently been reduced in the towns under NWSC through a comprehensive program of leak detection and repair, block mapping and consumer registration, tariff increases and prompt billing and disconnection for non-payment.

1.22 Other constraints and issues of the existing situation in the sector arrangements can be summarized as follows:

a. The national decentralization policy is now being implemented, but it may take several years until this process has been completed, and in the interim the Project may require periodic revisions in the detailed organizational arrangements to adjust for the state of the prevailing overall administrative setup in the districts.

b. Water supply and sanitation projects in urban areas have so far addressed mainly the demands of the middle and upper income groups. Another approach will have to be developed to reach the low income groups in the future.

c. The staff of DWD responsible for the sector is accustomed to performing the functions of an implementor in the sector, to construct, operate and maintain water supply and some sanitation schemes. In the light of the new role of DWD as a planner, coordinator, and regulator and of the a newly adopted demand-driven approach to service, DWD needs to conduct a reorientation program for some of its staff to equip them with the different skills needed.

d. The present arrangement, under which spare parts for handpumps are imported by UNICEF and distributed by the Government is not sustainable in the long run and on a large scale. The importation and distribution of spare parts needs to be privatized, including components for piped systems.

1.23 The Government is aware of the sector constraints and is actively taking steps to mitigate these through policy reformulation and program implementation in order to maintain tariff levels commensurate with operation, maintenance, and replacement costs and involve the communities more in operation and maintenance.

IMPLEMENTATION EXPERIENCE AND LESSONS LEARNED

1.24 IDA has provided three credits to the Government in the water sector, for a Water Supply Engineering Project (Credit 1110-UG) in 1981, a Water Supply and Sanitation Rehabilitation Project (Credit 1510-UG) in 1985, and the Second Water Supply Project (Credit 2362-UG) in 1990. Despite changes in Government and a civil war during the period of the first two credits, the projects were successfully implemented, largely due to the dedication of the responsible Government officials who carried out procurement and managed consultants and contractors under difficult conditions. The first two projects were completed on time and without cost overruns and the third is under implementation.

1.25 A Government program of US$120 million for the rehabilitation and expansion of water supply and sanitation in Kampala, Mbarara, Mbale, and Masaka aims at increasing water supply coverage from 50 percent to 80 percent in these towns, but so far only the Second Water Supply Project has been financed. The responsibility for project implementation was originally with a Project Coordinating Unit (PCU) under the, then, Ministry of Planning and Economic Development, but was later transferred to NWSC to assist in institutional capacity building. A Project Implementation Unit (PIU) was consequently formed in NWSC, which NWSC plans to give a permanent status by transforming it into a department. With the commissioning of the EEC-assisted Gaba II water treatment plant in Kampala in December 1992, the production of treated water increased by about 30 percent.

1.26 The Northern Reconstruction Project (Credit No. 2362-UG), which became effective in November 1992, has an urban and rural water supply and sanitation component, implemented by DWD. Rural water supply is based on community participation in implementation and maintenance according to the general policy now being followed in the country. Borehole drilling and handpump installation began in early 1993 in Kitgum District in one of the rural areas with the highest incidence of Guinea Worm. In the northern towns, only emergency repairs to piped systems and sewerage facilities are being carried out.

1.27 Experience with water supply projects in Uganda and other developing countries has amply demonstrated the need for greater participation of the beneficiaries right from the planning stage in order to better reach low-income users and to obtain greater sustainability of the installations once they are built. It was thought earlier that projects should be designed and built under the joint direction of Government officials and engineers according to standards related to the perceived needs of the population, on the one hand, and the available financial resources, on the other, and then handed over to the beneficiaries for operation and maintenance. This proved to be only a slight improvement over the old approach where the Government "provided" everything, including the operation and maintenance: most of the time the Government was still saddled with maintaining "its" schemes. The crucial factor seems to be the sense of the communities' ownership: when they are involved from the planning stage and at the same time required to contribute financially, the beneficiaries acquire a greater sense of ownership of the installations which they hopefully would be willing - and able - to maintain. In the last few years this approach has been widely used in water supply programs in rural areas and is beginning to be applied also to urban areas, particularly for low-income families.

BANK ASSISTANCE STRATEGY

1.28 The objective of Bank Group strategy is to reduce poverty by supporting the Government's efforts to accelerate growth and employment and improve the delivery of public services, particularly to the private sector and to vulnerable groups. The Bank's emphasis is on accelerating growth in agriculture and industry and supporting infrastructure developments, which has a direct impact on the efficiency of the productive sectors. Support for human capital development and institutional reforms are also key elements of the Bank's assistance strategy.

1.29 In pursuit of this strategy, the Bank would continue to assist in the Government's development efforts by providing financial resources for the expansion of water supply and sewerage projects in the low-income urban and rural growth centers, firmly linked to institution building, manpower development, and improvements in administrative and financial management. As part of the ongoing civil service reform, the Government is being encouraged to transfer to the private sector certain functions which it has been performing up to now, including in the water sector.

RATIONALE FOR IDA INVOLVEMENT

1.30 The Project would complement and reinforce IDA's ongoing assistance to Uganda for economic recovery and poverty alleviation. IDA involvement is needed to (i) assist the Government in developing a policy framework for the sustainable provision of water and sanitation to small and medium-sized towns which would be

followed by all future donor-assisted projects; (ii) initiate appropriate institutional and policy reforms for the water supply and sanitation sector and provide technical assistance to DWD; (iii) provide guidance for the development of the institutions responsible for service delivery to ensure sustainability and cost sharing with the communities; and (iv) demonstrate the integration of the conventional "top-down" engineering approach to project design with the "bottom-up" approach of involving the beneficiaries in planning, implementation, and operation.

PRIOR INVESTMENT LEVELS

1.31 Water and sewerage works in the major towns were largely installed and expanded in the 1950s and 1960s but little investment and maintenance was carried out in the sector during the 1970s. Since then there has been an increasing donor involvement mainly by IDA, ADF/AfDB, EEC, GTZ, and KfW in the rehabilitation of projects for urban water supply and sewerage, and by UNICEF (cofinanced by SIDA), UNCDF, CIDA and DANIDA in rural water supply and sanitation. Furthermore, a number of national and international non-governmental organizations are active in rural areas. The preparation of sector strategies and plans in Uganda was greatly aided by the UNDP/World Bank Water Supply and Sanitation Program, under which a regional office has been maintained in Nairobi since 1984.

1.32 Investment planning since the early 1980s has been guided by the Rehabilitation Program 1982/83 - 1986/87, which was revised periodically. During that period, investments in the sector averaged about US$14 million per year with 75 percent going to urban areas and 25 percent to rural. Investments provided from Government resources have been limited to about 5 percent with the remaining 95 percent from donors. The Rehabilitation Program subsequently evolved into a *Rehabilitation and Development Plan 1988/89 - 1991/92,* emphasizing restoration of productive capacity and infrastructure works. These and additional investments under preparation for implementation through 1994/1995 total about US$ 260 million and are shown in *Annex 1, Table A.* The total sector investments in recent years were equivalent to some 7 percent of the overall national development budget, which gives an indication of the high priority accorded to the sector.

II. PROGRAM FOR SMALL TOWNS

ORIGIN

2.01 In 1988 the Government of Uganda initiated a major water supply and sanitation sector review which culminated in March 1989 in the issuance of the *Water Supply and Sanitation Sector Development Strategy and Action Plan* (see Para. 1.13), including plans for sector investments for urban centers. Two national programs, one for the nine large towns under the direction of NWSC and the other for rural water supply and sanitation under DWD, were already under implementation at the time the report was issued. The third national program to result from the strategy and action plan was the *Rural Towns Water and Sanitation Program* (called the Program, see Para. 1.18) intended to address the remaining urban water supply and sanitation needs. Water supply and sanitation conditions in the urban centers which are not the responsibility of NWSC had deteriorated significantly over the past two decades and DWD was unable - with an inadequate budget allocation and greatly diminished skilled and motivated manpower following the civil war - to keep up even a minimum service in these towns. While the urban population remained fairly constant during the 1970s and most of the 1980s due to civil strife, it rose substantially with the advent of peace during the late 1980s and continued to do so into the 1990s. The current average urban population growth is estimated at 5 percent.

2.02 Also issued in 1989 was a report on the *Organization and Management of the Water Development Department* which concluded that the Department should be restructured to make it in future responsible for planning, coordination and regulation of water supply and sanitation services, except for those under NWSC, instead of its broader mandate at that time that included responsibility for rehabilitation, capacity expansion, and operation and maintenance. The report also recommended the strengthening of DWD to prepare it for the new role, and to decentralize operations and maintenance activities in the small towns to the district level or below.

2.03 During a project identification mission fielded by the World Bank in 1990, it was agreed that the Government will select the towns urgently in need of water supply and sanitation improvements according to specific criteria and formulate a policy for implementing and sustaining urban water and sanitation improvements. This approach soon developed into a program for water supply and sanitation improvements for small towns and rural growth centers, covering some 60 priority towns. One of the characteristics of the approach taken was to assign greater responsibility for the operation of services to the user communities. The Bank subsequently provided assistance for project preparation, including the development of the policy guidelines, which DWD developed further into a program for about 60 towns, packaged into several groups (see *Annex 1, Table B*) for proposed financing by different external assistance agencies. On-going urban projects under DWD and those under preparation

were also brought under the umbrella of the new policy guidelines, specifically Iganga-Mityana with ADF assistance and a group of 6 western towns with KfW.

WATER AND SANITATION CONDITIONS IN THE PROGRAM AREA

2.04 Thirty-five of the 60 towns in the Program are presently served with piped water, and about 30 percent of the population in the 35 towns is served with piped systems. The remaining 70 percent of the population in the 35 piped towns and all the population in the other 25 towns are served by boreholes, hand-dug wells, protected springs, and traditional unimproved sources. All the 60 towns, with the exception of a portion of Njeru, are the responsibility of DWD for development and operation and maintenance of the water supplies. Under the Program, Njeru will become part of the greater Jinja service area under the responsibility of NWSC. At present there is a short pipeline that extends from the Jinja water supply network across the Owens Falls dam into Njeru. About half the population of Jinja is at present served by a piped system that draws water from Lake Victoria.

2.05 Excreta disposal services in the 60 towns cover a much smaller percentage of the population than improved water supply services. Of the 60 towns only 6 have sewerage systems, all of which are in very poor condition with the exception of Njeru. It is estimated that 60 to 70 percent of the population in the Program towns have some kind of excreta disposal system, consisting of septic tanks (5 percent), improved latrines (10 percent) and traditional unimproved latrines (45 to 55 percent). The remainder of the population is not served by any form of excreta disposal. Njeru is partially served with sewerage under the responsibility of NWSC, which however discharges raw sewage into the Nile. Responsibility for sanitation services in the Program towns lies with the Ministry of Health through the District Health Inspectorate.

POLICIES AND GUIDELINES

2.06 The *Policies and Guidelines (Annex 3)* for the Program were developed by GOU in July 1992 to provide a common approach to the sustainable provision of improved water supply and sanitation services in the towns other than those under NWSC. The objective was to use a demand driven approach where communities plan, operate and maintain their systems; the private sector is involved in construction, spare parts and repair services; and Government finances part of the capital costs and provides back-stopping for operation, maintenance and replacement (OMR). This will allow technologies to be chosen according to the users' willingness and ability to pay for the recurrent costs and will direct the Government's scarce financial resources towards the construction of new systems rather than the operation and maintenance of existing ones. Most important, it will substantially increase the likelihood that the systems will be kept in operating condition.

2.07 The main tenets of the *Policies and Guidelines* are:

a. A demand driven approach will be used, giving the beneficiaries a choice in what the key elements of their water and sanitation facilities will be. Different priced water supply options will be presented with the aid of easily understood information materials, from which beneficiaries will be encouraged to choose the technology that gives them the highest service level that they want, can afford, and can maintain.

b. The implementation of the Program will start in one or two towns during a pilot phase and will be expanded first to other towns under the proposed Small Towns Water and Sanitation Project and then to towns in other areas as financing becomes available. Starting small will enable implementation strategies and training materials and methods to be refined and key personnel trained before larger-scale investments are undertaken.

c. Communities, project personnel at the local and national levels, contractors, and mechanics will be trained, and decision makers at all levels will be involved. All Program personnel will (i) learn new communications skills that encourage dialogue and participation rather than rely on directives, (ii) master effective planning skills including monitoring, evaluation, and problem resolution, (iii) gain a thorough knowledge of the policies and the technical details of the Program, and (iv) obtain specialized training and practical experience for their particular assignments.

d. The responsibilities of each institution involved in Program implementation are as follows:

- The ***Directorate of Water Development (DWD)*** is the Government agency responsible for the overall implementation of the Project.

- The ***National Water and Sewerage Corporation (NWSC)*** provides water supply and sewerage/sanitation services in the NWSC designated urban areas.

- ***Consultants,*** comprised of a multi-disciplinary team made up of international and local community development, health and technical (water and sanitation) specialists, will be contracted by DWD and NWSC to assist in implementing the Program.

- ***Local Authorities*** provide the organizational framework, political support and monitoring needed to implement the Program.

- ***Water User Groups*** (WUGs) are composed of heads of households that collectively plan and subsequently manage and collect revenue to operate

and maintain their water and sanitation facilities. They do this through a *Water and Sanitation Committee* (WSC) that they select and which acts on their behalf. The WSC in turn appoints functionaries as treasurer, water caretaker, hygiene coordinator, etc., as appropriate in the local situation. WUGs will normally be on the RC-1 level or below and be organized around one water point, such as a communal tap, handpump, or improved spring. In some places an existing cooperative or other community organization could be empowered to carry out these functions.

- *Water User Associations* (WUAs) are made up of a number of WSCs that are joint together to manage a piped system (see Para. 4.03). Here too an existing cooperative or other community organization could be empowered to carry out these functions. The piped scheme will be managed either by staff paid by their respective WUA or by a private entity under contract with the WUA. When there is a piped scheme the WSCs will either manage revenue collection and pay water charges for communal taps to their respective WUA, or the WUA will collect water charges directly from the households.

- *Other ministries*, particularly the Ministry of Local Government and the Ministry of Health, share in project implementation by participating in an advisory committee and by seconding staff at the local level to work in local water and sanitation implementation offices.

e. To obtain a more effective utilization of Government investment funds, they are channeled to communities that will maintain their systems, and communities will be required to pay part of the capital cost and all of the recurrent costs.

f. A large part of construction will be carried out by local contractors through competitive bidding (see Para. 3.24).

g. Maintenance of point source water supplies (open dug wells, handpumps and spring catchments) will be the responsibility of individual WSCs. Maintenance of piped water and sanitation systems will be the responsibility of WUAs who may contract OMR to a private entity and may enter into maintenance contracts with the suppliers of pumping equipment. Water use at standposts will be supervised by individual WSCs which normally will also collect revenue from individual households. DWD will provide ongoing technical and organizational backstopping to WSCs and WUAs. Rehabilitation work will be carried out by DWD at Government expense.

h. To maintain their water supply and sewerage systems, communities will be given access to spare parts and components that need to be replaced within about eight years. These will be available through the private sector.

TOWN IMPLEMENTATION PROCESS

2.08 The principles under which the Program is to be carried out as described in the *Policies and Guidelines (Annex 3)* translate operationally into the *Town Implementation Process (Annex 4)*, the main steps of which are:

a. ***Promotion*** - When financing for a group of towns becomes available, DWD will inform each town of its eligibility to participate in the Program, and will follow up by holding meetings, first with senior district and town officials and then with a broader spectrum of government personnel, elected officials and community representatives, to explain opportunities they have for improved water supply under the Program. If a town is interested in participating in the Program it will advance to the mobilization phase.

b. ***Mobilization*** - At the start of the mobilization phase each town will establish an office for use by the local extension staff. The extension staff will be composed of community development and health personnel seconded from line ministries, community development and technical specialists from the consultant, and community leaders. Their initial job will be to work with local RC members to inform the whole community about the Program; to identify WUGs; and to help these groups undertake an overall needs assessment with special reference to water and sanitation. Those WUGs that want to further consider their options for improved water and sanitation facilities will then be assisted to form WSCs. During this process particular attention will be paid to the involvement of women and minority groups to ensure widespread participation in the planning process and thereafter in the management of the system. At the end of the mobilization phase the communities will be required to submit a construction grant application to DWD through their extension staff and to deposit a commitment fee, later to be applied toward their contribution to the construction cost. The construction grant application will specify the responsibilities of the beneficiaries and the Government in the Project and will include the names and skills of those serving on the WSCs. At this time the extension staff will confirm the accuracy of the information furnished and the ability of the WSC members to carry out their planning and management functions. Where necessary, additional organizational work and strengthening of the WSCs will be undertaken. The findings of the extension staff will be submitted to the district administration (District Executive Secretary) and DWD. During this period the consultant will also make a preliminary assessment of water

resources and the likely suitability of springs, dug wells, boreholes and surface supplies in the town.

c. ***Participatory Planning and Design*** - Planning will start with the extension staff assisting individual WSCs to assess the water, sanitation and health situation in the community, during which a problem identification exercise will be carried out. The WSCs will then undertake a similar exercise with other interest groups with adequate provisions for the representation of women. The findings of each group will then be discussed with the extension staff and presented at a WUG meeting where the community will review the assessments and the different perspectives of the various groups. This meeting will reach agreement on whether or not water supply and/or sanitation is a real priority; if not, the planning process will be terminated in the particular WUG area. Those WUGs that want to proceed will then get their WSC to prepare a map of the water sources in their area and discuss the technical options that are open to them, including the level of service offered by each, their capital and recurrent costs, and operation and maintenance requirements (see *Choice of Technology, Annex 5*). Those WSCs that want to join together to manage a piped system will form a WUA. Physical surveys and preliminary designs will be made for the options to be presented in the community *Facilities and Management Plan*, to be submitted to the district administration and DWD to verify that they conform to *Construction Grant Guidelines* and that the community will in fact be able to live up to its commitment, that is that they will be able to afford the chosen technology and are capable of managing it. Upon approval, the final design will be prepared, and a construction contract will be let after the community has deposited its cash contribution for construction and operation and maintenance in a joint signatory account.

d. ***Construction*** - The construction work will be contracted through competitive bidding. Where the beneficiaries can effectively contribute labor to construction as an in-kind contribution to the investment cost, such as for the digging of dug wells and trenches for a piped network, the extension staff will organize this work with the help of local officials.

e. ***Operation and Maintenance*** - The *Facilities Management Plan* will detail the operation and maintenance responsibilities which will rest with the communities. Generally, individual WSCs will maintain point source water supply systems with the assistance of private mechanics for difficult repairs. Maintenance of piped water and sanitation systems will be the responsibility of WUGs which will normally contract OMR to a private entity. DWD and the extension staff will provide technical and organizational backstopping to WSCs and WUAs.

SCOPE OF THE PROGRAM

2.09 The Government's Program of which the proposed Small Towns Water and Sanitation Project is a part includes about 60 priority towns and rural growth centers with present populations of between 500 and 40,000, totaling 597,000 (see *Annex 1, Table B*). These were selected from among a total of 270 municipalities, towns, rural growth centers, and trading centers based on the following criteria:

- Sizable population,
- Urban administrative status,[1]
- District headquarters status,
- Existing DWD or NWSC facilities and operational status,
- Availability of existing data,
- Presence of health and education institutions,
- Existence of, or potential for, industries,
- Existing infrastructure availability such as electricity,
- Development projects in the vicinity,
- High potential for financial sustainability, and
- High beneficiaries' willingness to pay for improved services.

2.10 Of the 60 towns, 6 are classified as municipalities, 31 as Town Councils, 11 as Town Boards, and 12 as Trading Centers. The urban status to some degree also reflects the town size. Thirty of the towns (50 percent) are district headquarters. The 60 Program towns listed in *Annex 1, Table B*, have been grouped by DWD into 7 financing packages for the purpose of obtaining external assistance, that are clustered as much as possible to minimize logistical difficulties. The Government intends to use the approach outlined in the *Policies and Guidelines* as the foundation for all projects under the Program and has communicated this to all the interested donors. One of the first financing packages is the Project proposed for IDA financing.

2.11 Project implementation is under way in six towns in Western Uganda (Fort Portal, Kabale, Kasese, Masindi, Mubende, and Hoima), with financing from the Kreditanstalt fuer Wiederaufbau (KfW) of approximately DM22 million (about US$14.7 million). A Technical Appraisal Report for these towns was prepared in May 1992, and implementation started in the beginning of 1993, incorporating some adjustments which became necessary by the introduction of the Policies and Guidelines. In July 1993 the African Development Fund, an affiliate of the African Development Bank, preappraised the rehabilitation and expansion of water supply and sewerage in Iganga and Mityana, with a combined population of 43,000 (1991) and an estimated project cost of $5.8 million. Discussions are in an advanced state with the Austrian Government for assistance with towns in the southwest (Kisoro, Muko, Kabirizi, Hamurwa, Muhanga, Kisizzi, Rwashamaire, Kanungu, Butogota, Kyazanga, Mbirizi and Kinoni), and with DANIDA for assistance with towns in the eastern part of the

[1] Municipality, Town Council, Town Board, or Trading Center

country where the RUWASA Project is being implemented (Ngogwe, Buikwe, Kayunga, Kasimba, Namasagali, Magamaga, Kaliro, Budaka, Pallisa, Mukono, and Kamuli).

III. THE PROJECT

BACKGROUND

3.01 The Small Towns Water and Sanitation Project would provide improved water and sanitation for one of the groups of towns packaged by GOU for implementation with donor assistance from among the 60 priority towns in the Government's Rural Towns Water and Sanitation Program (see Chapter II). It would be the first one in the Program to follow the newly-established *Policies and Guidelines (Annex 3)* for the provision of improved water supply and sanitation in urban areas not under the responsibility of NWSC and would thus be the model for a demand-driven approach whereby the communities participate in the planning of the installations (within given physical and organizational constraints) make a predetermined financial contribution, and ultimately operate and maintain the systems.

3.02 Of the 12 towns included in the Project (apart from Jinja) three have some piped water supplies (Kalisizo, Njeru, and Wobulenzi) which are in fair (Kalisizo) to good (Njeru and Wobulenzi) condition. Only Njeru has a sewerage system, covering a small portion of the town which is functioning well under NWSC management. In the remaining towns water is drawn from boreholes with handpumps, hand-dug wells, springs, and traditional sources such as rivers and lakes. Approximately 30 percent of the population in the project towns is served with improved water supplies and 10 percent with hygienic sanitation installations. Busia, with a population of 28,000, depends on 5 handpumps, 20 open wells, and 9 springs for water supply and has no other sanitation arrangements besides pit latrines.

PROJECT OBJECTIVES

3.03 The broader objective of the Project is to support the Government's economic recovery program by extending the rehabilitation and upgrading of water supply and sanitation services to urban areas that have so far not been covered. The specific objectives are to:

a. improve health conditions through better water supply, excreta disposal, waste water management, and public hygiene;

b. alleviate poverty and improve the lot of women; and

c. reduce environmental degradation through better waste management.

PROJECT DESCRIPTION

3.04 The Project would provide 12 small towns and Jinja with improved water supply and sanitation, consisting of: (i) rehabilitation and/or expansion of water supply and sanitation facilities; (ii) hygiene education related to water supply and sanitation; (iii) community participation in planning, implementation, operation, and maintenance of water supply and sanitation facilities; and (iv) institutional strengthening, technical assistance and training for the organizations in the sector. One of the Project components is the rehabilitation and expansion of water supply and sewerage in Jinja, to be expanded to include Njeru in a greater Jinja-Njeru service area, implemented by NWSC, while DWD would be responsible for project implementation in the other 11 towns *(Annex 1, Table C)*.

3.05 The approach taken in the Project differs from the customary assessment of the needs of the population in the project area followed by planning and construction by an implementing agency, the result of which has often been that the beneficiaries were unable or unwilling to cover the costs of operating and maintaining the schemes. In this Project the future beneficiaries would instead be involved in the planning and implementation of the schemes and contribute financially depending on the service level that they choose within the given technical and organizational constraints.

3.06 The water supply technology in the Jinja-Njeru service area would consist of a piped system operated by NWSC, and the consumers would have a choice between subscribing to a household connection or a communal tap. In the other 11 towns the choice of water supply technology would usually be between boreholes with handpumps, protected springs, and piped schemes of varying sizes. For sanitation the choice of technology would normally be between different kinds of pit latrines, septic tanks, and sewerage.

Part A: *Small Towns (US$ 19.4 million[1])*
Responsible Agency: DWD *See Annex 7*

Description

3.07 The water supply and sanitation facilities in the following 11 towns would be rehabilitated, expanded, and in some cases newly constructed, depending on their existing state: Busia, Kalisizo, Kyotera, Lugazi, Luwero, Lyantonde, Malaba, Ntungamo, Rakai, Rukungiri, and Wobulenzi. For water supply the technologies would typically consist of piped water systems of varying sizes, ranging from a small distribution network without water treatment to a large piped network with water treatment; boreholes or wells equipped with handpumps; and protected springs. Sanitation improvements would typically consist of the upgrading or construction of pit latrines of different designs, rehabilitation or construction of septic tanks, and

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1 Estimated total cost of component, including contingencies, taxes, and duties.

rehabilitation or construction of sewers and sewage treatment works (*Annex 6: Sanitation and Hygiene Education*).

3.08 Also included in the scope of work are the design and supervision of construction; arrangements for the sustainable operation of the schemes once they have been completed; hygiene education; and rehabilitation of office buildings for the eleven towns. Studies; technical assistance; and vehicles, equipment, spare parts, and chemicals would be procured for the 11 towns under Part A of the Project and for other towns in the Government's Program. Training that is directly related to project implementation is included in the cost estimates for Part A, while all other training, related to capacity building beyond the Project and for operation and maintenance of the works that would be constructed under the Project, is included in Part C: Capacity Building. For a detailed description and cost estimates for Part A see *Annex 7.*

Implementation

3.09 Preliminary designs for a mix of the technologies in each town were prepared by DWD with the help of consultants as part of the preparations for the Project. The final mix of technologies would be determined through the participation of the community and would be based on the given physical conditions (such as the available water sources, topography, and housing density) and the users' willingness to pay (*Town Implementation Process, Annex 4*). MNR would submit a draft Letter of Invitation (including Terms of Reference, Short List of Firms, Supplementary Information for Firms, and draft Contract) for the selection of a firm for design and supervision of the 11 towns to IDA for review within one month of project effectiveness. Assurances were obtained from the Government during negotiations that DWD would establish a satisfactory system of spare parts distribution for handpumps and other water and sanitation technologies, including their procurement, storage, distribution through the private sector, logistics of retailing, pricing, etc., by January 31, 1995.

3.10 The Department of Urban and Institutional Water Development in DWD would be responsible for the implementation of this component with the assistance of consultants, the district administrations of the districts in which the towns are located, and MOLG. Assurances were obtained from the Government during negotiations that (i) DWD would carry out public hygiene education in consultation with MOH and the district administrations, and conduct two workshops to review progress, not later than November 30, 1995, and November 30, 1998, respectively; (ii) DWD shall prepare and furnish IDA a plan for the implementation of the first workshop not later than August 31, 1995; and (iii) MOH would assist DWD, through their personnel stationed in the districts, in sanitation and hygiene education activities.

Part B: *Jinja - Njeru (US$ 24.8 million)*
Responsible Agency: NWSC *See Annex 8*

Description

3.11 The existing water supply facilities in Jinja would be rehabilitated, involving mainly the replacement of pipes, fittings, valves, hydrants, and related equipment. This would include leak detection and repair as well as water meter replacement and installation, and emphasis on providing commercially viable communal standposts. The existing water treatment works would be rehabilitated and the raw water intake structure modified. The water distribution network would be expanded to serve parts of Jinja, parts of Njeru, and other select areas outside Jinja Municipality. Consumer registration would be carried out for standposts, and household connections and billing would be improved.

3.12 The existing sewers in Jinja would be rehabilitated and expanded. The sewage treatment ponds in Jinja would be rehabilitated and modified as needed and new sewers and sewage treatment ponds constructed in Njeru. Other sanitation improvements would typically consist of the upgrading or construction of pit latrines of different designs, rehabilitation or construction of septic tanks, and construction of public latrines. For a detailed description and cost estimates for Part B see *Annex 8.*

3.13 The drawings for water supply and sewerage expansion in Jinja, which were prepared several years ago, would be revised as needed. Studies to improve the water supply and sanitation services in other towns under NWSC would be carried out, particularly for expansions in Kampala and Gulu. Plans for a limnological study related to the future raw water intake from Lake Victoria were prepared during a mission in August 1993 and would be carried out as part of the Project to provide vital information for the preparation of future expansion plans for water supply and sanitation in Jinja-Njeru. The Project also includes the provision of hygiene education; training; technical assistance; computerization of billing; a tariff study; and acquisition of vehicles, equipment, spare parts, and chemicals.

Implementation

3.14 The overall responsibility for implementing this component would be with NWSC under a relending subsidiary loan agreement with the Government (Para. 3.22). For designs, supervision, studies and preparation of plans for future expansion, NWSC would be assisted by consultants. MNR would submit a draft Letter of Invitation (including Terms of Reference, Short List of Firms, Supplementary Information for Firms, and draft Contract) for the selection of a firm for design and supervision of Jinja-Njeru to IDA for review within one month of project effectiveness. Assurances were obtained during negotiations that NWSC would carry out upgrading or construction of pit latrines, septic tanks, and public latrines and undertake hygiene education activities in collaboration with MOH and MOLG and under the overall

responsibility of (i) Jinja Municipal Council, for activities in Jinja, and (ii) Njeru Town Council in collaboration with DWD, for activities in Njeru. Assurances were also obtained during negotiations that NWSC would complete a *Water Demand Study in Jinja-Njeru* and a *Limnological Study* in Jinja, Njeru, Kampala, and Entebbe, both by September 30, 1995.

Part C: ***Institutional Strengthening (US$ 2.3 million)***
Responsible Agency: DWD *See Annex 9*

Description

3.15 The financial and management capacity of the main institutions involved would be strengthened to facilitate the implementation and operation of the water supply and sanitation improvements in the small towns. These institutions are (i) the user organizations to be formed, (ii) the district and urban governments, and (iii) DWD. The main factors which call for institutional strengthening are (i) the changing role of DWD as a planner and regulator of the sector rather than an implementor and to provide the needed backup to the community organizations that would be responsible for the operation and maintenance of the schemes, and (ii) the involvement of the communities in all stages of the Project, starting with planning. This component includes the provision of training, technical assistance, studies, workshops, preparation of training materials, vehicles, office furniture and equipment, training equipment, and rehabilitation of office buildings. For a detailed description and cost estimates for Part C see *Annex 9.*

Implementation

3.16 The Human Resource Development (HRD) Unit in DWD would be responsible for implementing this component with the assistance of a management and organization specialist and consultants. Assurances were obtained from Government during negotiations that DWD would complete (i) a *District Organization Assessment and Planning Study* for one district by March 31, 1995 and (ii) a participatory *Organization Assessment and Strategic Planning Study of DWD* by September 30, 1995.

COST ESTIMATES

3.17 The total cost of the Project is estimated at US$48.0 million equivalent, with a foreign exchange component of US$34.4 million or 72 percent of the total. The total project cost includes physical and price contingencies and taxes and duties. Taxes on local construction contracts and on goods not directly imported for the Project are estimated at US$0.8 million. Without taxes and duties, the total project cost would be US$47.2 million. A breakdown by component is shown in Table 3.1, with detailed cost estimates contained in *Annexes 7 to 9.*

TABLE 3.1

PROJECT COST ESTIMATES BY COMPONENT

	US$ Million			Component
	Foreign	Local	Total	% of Total
A. SMALL TOWNS (DWD)				
Civil Works	6.88	2.13	9.01	
Equipment and Materials	1.46	0.04	1.50	
Consulting Services, Technical Assistance, Training, etc.	2.68	1.60	4.28	
Operating Costs [1]	0.07	0.68	0.75	
SUB-TOTAL	11.09	4.45	15.54	39
B. JINJA - NJERU (NWSC)				
Civil Works	9.98	3.86	13.84	
Equipment and Materials	1.39	0.00	1.39	
Consulting Services, Technical Assistance, Training, etc.	4.05	1.48	5.53	
Operating Costs	0.00	0.20	0.20	
SUB-TOTAL	15.42	5.54	20.96	52
C. INSTITUTIONAL STRENGTHENING (DWD)				
Civil Works	0.14	0.55	0.69	
Equipment and Materials	0.40	0.05	0.45	
Consulting Services, Technical Assistance, Training, etc.	0.36	0.48	0.84	
SUB-TOTAL	0.90	1.08	1.98	5
REIMBURSEMENT OF PPF	1.20	0.30	1.50	4
TOTAL BASE COST	28.61	11.37	39.98	100
CONTINGENCIES				
PHYSICAL	2.41	0.79	3.20	
PRICE	3.43	1.39	4.82	
TOTAL CONTINGENCIES	5.84	2.18	8.02	
TOTAL PROJECT COST	34.45	13.55	48.00	
TAXES AND DUTIES		0.84	0.84	
TOTAL COST NET OF TAXES AND DUTIES	34.45	12.71	47.16	

[1] Operating costs include expenditures for office supplies and equipment, operation of vehicles used for the Project (fuel, maintenance, and insurance), office communications services, utilities, and performance and field allowances for project staff.

3.18 *In-kind contributions* by participating communities, consisting of a small cash payment, unskilled labor, and local construction materials (such as sand, bricks, gravel, and wood) for the rehabilitation or construction of water supplies or sanitation facilities are estimated at US$300,000. These are not included in the cost estimates contained in Table 3.1 and represent less than 1 percent of total project cost.

3.19 The *cost estimates* for major civil works, equipment and materials are based on contracts awarded recently for similar items. Minor civil works would be constructed through labor-intensive methods, some of which would be done with unskilled labor and locally available construction materials provided on an "in-kind" basis.

3.20 *Contingencies* - For physical contingencies, an average of 8.0 percent has been added to the base cost. For price contingencies, an average of 11.2 percent has been added to the base cost plus physical contingencies. Physical and price contingencies per component are shown in *Annexes 7 to 9*. To determine the price contingencies for costs estimated in US Dollars, an expected average annual price increase of 2.8 percent for the duration of the Project has been used. This rate has also been used for local costs on the assumption that the difference between domestic and international price inflation would be offset by equivalent adjustments in the foreign exchange rate.

FINANCING

3.21 The total project cost of US$48.0 million equivalent would be financed as shown in Table 3.2.

TABLE 3.2

PROJECT FINANCING

	US$ Million			Percent
	Foreign	Local	Total	of Total
IDA	34.40	7.90	42.30	88.1
Government of Uganda *		2.50	2.50	5.2
NWSC *		3.20	3.20	6.7
Total *	34.40	13.60	48.00	100.0

* Includes taxes and duties estimated at US$0.84 million equivalent in local currency

3.22 The IDA Credit of US$42.3 million equivalent would finance 88.1 percent of total project cost. GOU would contribute the equivalent of US$2.50 million (5.2 percent), including about US$0.37 million equivalent in taxes and duties. NWSC would contribute the entire counterpart contribution for Part B: Jinja-Njeru, amounting to the equivalent of US$3.20 million (6.7 percent), including about US$0.47 million equivalent in taxes and duties. Out of a total of approximately US$22.0 million equivalent from the proceeds of the credit to be passed on by the Government to NWSC, 50 percent or approximately US$11.0 million would be a grant in the form of equity, and 50 percent relent at the prevailing minimum rate charged by commercial banks in Uganda for commercial loans to companies, plus 3 percent, repayable over 25 years including 5 years of grace. The foreign exchange risk of the IDA Credit would be borne by GOU. The execution of a subsidiary loan agreement between the Government and NWSC, under terms and conditions acceptable to IDA, would be a *condition of disbursement* for Part B of the Project.

3.23 To assist with project preparation, a Project Preparation Facility (Nos. 660-UG, 660-1-UG, and 660-2-UG) in the amount of US$1.50 million was provided and has been utilized for: (a) one technical assistance staff position in DWD; (b) consultants to undertake the prefeasibility study; and (c) vehicles, office equipment and administrative expenses to DWD for project preparation. In addition, about US$0.83 million equivalent was provided under a Japanese PHRD Grant for a feasibility study for the Project. A portion (US$0.85 million) of the credit from the First Urban Project (Credit No. 2206-UG) is being utilized for further project preparation between appraisal and credit effectiveness.

PROCUREMENT

3.24 The procurement arrangements for the items to be financed by IDA are summarized in Table 3.3. International Competitive Bidding (ICB) would be utilized for 45 percent of all procurement (42 percent of the IDA financed portion). The details of procurement are shown in *Annex 10-a.* For goods, pre-shipment inspection may be carried out for quantity and quality at the point of origin by a pre-shipment inspection agent appointed by the Government, but for price inspection by a third party inspection firm. Prudent international or local shopping involves seeking at least three quotations. Tendering on the district level for works (Para. 3.26) or goods (Para. 3.28) would be carried out through competitive bidding with adequate transparency of the selection process acceptable to IDA, including public posting or advertising of the invitations to bid, public availability of standard forms of contract, public bid opening, evaluations subject to verification by a procurement committee with at least one member from outside DWD, and public announcement of bid award.

3.25 *Civil Works* - The construction of major water supply and sewerage schemes and the rehabilitation of existing facilities would be tendered through ICB. The drilling of about 350 boreholes with a total value not to exceed US$3.1 million

TABLE 3.3

AMOUNTS AND METHODS OF PROCUREMENT
(In US$ million; amounts financed by IDA are shown in italics under the total project cost)

	Procurement Method				
Description	**ICB**	**LCB**	**Shop-ping [1]**	**Other [2]**	**Total**
Civil Works	18.95	5.66		4.78	29.39
	15.19	*4.32*		*4.38*	*23.89*
Equipment, Spare Parts, Vehicles, Materials, etc.	2.64	0.11	0.20	1.20	4.15
	2.64	*0.11*	*0.20*	*1.20*	*4.15*
Consulting Services, [3] Technical Assistance, and Training				11.89	11.89
				11.89	*11.89*
Operating Costs				1.07	1.07
				0.87	*0.87*
Refunding of PPF				1.50	1.50
				1.50	*1.50*
Total	21.59	5.77	0.20	20.44	48.00
IDA	*17.83*	*4.43*	*0.20*	*19.84*	*42.30*

would be carried out as follows. As there is presently no established drilling industry in Uganda, the price of the lowest evaluated responsive bidder for the first drilling contract tendered through ICB would be compared with the cost for drilling that is currently being carried out by DWD through force account under the Northern Reconstruction Project (Credit 2362-UG). If this bid price is found to be more than 20 percent[4] higher than the above-mentioned force account drilling cost of DWD, further drilling work could be carried out by DWD through force account, with the prior consent of IDA. Payments for such force account work would be done using fixed rates for completed boreholes, the implementation of which would be monitored by the

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1 International or local shopping involving at least 3 quotations.

2 "Other" consists of force account, district-based competitive bidding, UNICEF for handpumps, and IAPSO on goods and civil works.

3 A breakdown of consulting services and technical assistance by the type and purpose of the assignment is shown in *Annex 11*.

4 Since most overhead expenses are not included in the force account costs of works performed by the Government, a reduction of the bid price would be made for the purpose of comparison of drilling costs.

district administration concerned, with the average cost of a completed and performing well and an installed handpump not to exceed US$10,000.

3.26 Local Competitive Bidding (LCB) would be utilized for civil works in small towns of dispersed locations for contracts of US$200,000 or less up to an aggregate of US$5.50 million. The construction of civil works for spring protection, hand dug wells, installation and the surround for handpumps, latrines, septic tanks, and other minor civil works, for individual contracts of US$20,000 or less with an aggregate amount not to exceed US$ 0.60 million, would be procured through tendering on the district level (see Para. 3.24).

3.27 *Equipment and Materials* - Pipes, fittings, and other equipment for water supply and sanitation installations would be procured through ICB. Furniture, supplies, chemicals, teaching materials, equipment, spare parts, and other minor equipment for individual contracts not to exceed $100,000 and in aggregate not to exceed US$0.40 million would be procured through LCB. Office furniture and supplies, chemicals, teaching materials, minor equipment and spare parts for individual contracts not to exceed $20,000 and in aggregate not to exceed US$0.20 million may be procured through prudent shopping (see Para. 3.24).

3.28 An estimated 350 handpumps of a standard design suitable for community maintenance would be procured from UNICEF, not to exceed a total of US$0.35 million. Desktop computers, software and peripheral equipment, and urgently required vehicles, the total not to exceed US$0.65 million, may be purchased through the Inter-Agency Procurement Service Office (IAPSO) of UNDP in Copenhagen, Denmark, with the prior approval of IDA. Latrine slabs of approved designs (both SanPlats and VIP slabs, see *Annex 6*), about 90 percent of which would be sold by DWD to heads of households at a subsidized price, or individual contracts of US$20,000 or less and an aggregate amount not to exceed US$0.10 million, would be tendered through LCB (Para. 3.24).

3.29 *Review by IDA* - IDA financed contracts and procurement of goods and works of US$200,000 and above would be subject to prior review by IDA. IDA-financed contracts with consulting firms above a threshold of $100,000 would be subject to prior review by IDA provided the firm is selected through competition. All terms of reference are subject to prior review by IDA. Selective post review of awarded contracts below the threshold levels would be carried out during supervision missions. LCB would involve advertising and public bid opening, and would specify clearly stated evaluation criteria for awarding the contract to the lowest evaluated bidder. Foreign firms would not be precluded from participation. The first LCB tender documentation prepared for the Project would be reviewed by IDA. It is estimated that 60 percent of procurement financed by IDA would be subject to prior review.

3.30 *Domestic Preference* - Eligible domestic contractors bidding for civil works contracts under ICB would receive a margin or preference of 7½ percent when comparing bids with those from foreign contractors. A margin of preference of 15 percent would be given under ICB for goods manufactured in Uganda when comparing domestic with foreign bids.

3.31 *Consulting Services and Training* - For studies, construction supervision, technical assistance, and training, consultants - including NGOs - would be hired on terms and conditions acceptable to IDA and in accordance with the Bank's *Guidelines for the Use of Consultants*. For overseas training financed under the Project, the qualifications of candidates along with their course of study, proposed training institutions and costs, would be reviewed by IDA. Local training courses and workshops proposed along with their estimated costs are also subject to prior review by IDA (for details on training see *Annex 9*). The provisions of the *Guidelines for the Use of Consultants* requiring prior IDA review or approval of budgets, short lists, selection procedures, letters of invitation, proposals, evaluation reports, and contracts shall not apply to contracts estimated to cost less than $100,000 equivalent each. This exception to prior IDA review shall, however, not apply to the terms of reference for such contracts nor to the employment of individuals; to single source selection of firms; to assignments of a critical nature as reasonably determined by IDA; and to amendments of contracts raising the contract value to $100,000 equivalent or above.

3.32 IDA would finance part of an estimated *Operating Costs* of US$1.07 million on the basis of reimbursement for actual expenses incurred. Operating costs are defined to consist of vehicle operating costs (fuel, maintenance, and insurance), performance and field allowances for project staff, utilities, and office supplies and minor office equipment. All expenditures for such operating costs would be based on approved lists of planned expenditure agreed upon with IDA.

3.33 The procurement practices of the two agencies that have the main responsibility for implementation, that is DWD and NWSC, were reviewed by IDA. They have previous experience in implementing donor-financed projects, including IDA, and have adequate in-house capacity to manage the procurement according to IDA guidelines with the assistance of individual consultants. The preparation of procurement documents, the evaluation of bids and consultants' proposals, and the soliciting of the views of external assistance agencies on these decisions is the responsibility of the line ministry involved, which would keep the Central Tender Board (CTB) informed of the actions taken at various steps in the procurement process. CTB is to receive bids and consultants' proposals and reviews the award of contracts before approval. Tender documents would be prepared in accordance with the Bank's guidelines for procurement, including (i) letter of invitation and contract for the hiring of consulting firms; (ii) short forms of contract for technical assistance specialists; (iii) consultants contracts intended for local firms; (iv) advertisement and bidding documents for minor civil works (for less than about US$10 million) for which prequalification would not be required; and (v) advertisement and bidding documents

for goods. Assurances were obtained from Government during negotiations that (i) the Government and NWSC would use the relevant standard bidding documents issued by the Bank for all civil works, goods, and consulting services, and (ii) that GOU would form a procurement committee to steer and facilitate all procurement on the Project, consisting of representatives from DWD, NWSC, Central Tender Board, and other organizations as needed, within one month after project effectiveness.

3.34 Procurement information would be collected and recorded as follows:

a. Prompt reporting of contract award information for the respective components by DWD and NWSC; and

b. As part of their semi-annual progress reports (see Para. 4.29) DWD and NWSC would submit to IDA up to date information on: (i) revised cost estimates for individual contracts and the total Project, including best estimates of allowances for physical and price contingencies; and (ii) a revised schedule of procurement actions, including advertising, bidding, contract award, and completion time for individual contracts.

DISBURSEMENTS

3.35 The fully implemented IDA credit would be disbursed as shown in Table 3.4. The Project is expected to be completed by June 30, 2001. The closing date would be December 31, 2001. A detailed disbursement schedule and anticipated disbursement profile are given in *Annex 12*.

3.36 Disbursements would be made against standard IDA documentation with the following exceptions, for which certified *statements of expenditures* (SOEs) would be used: (i) contracts costing less than US$50,000 equivalent, (ii) in-country seminars (training courses), (iii) performance and field allowances, and (iv) force account work. SOEs would be certified by the designated project manager in the project management structure (Department of Urban and Institutional Water Development) of DWD for Part A: Small Towns; and Part C: Capacity Building, and the designated project manager in the PIU of NWSC for Part B: Jinja-Njeru. These would be subject to review by supervision missions and annual audits (Para. 3.38).

SPECIAL ACCOUNTS

3.37 Assurances were obtained during negotiations that in order to facilitate the availability of funds for the Project when needed, two Special Accounts would be established in a commercial bank and operated and maintained on terms and conditions satisfactory to IDA. One account would be opened by DWD for the Government

TABLE 3.4

SCHEDULE OF DISBURSEMENTS

	CATEGORY	ALLOCATION (US$ million)	PER CENT OF EXPENDITURES TO BE FINANCED
	PARTS A AND C: SMALL TOWNS AND INSTITUTIONAL STRENGTHENING		
(1)	Civil Works	8.85	100% of foreign expenditure and 25% of local expenditure
(2)	Equipment and Materials	2.18	100% of expenditure
(3)	Consulting Services, Technical Assistance, and Training	5.12	100% of expenditure
(4)	Operating Costs	0.61	100% of foreign expenditure and 80% of local expenditure
	SUB-TOTAL PARTS A AND C	16.76	
	PART B: JINJA - NJERU		
(5)	Civil Works	12.04	100% of foreign expenditure and 25% of local expenditure
(6)	Equipment and Materials	1.53	100% of expenditure
(7)	Consulting Services, Technical Assistance, and Training	5.53	100% of expenditure
(8)	Operating Costs	0.16	100% of foreign expenditure and 80% of local expenditure
	SUB-TOTAL PART B	19.26	
(9)	Refunding of PPF		
	a. for Parts A and C	1.20	Amount Due
	b. for Part B	0.30	Amount Due
(10)	Unallocated		
	a. for Parts A and C	2.24	
	b. for Part B	2.54	
	T O T A L	42.30	

(called Special Account A) and the other by NWSC (called Special Account B) for Part B: Jinja-Njeru. The initial deposit of US$1.5 million into Special Account A and US$ 1 million into Special Account B would be replenished on the basis of satisfactory documentary evidence, to be provided to IDA, of eligible payments made from the account for goods and services required for the Project. No limit would be set on the size of payments which may be made from the Special Accounts other than that imposed by the balance remaining in each of the two Accounts at any time. All payments of US$250,000 or less would be channeled through the Accounts. The minimum size for issuance of Special Commitments would normally be US$250,000 equivalent.

AUDITING

3.38 The Ministry of Natural Resources and NWSC, would maintain accounts and records for project activities, including SOE's (Para. 3.36) and the Special Accounts (Para. 3.37) in accordance with sound accounting practices. Assurances were obtained during negotiations that the Government would have the records and accounts of the Project, including those for the Special Accounts and SOEs, audited for each fiscal year by independent auditors acceptable to IDA, and that it would submit the audit reports to IDA within six months of the end of every fiscal year, with a separate opinion by the auditors on SOEs. Similarly, assurances were obtained during negotiations that NWSC would have its records and its Project and corporate accounts, including those for Special Account B and SOEs, audited for each fiscal year by independent auditors acceptable to IDA and submit the audit reports to IDA within nine months of the end of every fiscal year, with a separate opinion by the auditors on SOEs. As a *condition of disbursement* for Part B of the Project, NWSC would provide IDA with any overdue audit accounts.

IV. ARRANGEMENTS FOR IMPLEMENTATION AND OPERATION-AND-MAINTENANCE

ORGANIZATION FOR IMPLEMENTATION

Directorate of Water Development

4.01 The upgrading of the Water Development Department to a Directorate of Water Development (DWD) entailed a new definition of its role: it would no longer be responsible for operations and maintenance of water supply and sanitation, but would concentrate more on increasing coverage with greatly increased participation of the users and the district administrations. At the time of its formation in the early 1950s, DWD was made responsible for hydrology, meteorology, irrigation and drainage, piped water supply, and dams and valley tanks. In the 1970s this was expanded to urban water supply and drainage, borehole drilling and maintenance, and spring protection. Because of the overall political and economic situation in Uganda during the 1970s and 80s, DWD could not fulfill its mandate: coverage with potable water supply remained below 20 percent as compared with a target of 50 percent set for the Water Supply and Sanitation Decade, and most of the existing water and sanitation schemes fell into disrepair. At the start of the recovery period a new approach to meeting the demand in rural and urban areas was developed over a period of several years in consultation with support agencies, with the following characteristics:

a. Establishment of a community-based maintenance system for rural water supply,

b. Decentralization of the operation and maintenance of urban water supplies to the districts and strengthening the capacity in the districts,

c. Redefining the role of DWD to be primarily concerned with planning, coordination, monitoring, and evaluation and to strengthen DWD in this role, and

d. Increased mobilization of internal and external resources for urban and rural water supply.

4.02 DWD would be responsible for the implementation of Part A: Small Towns, and Part C: Institutional Strengthening, of the Project (see Chapter III). This would be done in the newly established Department of Urban and Institutional Water Development (DUIWD), which would manage the entire Rural Towns Water and Sanitation Program (see Chapter II). Assurances were obtained from Government during negotiations that it would (a) establish and maintain, for the duration of the Project, adequate staffing in DWD for project implementation consisting of at least a project coordinator, procurement officer, socio-economist/monitor, and accountant; and

(b) employ a technical advisor for a minimum of two years from the date the credit becomes effective.

4.03 At the start of the mobilization phase in each town, the relevant sector related local extension staff would meet with district officials, representatives from DWD, the consultant, and other leaders. These extension staff would assist in the identification of Water User Groups (WUGs) that are willing to participate in the process, which in turn would form Water and Sanitation Committees (WSCs) to manage water supply and sanitation, and hygiene education for their respective WUG (*Town Implementation Process, Annex 4*). The consultative process between the extension staff and the WSCs at the start of project implementation in a specific town would revolve around a choice of technology from a set of available options with their associated costs to the beneficiaries. The capital cost as well as the recurrent cost varies considerably with the technology, as shown in *Annex 5*. Choice of technology, and the disclosure of the capital cost contribution to be made by the beneficiaries and the amounts of OMR costs that they would have to commit themselves to would be an important part of the dialogue. For piped schemes, WSCs would get associated into a Water User Association (WUA; Para. 2.07). The specific operational arrangements for the WSCs and the WUAs would vary with the local situation and would be left to the beneficiaries to decide during the mobilization phase. Once the Project has been implemented, the district administration would have the main responsibility for oversight and support for the WSCs and WUAs, and DWD would provide engineering advice and backup with maintenance in case of catastrophic failures (see Para. 4.17).

4.04 DWD would monitor the progress of implementation *(Supervision Plan, Annex 14)* utilizing the *Key Performance Indicators (Annex 13)* as the basis for the assessment of progress and initiate adjustments to the implementation procedures as needed, utilizing the experience gained from implementation in the first batch of towns to improve the implementation in the rest of them. This follows one of the principles contained in the *Policies and Guidelines (Annex 3)*, of "starting small," whereby implementation would be done in stages starting with one town in a pilot phase prior to project effectiveness[1] and then taking up the remaining towns in stages, with an increasing number of towns at each stage. The staff of DUIWD would be given some retraining as the nature of their work changes from a supply driven approach that is mostly technical in nature to a demand driven approach involving the users and the district administrations. Assurances were obtained from the Government during negotiations that before the implementation of any civil works contract for a specific town other than Jinja and Njeru, it would produce evidence for that town of: (i) the existence of land rights for the sites required for the Project, and (ii) conclusion of a written agreement between the Government and WSCs. This agreement would, *inter alia*, specify the account or accounts to be opened for the deposit by the WSCs of the agreed initial contribution to the construction cost and the timing of this deposit.

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1 Assisted through the First Urban Project, IDA Credit 2206-UG.

National Water and Sewerage Corporation

4.05 The National Water and Sewerage Corporation (NWSC), an autonomous parastatal organization reporting to the Ministry of Natural Resources, was established in 1972 to develop and operate water supply and sewerage systems in urban areas of Uganda on a self-supporting basis. NWSC is headed by a Managing Director who is guided by a Board of Directors. Originally NWSC had responsibility only for Kampala, Entebbe and Jinja, to which Masaka, Mbale, Mbarara, and Tororo were added in 1989 and Gulu and Lira in 1992. The Project Implementation Unit (PIU) of NWSC which presently manages the Second Water Supply Project would have the responsibility for the implementation of Part B: Jinja-Njeru of the Project, assisted by consultants. NWSC is in the process of giving the PIU a permanent status in the organization by transforming it into a department. Assurances were obtained during negotiations that NWSC would establish, and maintain for the duration of the Project, adequate staffing in NWSC for project implementation consisting of at least: (i) a project manager, engineer, socio-economist (Para. 4.09), and accountant; and (ii) a technical advisor employed for a minimum of two years from the date the credit becomes effective (Para. 4.02).

4.06 NWSC 's financial situation has improved over the last few years, partly through provisions of the Second Water Supply Project (Credit 2124-UG), but progress in boosting production, registering more consumers, reducing billing arrears, and disconnection for non-payment have not resulted in proportionate improvements in the corporate cash flow. Revenues increased by about 12% between FY91 (USh 5.9 billion) and FY92 (USh 6.7 billion), mostly due to (i) GOU promptness in approving tariff increases totaling 150% over the past three years, and (ii) a block mapping activity which updated the consumer register and added a net total of over 15,000 previously undocumented connections. However, the cash flow situation has suffered due to the fact that actual collections persistently fell short of revenue projections. Net debts at year-end FY92 stood at USh 3.8 billion (or 57% of revenues) compared to USh 2.3 billion (or 38% of revenues) in FY91 and to FY90 net debtors of USh 0.7 billion (28% of revenues).

4.07 Expenditure has been a function of realized revenues and not of planned operation and maintenance needs, which has led to a deterioration of the capital assets of the corporation. Working ratios have been consistently at a level of about 60% over the period. Operating expenditures for FY92 were constrained at USh 4.0 billion instead of the planned and budgeted USh 4.6 billion (increasing by about 10% instead of about 30% over FY91). At times there has been a shortage of funds to cover expenditure for needed routine operation and maintenance, such as for fuel. NWSC was able to provide the counterpart contributions to the Second Water Supply Project when needed, but this was greatly assisted by the delays in project implementation, making the actual requirements for counterpart funds less than the estimate. Plans for minor capital works to be financed by NWSC during the year had to be scaled down as a result of the revenue shortfalls.

4.08 The losses due to water leakage in the water supply mains and the distribution network are estimated at more than 50% even under the present system of operation where the water pressure is being kept purposely low to prevent even greater losses. The operation of the water treatment plant is impaired periodically by an excess of algae in the raw water pumped from Lake Victoria, which cannot be removed sufficiently in the settling tanks and consequently clog the filters. The financial situation in Jinja is further exacerbated by the fact that the steep increase in water tariffs since the start of the Second Water Supply Project three years ago and the recent realization of the threat to disconnect for non-payment has prompted many consumers not to pay their arrears and not to reconnect their household water supply, but rather fetch water from elsewhere, including from neighbors.

4.09 As part of the Project NWSC would step up the installation of water meters (to allow consumers to use water sparingly if they wanted to save money); launch a public education campaign about the need for consumers to cover the cost of water supply and sewerage; and to provide substantially more standposts in areas where there is low demand for household connections. To assist with the standposts program, a demand study would be carried out in Jinja-Njeru (see Para. 3.14) and a post created by NWSC and filled by a socio-economist (see Para. 4.05) in charge of promoting a standposts program. The socio-economist would perform the function of a *community standpost officer* and would head an outreach program, starting with Jinja-Njeru, to reach more low-income consumers by registering communal taps in the name of user groups or individuals and to generally promote better relations between NWSC and its customers. This program would later on be extended to other areas under NWSC.

4.10 Assurances were obtained from the Government during negotiations that it would take all necessary measures to (i) ensure that its ministries and parastatal bodies pay NWSC for water and sewerage charges promptly after the billing date and in any event to settle any arrears by the end of each fiscal year, and (ii) take all necessary actions to enable NWSC to make water tariff increases on a quarterly or more frequent basis, if required. It would be a *condition of effectiveness* that the Government has settled all overdue debts to NWSC whereby an account would be considered overdue after 60 days form the date of issuing the bill. Assurances were obtained during negotiations that NWSC would (i) carry out a valuation of the fixed assets of the water supply and sewerage facilities in Jinja and Njeru by June 30, 1997; in accordance with sound methods of valuation acceptable to IDA; (ii) improve its billing and collection efficiency to at least the following percentages by the end of each of its fiscal years: FY 1995 - 66 %, FY 1996 - 77 %, FY 1997 and thereafter - 82 %; (iii) maintain efficient billing operations so that arrears on total billing are no more than three months; (iv) continue to actively disconnect the water supply to consumers who are delinquent in their payments; (v) adjust the levels or structure of its tariffs - on a quarterly or more frequent basis, if required - and take any other actions necessary to ensure that funds would be generated from internal sources equivalent to at least 20 percent of its capital expenditure; (vi) on the basis of its forecasts review whether it

would meet this requirement by July 31 of each year, starting July 31, 1994 and shall furnish to IDA a copy of this review; and (vii) be fully responsible for OMR of its water supply and sewerage installations through revenue collected from tariffs.

Ministry of Health

4.11 MOH would participate in the Project since it has overall responsibility for environmental sanitation and health. MOH has an effective network of health personnel down to the parish level (RC-3). At the central government level there would be consultations between the MNR and MOH through DWD on the Project, focusing primarily on improvements in latrine coverage and hygiene education. Operationally, most health personnel involved with the Project would be at the district and town level. During the pilot town implementation activities (see Paras. 4.20-4.22) the roles of the various organizations involved would be more precisely defined.

District and Town Governments

4.12 On October 2, 1992, a policy of decentralization of administrative and financial functions to the districts was approved, one of the provisions of which is that the 39 district administrations in Uganda would ultimately be empowered to plan, design, and manage the provision and maintenance of social and economic services. In light of this the districts would be heavily involved in project implementation. Some of the larger urban areas have the same administrative status as the district administrations, that is that of an RC-5, and as such would already be equipped at this time to manage the Small Towns Water and Sanitation Project at that level with some outside assistance.

ORGANIZATION FOR OPERATION AND MAINTENANCE

4.13 In the past both DWD and NWSC were responsible for the operation, maintenance, and replacement (OMR) of all water supplies which they constructed. As a self-accounting parastatal organization, NWSC has been able to cover its operation and maintenance costs from the revenues it collected from the registered consumers. For this purpose it maintains a revenue collection department in each of its towns and has taken a number of measures in the last few years to increase its revenue (Para. 4.06). This income has allowed NWSC to operate and maintain its systems adequately, although there have been instances where cash flow problems have delayed some expenditures for OMR, such as for fuel (Para. 4.07). Financial targets to improve NWSC's performance were agreed upon for the Second Water Supply Project (Credit 2124-UG), the relevant provisions of which have been carried over to this Project (Para. 4.10).

4.14 The situation has been different for DWD which, because of the overall situation in the country at that time, has been unable in the recent past to adequately

fulfill its mandate to operate and maintain the urban schemes. Its responsibilities have therefore been redefined recently to let it divest the primary responsibility for operations and maintenance for all water supplies to local organizations and to continue providing only planning, coordination, and backstopping (Paras. 1.13, 4.01, and 4.16). OMR of the water supply and sanitation installations to be constructed under the Project would therefore be the responsibility of the WSCs and WUAs, as described below.

4.15 Assurances were obtained during negotiations that the ***Water User Groups (WUG) and Water User Associations (WUAs)*** would have the main responsibility for OMR of the water and sanitation facilities provided under the Project (Para. 4.03 and *Annex 4 -Town Implementation Process*). WUGs would be represented by elected ***Water and Sanitation Committees (WSCs)*** which would be responsible for ensuring the overall sustainability of the water supply and sanitation installations and promoting better public hygiene, for which they would operate and maintain the systems, collect water charges, select and remunerate staff, and safely keep funds mainly through the establishment and management of a bank account. In cases where several water points are part of a larger installation - in mostly a piped system - the WSC would be associated with a WUA, which would have overall responsibility for setting water rates, revenue collection (directly or through the WSCs; Para. 2.07d), and any expansion that may be agreed upon.

4.16 The role of the ***Directorate of Water Development (DWD)*** in operation and maintenance would henceforth be to provide management and engineering advice to the local organizations responsible for the operation and maintenance (such as the WSCs and WUAs in small towns) and backup with maintenance in case of catastrophic failures, such as when well rehabilitation is required. The revenue collected by the local organizations should be sufficient to cover replacement of parts with an expected life of up to about eight years in addition to operation and routine maintenance, but it has to be expected that in the initial stages of implementing the new maintenance policy some would not be able or willing to do so, and funds from the Government's recurrent budget would be needed to assist the local organizations with such large and infrequent repairs. One arrangement that should be tested for such cases is a cost sharing of the user organizations, DWD and the district administration, whereby each would contribute funds in an agreed proportion. Future expansion or upgrading of the system should in principle be financed entirely by the user organizations, but Government subsidies may be applied here too. Provisions of this kind would have to be agreed on in the course of project implementation as experience is gained with the results of the earlier stages of community mobilization and with the specific operational arrangements that emerge and experience with the actual operation and maintenance of the schemes.

4.17 DWD would be the primary source of technical support to WUGs and WUAs for OMR although over time it is anticipated that private companies and individual artisans would compete with DWD in the provision of backup services. Since DWD is the Government agency responsible for the Small Towns and the

Institutional Strengthening components of the Project, it would remain accountable for OMR of the water and sanitation facilities in cases where WUGs or WUAs should cease to function satisfactorily, at least until the water supply functions have been effectively passed on to the district level under the decentralization policy (Para. 4.12). At the same time DWD would remain responsible for monitoring the performance of the WUGs and WUAs and assuring the quality of construction, at least until the effective devolution of water supply sector responsibilities to the districts actually takes place.

4.18 The *National Water and Sewerage Corporation (NWSC)* finances the OMR of water supply and sanitation in Jinja-Njeru through the revenues collected. NWSC could be a source of spare parts for piped systems for WUAs at commercially established rates and a potential source of engineering and management assistance to WUAs with larger piped schemes.

4.19 Assurances were obtained during negotiations that *local authorities*, both district administrations and urban authorities, would: (i) assist in the establishment of WUGs and WUAs; (ii) carry out regular hygiene education activities (*Annex 6*) in consultation with MOLG; and (iii) constitute the appropriate authority for appeals by WUGs and WUAs in case disputes arise. The appropriate level of the resistance council would oversee the overall performance of the WSCs and WUAs as part of their general role. Direct election of WSCs by the water users would assure that the management of the water supplies and sanitation facilities is transparent and continues to have the support of the users.

PILOT IMPLEMENTATION

4.20 Implementation of the project approach in Lugazi (and possibly Wobulenzi) would begin on a pilot basis around March 1994, with part of the proceeds of the Credit for the First Urban Project (Credit. 2206-UG), thus acquiring experience to refine the *Policies and Guidelines* as needed and to collect more information for the preparation of the *Implementation Manual*. The primary activities to be conducted during the pilot phase, for which consultants would be engaged, are for DWD to establish functional mechanisms (dialogue process, contracts preparation, establishment of bank accounts, etc.) to operationalize the demand-driven approach for community managed urban systems. A small amount of construction would also occur during this period, but the main construction in Lugazi and Wobulenzi would take place only after project effectiveness, after which DWD would begin full scale implementation in the next batch of towns.

4.21 In five towns extensively surveyed during the preparation stage for the Rural Towns Water and Sanitation Program in early 1992, a high demand for improved water supply and sanitation services was found to exist by means of an abbreviated willingness-to-pay survey. This demonstrated the respondents' desire to attain higher

levels of service than they have at present. It was also documented at that time by the consultants that in 39 of the 60 towns a high degree of private water vending exists, again indicating a high willingness to pay for a better service. As many of the water supply systems are not functioning at all or at a very small capacity, the opportunity exists for water vendors to partially fill the void, at a considerable cost to the households or businesses served.

4.22 Project implementation according to the procedures outlined in the *Town Implementation Process (Annex 4)*, commencing with the pilot in Lugazi and Wobulenzi, would start with a dialogue with potential beneficiaries to more accurately assess the demand for water supply and sanitation services. Potential beneficiaries would be presented with optional levels of service which would be related to: the size of an initial commitment fee; a further contribution to capital cost as the Project is implemented; and a commitment to manage and finance OMR costs. During the pilot phase the procedures described in the *Town Implementation Process* would further refined and incorporated into the draft *Implementation Manual*.

LEGAL ASPECTS

4.23 The water sector legislation has recently been redrafted under the Second Water Supply Project (Credit 2124-UG) and is currently awaiting enactment. Assurances were obtained during *negotiations* from the Government that draft legislation and regulations exist that provide a framework for the functioning of the Water and Sanitation Committees (WSCs) and Water User Associations (WUAs). Since *negotiations* the Government has submited to IDA (i) a Letter of Sector Policy (*Annex 2*), (ii) a resettlement plan, with adequate compensation, for the relocation of all families living on the sites selected for the Project; and (iii) evidence that Egypt, Kenya, Sudan, and Tanzania have been notified of the additional water withdrawals from the Nile basin which would result from the Project. Assurances were obtained from the Government and NWSC during negotiations that they would promptly implement the above-mentioned resettlement plan. It would be a *condition of credit effectiveness* for the Government to submit evidence that it has established a legal and regulatory framework for the functioning of the WSCs and WUAs. It would be a *condition of disbursement* for Part B: Jinja-Njeru, for NWSC to submit to IDA evidence of land rights for the sites required for the Project in Jinja and Njeru.

TARIFFS AND REVENUE COLLECTION

4.24 The tariffs set by NWSC have risen at a much higher rate from 1988 as compared to those charged by DWD. NWSC, operating as a parastatal in nine urban areas, has to keep its tariffs current to maintain financial viability as it receives no subsidies from the Government apart from the Government's equity contribution on some of the externally-assisted projects. Tariffs charged by DWD have seriously

lagged behind inflation for many years now, and its arrears are high. NWSC on the other hand has lower arrears as a result of stricter bill collection policies and disconnection actions (see Paras. 4.06 to 4.10).

4.25 The *Policies and Guidelines* (*Annex 3*) contain a significant change in the way tariffs would be levied and revenues collected and utilized. Under the Rural Towns Water and Sanitation Program of DWD, the Government would provide nearly all of the capital cost of basic levels of service, while the incremental cost of higher service levels would be paid by the users, and the operation and maintenance costs of the systems would be entirely the responsibility of the users. Tariffs would be set by the WSCs and WUAs, which would also be responsible for the collection of tariffs and accounting for the revenues and expenditures.

4.26 In the 11 small towns in the Project under DWD, WSCs would, together with the communities, determine the tariffs to be collected to sustain the investment as well as the system of collection, accounting, and documentation. DWD would provide guidelines for recommended methods of revenue collection, the maintenance of bank accounts, and accounting, but the communities would be free to determine their own methods, as long as these are judged to constitute prudent practice. Periodic auditing of the funds collected and expended for the water supply and sanitation system would be the responsibility of the district or urban authority administration and of DWD.

PROJECT MONITORING AND REPORTING

4.27 The *Supervision Plan* for the Project is shown in *Annex 14*, and the key performance indicators which would be used in the monitoring by DWD are given in *Annex 13*. Effective monitoring and feedback are essential in the iterative and interactive design process. The preparation of a draft *Implementation Manual* for the Project would be a *condition of credit effectiveness*. The contents would include detailed specifications of the role of DWD, the WUGs, WSCs, and WUAs, and the district administrations in project implementation and operation and maintenance; a statement of responsibilities and procedures for the WUGs, WSCs, and WUAs; standard forms of agreement between DWD and WSCs and WUAs; guidelines for the opening and maintenance of accounts; guidelines for the setting of tariffs; specifications of monitoring procedures and monitoring indicators; a detailed implementation plan for sanitation improvements and hygiene education; etc. The *Implementation Manual* would be finalized during the *Project Launch Workshop* (Para. 4.28). During the pilot implementation that precedes the start of the Project, the procedures and indicators would be revised and expanded (Para. 4.22), and this process would continue for the duration of the Project.

4.28 Reporting would be provided by the consultants to DWD at a minimum of every three months and these reports would be kept readily available in the offices of DWD for monitoring purposes and to assist Bank supervision teams. Reporting would

be concise and action-oriented such that the Project could be redirected if required as implementation proceeds. As the Project depends upon new approaches to the sector it is anticipated that 18 staff-weeks per year of Bank supervision would be required during the first three years and 12 staff weeks per year thereafter, as per the *Supervision Plan (Annex 14)*. Assurances were obtained from the Government during negotiations that a *Project Launch Workshop* would be organized by DWD in cooperation with NWSC within three months of project effectiveness to familiarize all concerned with the provisions under the Project and with the procedures for its implementation, including procurement, disbursement, auditing, and reporting.

4.29 Assurances were also obtained from the Government during negotiations that semi-annual progress reports on the Project would be prepared by DWD with inputs from NWSC and submitted to IDA no later than February 15 and August 15 each year of project implementation. The format would be mutually agreed upon prior to the date of the submission of the first report and would be modified as appropriate during the implementation of the Project. The current status of project implementation as measured by the *Key Performance Indicators (Annex 13)* and the status of procurement (Para. 3.34) would form part of the progress report. Assurances were also obtained from the Government during negotiations that an annual *Implementation Review Workshop* to review the operational, financial and institutional performance of the Project during the preceding 12 months would be held no later than March 15 every year of project implementation, with the participation of all concerned. DWD, with the assistance of NWSC, would prepare a *Project Completion Report*, the contents and format of which would be agreed upon during the last World Bank supervision mission. The Government would submit this report to IDA within 6 months after the completion of the Project, that is by December 31, 2001. A detailed *Supervision Plan* is shown in *Annex 14.*

MID-TERM REVIEW

4.30 Assurances were obtained during negotiations that the Government, with the assistance of NWSC, would carry out a Mid-Term Review of progress made with project implementation jointly with IDA by no later than March 31, 1997. The Government, with the assistance of NWSC, shall prepare an evaluation report and submit it to IDA at least one month before the Mid-Term Review. The main areas to be covered by the Mid-Term Review and to be contained in the above-mentioned report are: review of experience with the implementation procedure in each town (*Town Implementation Process, Annex 4*); experience with the formation of the WUGs and the establishment and functioning of the WSCs and WUAs; the progress of project implementation as measured by the *Key Performance Indicators (Annex 13)*; performance and use of technical assistance personnel, their national counterparts, and consultants; status and results of training; reporting, accounting and audit performance, including SOEs; status of procurement (Para. 3.34); disbursement procedures and the use of the Special Accounts; and provisions for the future sustainability of the

investments financed through the Project. The principal focus of the review would be the organizational arrangements at the community level, their degree of autonomy from Government and their representativeness of their constituency, their effectiveness in participating in the planning of the schemes, and their preparedness to manage and finance OMR. The procedures followed in project implementation and the roles of the organizations involved may have to be modified, depending on the outcome of the review. During negotiations the Government agreed to promptly carry out the recommendations that would result from the Mid-Term Review.

V. PROJECT JUSTIFICATION

MAIN BENEFITS AND BENEFICIARIES

5.01 The Project is designed to improve the water supply and sanitation conditions of the inhabitants of 11 towns and the Jinja-Njeru service area. The focus would be placed on communities in these towns who demonstrate a demand for improved services and are willing to participate in the rehabilitation and construction of their infrastructure. Jinja, the second largest town in Uganda, would have its 40 year old water supply and sewerage system rehabilitated, addressing the needs of all income groups. Commercial and industrial ventures in the 11 towns and Jinja-Njeru would also benefit from the improved service thus assisting in economic recovery.

5.02 The main benefits from the Project would be (i) better *health* through the improved personal hygiene, excreta disposal, and waste management and (ii) *time* and effort saved in fetching water and in the daily routine of personal hygiene through a more convenient location of latrines and toilets. The target population consists of people to be newly served with water supply and/or sanitation in the project area and the people whose system would be rehabilitated. Out of a present (1991) population of 188,000 in the project area (11 towns, Jinja and Njeru) it is estimated that some 60,000 are now served with a water supply system, which however provides an adequate supply for only about half of them, that is 30,000 (for a breakdown per town, see *Annex 1, Table C*). For the remaining 30,000, the water supply is inadequate insofar as the water availability may be unreliable (intermittent or not functioning for several days at a time), too much crowding at the water point (too many people per water point), too far from the home, or some other problem. The design population in the year 2001 in the project area is estimated at 271,000. The Project would provide a new water supply service to 126,000 people which, when added to the 30,000 to benefit from rehabilitation, brings *the total population that would benefit from water supply through the Project* to 156,000, or 58 percent[1] of the total future population in the project area. The Project would thus increase the *coverage of water supply* in the project area from the present 15 percent with adequate service to 69 percent[2] at the end of the Project. Of the 126,00 people to receive new supplies, 78,000 are expected to be served with a piped system (mostly standposts, and a few household connections), 36,000 by handpumps (mounted on boreholes or dug wells), and 12,000 by protected springs.

5.03 Apart from providing increased coverage with water supply and sanitation by the time the Project is completed, specific measures are included to greatly improve the chances of sustaining a better service beyond the duration of the Project. One of them is the active participation of the beneficiaries in the planning,

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1 156,000 of 271,000 is 58 %.

2 28,000 of 188,000 is 15 % (1991) and 186,000 of 271,000 is 69 % (2001).

implementation, and operation and maintenance of the technologies, that is a demand-driven approach, which would increase the role of the beneficiaries in managing their own water and sanitation and facilitate the participation of the private sector. Another feature is the institutional strengthening and reorientation of DWD at headquarters and in the districts so that it could better perform its role of a planner, facilitator, and regulator of the sector rather than an implementor. The institutional capacity of district and urban authorities and community organizations involved in the sector would also be strengthened, all of which is the subject of Part C: Institutional Strengthening, of the Project. Training would mainly benefit the civil servants participating in project implementation and the members of WSCs and WUAs and the functionaries working under them. The refinement of the demand-driven approach and the capacity building component would improve future projects.

POVERTY ALLEVIATION

5.04 The poverty profile of Uganda places 57 percent of the rural population in the category of "poor" (below USh 6,000 per month) while 38 percent of the urban population is classified as poor. The following characterizes the policy of GOU towards poverty alleviation:

> *The Government's stated overarching objective over the next decade is to seriously reduce the levels of poverty in Uganda. To achieve this it would have to focus its attention on two sets of policies: (i) policies which would accelerate economic growth; and (ii) policies which would deliver key services to the poor and, by investing in human capital, ensure that the poor are able to participate equitably in that growth.*[1]

5.05 The proposed Project includes the entire population in the project towns regardless of their income and seeks suitable solutions for different income groups through participation of the beneficiaries in planning, implementation, and OMR. The formation of WUGs on the basis of neighborhoods also provides the opportunity for low-income households to find their own solution rather than to depend on the "spill-overs" from the solution that is often based on meeting the needs of the upper income users. Low income households may not be willing (or able) to pay the cost of water from a tap, but an improved service would nevertheless be provided for them in the form of a well with handpump or an improved spring. Similarly with waste water, where sewerage and even the lower-cost septic tanks would in all likelihood be demanded by only a few, while the majority would opt for an improved pit latrine. The communities would however be encouraged to make their own decisions about the level of water supply and sanitation service which they are willing to pay for rather than having others, who may not be adequately informed, make the decision for them.

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1 "Uganda - Growing Out of Poverty", World Bank, 1993; page 137, paragraph 9.1.

IMPACT ON WOMEN

5.06 As women have primary responsibility for the health of their families and are often the drawers of water, improvements in the water supply and sanitation facilities would have a beneficial impact on women. They would have more time to devote to other household activities, including those for income generation, as a result of improvements in water supply. Improved sanitation at the household level would lead to better health for the entire family when accompanied by hygiene improvements, an activity where again the women would play a key role. To increase the likelihood of success, it is strongly recommended in the *Policies and Guidelines (Annex 3),* which contain the basic principles for the community-based maintenance approach to water supply and sanitation in small towns, that at least half the members of the committees should be women.

ENVIRONMENTAL IMPACT

5.07 The Project is classified *Environmental Assessment Category B* as it may have some specific environmental impacts. Limited environmental studies were accordingly carried out, with the results summarized in Paras. 5.08 and 5.09. The additional amount of water which would be abstracted from the Nile Basin as a result of project activities is estimated to be no more than 3.1 million cubic meters per year, of which at least half would be returned to the basin (Para. 4.23). The Government of Uganda has notified the four riparian states: Tanzania, Egypt, Sudan, and Kenya of the Project and its abstraction implications. All riparian states have responded, raising no objection to the Project. It is the Bank's view that implementation of the Project would not cause appreciable qualitative nor quantitative harm to any of the riparian states in the Nile basin. It is not anticipated that any families would have to be resettled as part of the Project, but should some resettlement be required, adequate compensation would be paid to the affected families as per the Government's resettlement plan (Para. 4.23).

5.08 ***Jinja-Njeru*** - The planned water supply interventions in Jinja would not increase the water supply treatment capacity and therefore the requirements for water abstraction at the source, but would rather deal with the rehabilitation and modification of the existing water treatment plant, including the water intake structure, rehabilitation of the water mains and water distribution network, and extension of the network in Jinja, Njeru, and adjacent areas. The present capacity of the water treatment plant is sufficient to supply these additional consumers. For waste water treatment, the existing sewer lines and waste water stabilization ponds at the two treatment plants in Jinja would be rehabilitated and modified to accommodate the additional flow that is expected to result from sewer rehabilitation and to improve the quality of the effluent from the two sewage treatment plants. The basic design of the existing plants is considered adequate: the sewage treatment plant which discharges into a papyrus swamp which ultimately drains into Lake Victoria has currently three ponds in series, and the plant which discharges directly into the Nile below Owens Falls dam

- with a high dilution of the effluent - provides primary treatment. The rehabilitation and modification of these plants, including the development of revised operational procedures, would therefore be primarily concerned with improving the long-term operating efficiency to assure that a satisfactory quality of the effluent would be maintained in the long run. Monitoring of the quality of the effluent and receiving waters is part of the on-going Second Water Supply Project (Credit 2124-UG). In Njeru, which is located next to Jinja on the left bank of the Nile, a new waste water treatment plant would be built to treat waste water that is currently discharged directly into the Nile without treatment and the existing sewers extended to include additional large sources of waste water, such as from some housing estates. Environmental conditions throughout the Jinja-Njeru area would also be improved through the upgrading of existing latrines and septic tanks and the construction of new ones.

5.09 ***Small Towns*** - Special attention would be paid in design and implementation of the water supply and sanitation improvements to mitigate negative environmental effects. Additional water abstractions would be minimal because most of the additional piped water supply would be obtained through the rehabilitation of existing installations and the improvement of existing springs. Groundwater would be tapped for additional water withdrawals wherever there is sufficient yield. Furthermore, the interactive design and implementation process with communities is likely to result in better (and most affordable) solutions to the siting of boreholes, hand-dug wells, spring protection measures, and the construction of waste water stabilization ponds, septic tanks, and latrines. Improvements of the urban environment in the small towns would result from improvements in sanitation facilities, and hygiene education. Presently there is no reliable emptying service for septic tanks in these towns.

SUSTAINABILITY

5.10 Sustainability in the water supply and sanitation sector in Uganda has been constrained by a lack of financial and human resources to adequately operate and maintain the existing investments. Experience in Uganda and elsewhere has shown that the chance of achieving long term sustainability is greatly increased by community participation in the technology choice, level of service and cost implications, and operation and maintenance of the water supply and sanitation facilities. These principles would also be followed in the Project, as described in the *Policies and Guidelines* (*Annex 3*). Through their participation in the technology choice for water supply and sanitation improvements - associated with a commensurate contribution to the capital cost - the beneficiaries would acquire the sense of ownership of the installations necessary for their willingness and ability to operate and maintain them once they are completed. User organizations (see Paras. 2.07(d) and 4.03) would be formed specifically for water supply and sanitation and would be responsible for managing the installations in their care. As part of the Project the DWD would be further reoriented and strengthened in its new role of planner, facilitator and regulator rather than an implementor in the sector.

PROJECT RISKS

5.11 The anticipated risks with this relatively new approach of providing an affordable and sustainable service with the active involvement of the communities have primarily to do with the definition of roles and functioning of the new community organizations to be created and with the impact of decentralization on future administrative functions of the Government. The following are considered to be the main risks:

a. The implementation of the Government's administrative decentralization policy involving district administrations, which was approved in July 1992, has not yet progressed to a level where the new relationship between the district administrations (RC-5 level), the town administrations (RC-3 or 4 level), and the central government is clearly defined. The *risk* of local government and central government institutional conflict does exist and needs to be monitored. Periodic follow-up and supervision would be provided by the DWD to monitor the performance of the WUGs, WUAs, and the related WSCs.

b. Similarly, the newly established Water User Groups, Water User Associations, and Water and Sanitation Committees would require project implementation experience before the *risk* of management conflicts, due to overlapping responsibilities and functions, is removed.

c. The technical and managerial capability of some of the town administrations may be insufficient for effective project implementation. While select staff of all town administrations and selective district administrative personnel involved in project implementation would be given appropriate training, back-up arrangements would be made by DWD to fill gaps that may arise.

d. The efficiency and accountability of the lower-level resistance councils, particularly RC-1, varies greatly. The RC system tends to be most effective in situations where the population is relatively homogeneous and most people know each other well. Towns generally do not fit this description. While the RC's would not be the direct managers, they would supervise the election of committees and may unduly interfere in their management. The community mobilization activities would have to take this into account, and it may be necessary to monitor and support community involvement beyond the period of project implementation.

d. WSCs and WUAs may lack the management and technical know-how to fulfill their mandate. They would be given technical and management support to provide stability and institutional arrangements which provide maintenance mechanics and spare parts expeditiously and at a reasonable cost. WSCs and WUAs would make repairs themselves, hire the services of

a private mechanic, or get technical support at the district level. Back-up support from local authorities should also be provided. Spare parts are at present imported and distributed by external support agencies, and piped system components are imported by NWSC, mainly through donor-assisted projects. A satisfactory system of spare parts distribution would be established as part of the Project (Para. 3.09).

VI. AGREEMENTS REACHED AND RECOMMENDATION

AGREEMENTS REACHED DURING NEGOTIATIONS

6.01 The following agreements with or assurances from the Government or NWSC were reached during negotiations :

a. DWD to establish a satisfactory system of spare parts distribution for handpumps and other water and sanitation technologies by January 31, 1995 (Para. 3.09);

b. DWD to carry out public hygiene education in consultation with MOH and the district administrations, and conduct two workshops to review progress, not later than November 30, 1995, and November 30, 1998, respectively, and MOH to assist DWD in sanitation and hygiene education activities (Para. 3.10);

c. NWSC to carry out sanitation and hygiene education activities in collaboration with MOH, MOLG, Jinja Municipal Council, Njeru Town Council, and DWD (Para. 3.14);

d. NWSC to complete a Water Demand Study in Jinja-Njeru and a Limnological Study, both by September 30,1995 (Para. 3.14);

e. DWD to complete (i) an Organization Assessment and Planning Study by March 31, 1995, and (ii) a participatory Organization Assessment and Strategic Planning Study of DWD by September 30, 1995 (Para. 3.16);

f. Government and NWSC to use the standard bidding documents issued by the Bank and Government to form a procurement committee within one month after project effectiveness (Para. 3.33);

g. Government to have the project accounts audited and to send the auditors' reports to IDA within *six* months of the end of each financial year, and NWSC to have its accounts and the accounts of the Project audited and to send the auditors' reports to IDA within *nine* months of the end of each financial year (Para. 3.38);

h. Government to establish, and maintain for the duration of the Project, adequate staffing in DWD for project implementation (Para. 4.02);

i. Before the implementation of any civil works for a specific town other than Jinja and Njeru, Government to produce evidence of (i) existence of land

rights for the sites required for the Project, and (ii) conclusion of a written agreement between the Government and WSCs (Para. 4.04);

j. NWSC to establish, and maintain for the duration of the Project, adequate staffing in NWSC for project implementation (Para. 4.05);

k. Government to ensure that its ministries and parastatal bodies pay NWSC promptly for water and sewerage charges, and to enable NWSC to make water tariff increases on a quarterly or more frequent basis (Para. 4.10);

l. NWSC to carry out a valuation of the fixed assets of the water supply and sewerage facilities in Jinja and Njeru by June 30, 1997 (Para. 4.10);

m. NWSC to improve its billing and collection efficiency to agreed percentages and maintain efficient billing operations (Para. 4.10);

n. NWSC to adjust its tariffs to ensure that funds would be generated from internal sources equivalent at least 20 percent of the its capital expenditure, and by July 30 of each year review whether it would meet this requirement and shall furnish to IDA a copy of this review (Para. 4.10);

o. WUGs and WUAs would have the primary responsibility for OMR of the water and sanitation facilities (Para. 4.15);

p. District administrations and urban authorities would assist in the establishment of WUGs and WUAs, and carry out regular hygiene education activities (Para. 4.19);

q. Government, with the assistance of NWSC, to hold a *Project Launch Workshop* within three months of project effectiveness, submit to IDA progress reports by February 15 and August 15 every year, hold an implementation review workshop by March 15 every year, and prepare a Project Completion Report within six months of project completion (Paras. 4.28 and 4.29); and

r. Government to carry out a Mid-Term Review by no later than March 31, 1997 (Para. 4.30).

CONDITIONS OF CREDIT EFFECTIVENESS

6.02 Conditions of effectiveness of the credit are for:

a. Government to settle all overdue debts to NWSC (Para. 4.10);

b. Government to submit evidence that it has established a legal and regulatory framework for the functioning of the WSCs and WUAs (Para. 4.23); and

c. Government to prepare a satisfactory *Implementation Manual* (Para. 4.27).

CONDITIONS OF DISBURSEMENT

6.03 Conditions of disbursement for Part B, Jinja-Njeru:

a. Execution of a subsidiary loan agreement (Para. 3.22);

b. NWSC to provide IDA with any overdue audit accounts (Para. 3.38); and

c. Evidence of land rights for the sites required for the Project in Jinja and Njeru (Para. 4.23).

RECOMMENDATION

6.04 Based on the above assurances and agreements, the Project is suitable for a credit to the Republic of Uganda of SDR 30.4 million (US$42.3 million equivalent) on standard IDA terms with forty years maturity including ten years of grace.

ANNEXES

TABLE A

WATER AND SANITATION SECTOR
INVESTMENT STATUS 1991-94
(US$ million)

Project Number	*Project Description*	*Donor*	*Population to be Served (X 1000)*	*Total Cost of the Project*	*Total Expenditure to June 1993*	*Planned Expenditure to June 1994*	*Balance to be Financed after June 1994*
WI-01 (SI-11)	Completion of Katwe/Kabatoro, Bushenyi, Ishaka, and Rakai water and sanitation systems	France	25	6.22	0.14	4.26	1.96
WI-02 (SI-12)	Uganda Second Water Project	IDA	176	84.95	31.72	52.65	32.30
WI-03 (SI-10)	Four Urban Centres - Gulu, Lira, Kamuli, and Mbarara	AfDB ADF	65	22.32	21.16	22.32	0
WI-04c (SI-32A)	Small Towns Water and Sanitation Project	IDA PHRD Grant	160	51.18	1.81	5.36	45.82
WI-04b (SI-32B)	Rehabilitation of Kabale, F. Portal, Hoima, Masindi, Kasese, Mubende	KfW	103	28.13	1.02	6.88	21.24
WI-05 (SI-14)	Rehabilitation and construction of rural water supplies countrywide	UNICEF	6,000	18.37	10.69	15.02	3.35
WI-06 (SI-83)	Rural Water and Sanitation in Eastern Uganda	DANIDA	400	47.69	14.79	23.24	24.45
WI-08 (SI-98)	Hydrogeology, Phase II, Uganda			0.44	0.14	0.14	0.30

TABLE B RURAL TOWNS WATER AND SANITATION PROGRAM
PROPOSED FINANCING PACKAGES

Town	*District*	*Current Population (Year 1991)*	*Projected Population (Year 2001)*	*Proposed Financing*
1. Busia	Tororo	27,745	37,287	World Bank
2. Kalisizo	Rakai	2,367	3,182	Phase I
3. Kyotera	Rakai	5,134	5,672	
4. Lugazi	Mukono	13,668	18,369	
5. Luwero	Luwero	10,917	16,160	
6. Lyantonde	Rakai	5,317	8,661	
7. Malaba	Tororo	7,038	12,604	
8. Njeru	Mukono	37,538	50,448	
9. Ntungamo	Mbarara	2,411	5,207	
10. Rakai	Rakai	551	1,084	
11. Rukungiri	Rukungiri	8,382	13,654	
12. Wobulenzi	Luwero	5,644	8,356	
		126,712	180,684	
1. Bugiri/Naluwerere	Iganga	9,504	15,424	World Bank
2. Kapchorwa	Kapchorwa	4,516	6,685	Phase II [1]
3. Kotido	Kotido	4,551	6,116	
4. Kumi	Kumi	11,841	17,527	
5. Moroto	Moroto	10,367	13,933	
6. Nakapiripiriti	Moroto	1,541	2,760	
7. Ngora	Kumi	7,877	11,660	
8. Soroti	Soroti	40,602	54,566	
		90,799	128,671	
1. Apac	Apac	5,765	11,340	African
2. Dokolo	Lira	2,241	3,651	Development
3. Iganga	Iganga	19,911	26,760	Fund
4. Kaberamadio	Soroti	3,929	6,400	
5. Kigumba	Masindi	1,567	3,083	
6. Kitgum	Kitgum	8,177	14,644	
7. Mityana	Mubende	23,042	30,967	
		64,632	96,845	
1. Fort Portal	Kabarole	32,839	48,610	KfW [2]
2. Hoima	Hoima	7,853	10,554	
3. Kabale	Kabale	27,905	39,363	
4. Kasese	Kasese	18,723	30,498	
5. Masindi	Masindi	12,574	19,527	
6. Mubende	Mubende	14,698	20,733	
		114,592	169,285	

TABLE B RURAL TOWNS WATER AND SANITATION PROGRAM PROPOSED FINANCING PACKAGES

Town	*District*	*Current Population (Year 1991)*	*Projected Population (Year 2001)*	*Proposed Financing*
1. Arua	Arua	21,957	29,508	France
2. Bushenyi/Ishaka	Bushenyi	14,213	21,039	
3. Koboko	Arua	4,012	7,185	
4. Moyo	Moyo	6,688	10,895	
5. Nebbi	Nebbi	6,970	10,317	
6. Pakwash	Nebbi	5,169	7,652	
		53,009	86,596	
1. Kisoro	Kisoro	7,489	11,086	Austria [3]
1. Budaka	Tororo	781	1,687	DANIDA
2. Buikwe	Mukomo	1,386	2,482	
3. Kaliro	Kamuli	1,801	2,934	
4. Kamuli	Kamuli	5,693	9,274	
5. Kasimba	Mukono	3,393	5,527	
6. Kayunga	Mukono	13 969	20,677	
7. Magamaga	Iganga	2,440	3,280	
8. Mukono	Mukono	7,446	13,335	
9. Namasagali	Kamuli	1,447	2,645	
10. Ngogwe	Mukono	392	847	
11. Pallisa	Pallisa	2,911	6,285	
		41,659	68,973	
1. Bombo	Luwero	10,603	15,695	Unidentified
2. Bundibugyo	Bundibugyo	6,715	10,938	
3. Hima	Kasese	3,943	6,423	
4. Kalangala	Sese Islands	1,377	2,973	
5. Katwe	Kasese	6,327	11,331	
6. Kiboga	Kiboga	5,027	7,441	
7. Kilembe	Kasese	5,203	7,702	
8. Mpigi	Mpigi	7,282	10,779	
		46,477	73,282	
		545,369	815,422	

Notes:

1. GOU plans to request future funding from the World Bank.
2. Under implementation.
3. The following additional towns which were not in the Rural Towns Water and Sanitation Program at the time of appraisal have since been added to the request for Austrian funding: Butogota, Hamurwa, Kabirizi, Kamungu, Kinoni, Kyazanga, Mbirizi, Muhanga, and Rwashamaire.

TABLE C **ESTIMATES OF PROJECT COVERAGE**

TOWN	Year 1991		Year 2001						
	Population (Census)	Population Served with Water	Population Projection	Rehabilitation (see note 1)	New Service				Total to be Served by Project
					New Service Total	Standposts	Handpumps	Springs	
Busia	27,745	8,850	37,300	4,425	22,760	9,150	7,110	6,500	27,185
Kalisizo	2,367	1,220	3,200	610	1,590	250	1,340	0	2,200
Kyotera	5,134	0	5,700	0	4,560	2,100	2,460	0	4,560
Lugazi	13,668	5,300	18,400	2,650	10,480	5,730	3,500	1,250	13,130
Luwero	10,917	5,750	16,200	2,875	8,360	0	6,360	2,000	11,235
Lyantonde	5,317	500	8,700	250	6,560	2,600	3,960	0	6,810
Malaba	7,038	700	12,600	350	9,520	4,760	3,570	1,190	9,870
Ntungamo	2,411	750	5,200	375	3,560	1,720	1,340	500	3,935
Rakai	551	0	1,100	0	880	880	0	0	880
Rukungiri	8,382	4,250	13,700	2,125	7,560	4,210	3,350	0	9,685
Wobulenzi	5,644	1,500	8,400	750	5,520	2,260	2,860	400	6,270
Sub-Total	89,174	28,820	130,500	14,410	81,350	33,660	35,850	11,840	95,760
Jinja	60,979	30,490	90,000	15,245	29,755	29,755	0	0	45,000
Njeru	37,538	1,750	50,400	875	14,595	14,595	0	0	15,470
Sub-Total	98,517	32,240	140,400	16,120	44,350	44,350	0	0	60,470
TOTALS	187,691	61,060	270,900	30,530	125,700	78,010	35,850	11,840	156,230

Note 1: The estimate of 50% of the 1991 total population with adequate service was used as a basis for estimating the project towns rehabilitation requirements.

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THE REPUBLIC OF UGANDA

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P.O. Box 8147,
Kampala,
Uganda.

7th January, 1994.

Mr. Gerhard Tschannerl,
Senior Municipal Engineer,
Energy and Infrastructure,
Operations Division.

SECTOR POLICY ON WATER SUPPLY AND SANITATION FOR SMALL TOWNS

I am enclosing the letter on Sector Policy for Water Supply and Sanitation for Small Towns as required in the Agreed Minutes of November 1st to 4th, 1993 between the Uganda delegation and World Bank Officials.

J.C.Kasamunyu
for: **PERMANENT SECRETARY/SECRETARY TO THE TREASURY**

REPUBLIC OF UGANDA
LETTER OF SECTOR POLICY
WATER SUPPLY AND SANITATION FOR SMALL TOWNS

The Government of Uganda has continued to pursue the reconstruction of water supply and sanitation system since 1986 soon after inheriting the unenviable status that resulted from several years of conflict and wars. Geology indicates that Uganda has ample surface and ground water which has hitherto remained undeveloped.

Currently approximately 30% of the rural population(constituting about 90% of the country's total population) have access to water from improved sources, having risen from 20% in 1989.

Nine major urban centres have their piped water supply and sanitation systems operated by the National Water and Sewerage Corporation (NWSC) parastatal on a cost recovery basis with nationally uniform applied tariffs, whilst the rest of the smaller urban centres either do not have any system at all or their operation is inadequate as well as intermittent.

The Government recognises the significant impact on health and development accruing from the provision of safe water and therefore intends to adopt the sectoral implementation mechanisms which ensure sustainable replication and extension of coverage. The principal medium term objectives in the water sector are described below:-

We wish to increase the populations access to safe and clean drinking water all the year round. Specifically at the rural level, the objective is to achieve a maximum walking distance of 1.5 km for every household by the year 2000. This is mainly aimed at reducing the number of hours spent travelling long distances and waiting in queues to fetch water by especially women who are at same time labour providers in the peasant farming system. This means that time saved from collecting water is transformed into other productive employment or leisure activities. School enrolment and classroom attendance time especially at primary level similarly will benefit from this achievement since most children, notably girls, are often allocated this work at the expense of school time.

In order to build up a sense of ownership, responsibility and proper use of the improved facilities in the sector Government has continued to favour the promotion of community involvement in mobilisation, participation, hygiene and health education, together with the operation and maintenance of these facilities. This has successfully been implemented under an effective three way institutional arrangement between Non-Governmental Organisations (NGOs)/donors -foreign and local, various public bodies but primarily the Directorate for Water Development (previously the Water Development Department), and local communities in the rural areas. The first group were principally executing agents, the second providing borehole drilling teams and specialists, whilst the third being responsible for labour, water source protection and partial cost recovery under an aided community based maintenance system (CBMS).

We have been emphasizing the CBMS in order to ensure that point sources easily manageable at village/source level are highly available for use (source availability ratio) and are actually used (effective source utilisation ratio) by the populace. Under the CBMS pump mechanics, spring/well masons, source caretakers and communities are set up to take the role of management at the lowest appropriate level.

This institutional arrangement has resulted in the remarkable 10% increase of rural water coverage in the past 5 years with the source availability ratio standing at 85% (of the rehabilitated sources) and the effective source utilisation ratio rising to over 90%. The previous Water Development Department, which was the sole Government department responsible for the sector activities in the rural areas has undergone a restructuring exercise implemented by Government, resulting in the uplifting of its status to a directorate. As a result, its operating mechanisms are now being consolidated to enhance Government pursuit of the overall sector goals.

For Urban water supply the National Water and Sewerage Corporation is the only Government parastatal set up in 1972 to operate on a self-financing arrangement in providing piped water supply and sewerage systems in selected towns in the country. Currently, coverage is approximately 75% of the town residents in the nine towns of Kampala, Jinja , Tororo, Mbale, Entebbe, Masaka, Mbarara, Gulu and Lira having risen from 50% four years ago. The latter two were taken on in 1992.

At the present time, however, the Kampala Water supply and sewerage system is the only one constantly registering financial surpluses whilst the rest either break-even or are operating at a loss. These losses are therefore compensated for by cross-subsidy from the surplus generated from the Kampala City system. This phenomenon is however attributed to the high level of economic activity, affordability and willingness to pay for water concentrated in Kampala as compared to the other towns. Although this is a welcome scenario at the macro economic level, in which the "rich" subsidise the "poor" and therefore catalyses development, it is constrained by the increasing number of urban centres in the country which will require effective operations and management of systems as they are either rehabilitated or provided anew. Therefore, if NWSC is expected to operate free of external subsidy, it is evident that a fresh approach to the requirements of the remaining urban centres is essential.

Towards the end of the 1980's and for the last two years Government has drafted and discussed various reports aimed at implementing policies that favour achievements of the sector objectives within the stated time schedule. Some of these reports have been adopted culminating in the uplifting of the Water Development Department into the Directorate for Water Development (DWD).

In order therefore to specifically address the urban water supply and sanitation issues, the Government embarked on a programme preparation in April 1991 under the Rural Towns Water and Sanitation Programme (RTWSP), ultimately covering some 250 towns and trading centres. Sixty typical centres, at least one from each district, were studied in a programme preparation, and the results clearly indicated that for sustainability of future water supply systems, allowing beneficiaries a choice in determining key elements of the investment at the planning stage is essential (i.e a demand driven, beneficiary community based approach). This augers well with the current overall Government process of democratic decentralisation and therefore reduction of Government subsidies in the operation and maintenance of the otherwise would be viable systems under independent management arrangements. This was followed by the preparation of some eleven centres for appraisal for an IDA credit for the Small Towns Water and Sanitation Project (STWSP), the first project under the programme. In the course of the STWSP project preparation, the policies, techniques and methodologies were further developed for RTWSP, resulting in the attached "**Policies and Guidelines**".

In line with these Policies and Guidelines, the Government is now endeavouring to assist all rural towns, through the Directorate for Water Development, to obtain a minimum defined basic service level for water supply and sanitation whilst encouraging higher levels of service in piped systems in order to increase revenue and better ensure sustainability. A basic service level for water is defined as - a protected year round supply of 20 litres per capita per day, preferably within 250 to 500 metres of all urban households and serving 200 to 300 persons per outlet; whilst a basic service level for sanitation means an improved household latrine. In line with the decentralisation programme launched in October, 1992, Government continues to favour the operational management of water supply systems in these urban areas under a localised community mechanism, so that the Government role remains that of the establishment of the infrastructure and policy environment, conducive for private sector continued involvement in the development process. This is aimed at creating room for Government to provide social infrastructure on a " some for all " and cut down on "more for some and none for the rest", scenarios.

This demand driven strategy is based on individual towns, and groups within those towns, first deciding whether or not they want to participate in the programme and then deciding the type of water supply and sanitation system that want and can afford to maintain, assessed on the basis of their willingness to pay to maintain the services once provided. It is Government intention to encourage district and local political and administrative bodies to provide support services to beneficiary communities, whilst locally materials will be available through the private sector, and the majority of the investment will be provided to the beneficiary communities by Government on a grant basis.

We intend to emphasize continued negotiations with the beneficiary communities at various levels to ensure that they are committed to accept responsibility of maintaining the facilities gained through these investment grants. In towns where the communities are reticent to fulfil their commitments, Government will drop the town in favour of another. This phased implementation approach will allow for full demonstration and development of the applicability and benefits of the approach in a dynamic development process.

We place very high priority on the level of training of locally based personnel, similar to the CBMS in rural water supply for simple technologies such as handpumps, hence limiting the WDD role to effectively that of monitoring and evaluation of the operations of the systems, and providing technical assistance, if required by the communities for their operation and maintenance activities. The objective is for the beneficiary communities to own their systems and to take full responsibility for all technical and financial management for the recovery of recurrent costs.

To maintain their water supply and sewerage systems communities must have access to spare parts and components that will need to be replaced recurrently. At the present time the spareparts falling within this category are largely imported and distributed by external assistance agencies to Government through the Directorate for Water Development and the National Water and Sewerage Corporation. Government through its on-going process of liberalisation defined as" moving towards policies that work through markets" is evidently desirous of changing this arrangement to creating an enabling environment for the private sector involvement, including commercial borehole drilling, and local manufacture and distribution of the necessary parts and materials. This is intended to ensure greater sustainability of the supply of materials and spare parts in the sector hence reducing dependence on external support for the availability of these materials in the future.

POLICIES AND GUIDELINES [1]

for the

RURAL TOWNS WATER AND SANITATION PROGRAM
of the Directorate of Water Development, Ministry of Natural Resources

INTRODUCTION

1. This document sets out the policies and guidelines of the Government of the Republic of Uganda, through the Ministry of Natural Resources, related to the strategy for provision of water and sanitation services to small towns and rural growth centers. This has resulted from project preparation activities under the Rural Towns Water and Sanitation Program (RTWSP). The policies and guidelines which follow represent a major shift in Government strategy towards a decentralized approach to the operations and maintenance of services currently provided by Government, to ensure sustainability of the investment. Many policy elements contained in these Policies and Guidelines have been applied with remarkable success in the WATSAN program, though in the context of rural water and sanitation projects.

PRINCIPLES

2. A *demand driven approach*, allowing the beneficiaries a choice in determining the key elements of the project at the planning stage, is essential to ensuring that limited Government funds are channeled to communities that will maintain their new or improved water supply and sanitation systems. It also expedites project implementation by encouraging beneficiaries to meet their commitments on schedule. This demand driven strategy is based on individual towns, or groups within those towns, first deciding whether or not they want to participate in the program and then deciding the type of water supply and sanitation systems that they want. Decision making will be guided by Government construction grant regulations and by technical consultants, an important consideration being the willingness of beneficiaries to contribute a portion of the capital cost and to pay for all of the operation and maintenance costs for their systems. The process will start in a given geographic area once the Directorate of Water Development (DWD) has secured financing for the group of towns located there, at which time each town will be invited to participate in the program. Individual groups within the towns will then receive technical assistance through the planning, construction and follow-up training phases, provided they meet agreed upon commitments on schedule. Those which do not will have to await the next construction phase.

3. *Starting small* is important because implementation strategies and training materials and methods need to be developed and key personnel trained before large-scale investments can be made. Consequently a *phased approach* will be adopted with implementation starting in a small number of towns and being scaled up as implementation capacity grows and additional financing becomes available. The Small Towns Water and Sanitation Project (STWSP), assisted by the World Bank, will be the first step in implementing a national RTWSP.

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1 The Policies and Guidelines were initially drafted in July 1992 and have gone through several revisions to date reflecting operational experiences from project implementation. They should be regarded in the context of an evolutionary and iterative document being continually refined with added operational experiences. It is important to monitor the various versions by dating the document with each new revision.

4. User groups within each town, formed on the basis of *management units*, will determine the type of water system they want and how to manage it, including operation, maintenance, repairs and revenue collection. The role of Government in this process will be that of a facilitator providing financing, construction grant guidelines and regulatory oversight, and ensuring that communities receive sound technical advice. The **resistance councils** (RC-1 to RC-5) will take the lead role in mobilizing town residents and identifying **Water User Groups** (WUG) within towns and the establishment of **Water and Sanitation Committees** (WSC) that represent them. In the case of piped systems serving more than one WUG, a **Water User Association** (WUA), made up of one or more representatives of each WSC, will be established to manage the system. Planning will be done through participatory dialogue with the assistance of locally based extension agents and centrally based technical/training consultants.

OBJECTIVES

5. The objectives of the RTWSP are:

- To assist all towns to obtain basic water and sanitation services, while encouraging higher levels of service for those who can afford it.
- To increase the capacity of communities, the private sector and the Government to provide and maintain sustainable water supply and sanitation facilities in small towns whereby Government facilitates private sector provision of goods and services to the communities.
- To promote better health, through improved personal hygiene, excreta disposal and environmental management practices.

6. ***Basic service for water supply is defined here as a protected, year-round supply of 20 liters per capita per day, preferably within 250 to 500 meters of all households and serving 200 to 300 persons per outlet; and basic service for sanitation defined as an improved household latrine including the use of concrete slabs.*** To encourage higher levels of service for piped water supply systems, the GOU will finance the source and distribution costs for household connections and institutions under normal cost sharing arrangements (Para. 13), and individual beneficiaries will be required to pay the cost of connecting to the system. Due attention will be paid to match service levels of sanitation with water supplies.

7. ***Operation and maintenance costs will be fully borne by the beneficiaries (and institutions) including the replacement of components with useful life expectancies of up to about eight years.***

INSTITUTIONAL RESPONSIBILITIES

8. *Institutional responsibilities* can be divided into two broad areas: (i) mobilization and long term support through district and town political and administrative mechanisms, and (ii) training and technical assistance through a consulting firm contracted by DWD to first assist towns to identify WUGs and form WSCs and then to assist WUGs to plan and manage their water and sanitation facilities.

9. Mobilization and long term support can only be provided by district and town political and administrative authorities, particularly in a decentralized system. For this reason actual planning and

design of systems will begin only after a mobilization phase for which local authorities have the lead responsibility.

10. Technical assistance and training in the towns will be provided by a combination of extension services through Government personnel and consultant representatives at the local level. This combination takes advantage of the experience of local personnel regarding the composition and dynamics of the town and of consultant experience in the RTWSP policies and implementation procedures; ensures residents that someone is accountable and accessible; and provides for follow-up support. It also makes best use of a limited number of more highly trained personnel, allowing them to serve throughout the country.

11. Extension services at the local level will include (i) community mobilization including identification of WUGs and establishment of WSCs and WUAs, (ii) assistance to communities to assess their needs and to plan their water supply and sanitation systems , (iii) promotion of proper hygiene and excreta disposal practices, and (iv) coordination of the assistance program for private mechanics and latrine artisans. Technical support services at the national level will include (i) training of local extension personnel, (ii) planning assistance to towns and WSCs/WUAs within towns to help them plan their water supply and sanitation systems and train them to manage them, (iii) preparation and review of town facilities and management plans, (iv) preparation of designs, specifications and bidding documents, and (v) supervision of construction. At the end of each project one or more national consulting firms would be capable to manage implementation in new project areas, and local Government and NGO personnel would be capable to provide follow-up support to WSCs/WUAs.

12. The responsibilities of each institution involved in project implementation are as follows:

Communities will plan and manage their water and sanitation facilities and improve their health by putting lessons learned about improved hygiene and proper disposal of excreta and sullage water into practice.

- A **Water User Group** (WUG) is a set of individuals and/or households that collectively plan a point source water supply in their area and manage it including the collection of revenue to maintain it. For this purpose, and to look after sanitation and hygiene education, each Water User Group will be represented by a Water and Sanitation Committee (WSC), which, by their choice, may be established by one or more WUGs with common interests.
- In the case of piped systems serving more than one WUG, a **Water User Association** (WUA) made up of one or more representatives of each WSC, will be formed to manage the system including the setting of tariffs and collection of revenue to maintain it.
- WSCs, or WUAs for piped systems, interface with DWD and technical/training consultants to plan community water supply and sanitation systems and determine how to manage them.
- DWD and the District Executive Secretary (DES) will sign a *Facilities and Management Contract* with WSCs/WUAs based on a *Facilities and Management Plan* that (i) specifies the responsibilities of Government and beneficiaries, (ii) describes the proposed water supply facilities construction plans and management arrangements in sufficient detail to allow design drawings and specifications to be prepared and DWD to check for conformance to *Construction Grant Guidelines*, and (iii) provides a basis for legal

ownership by WSCs, or WUAs in the case of piped systems, that serve more than one WUG.

- WSCs, or WUAs for piped systems, manage the community's water supply and sewer facilities including operations, maintenance, revenue collection, accounts keeping, repairs and replacement of components. All WSCs, unless otherwise specified in the town *Facilities and Management Plan*, will collect revenue from individual households in their area and promote improved environmental sanitation and personal hygiene practices.

Local authorities will provide the organizational framework and political support needed to implement the program and for monitoring and evaluation. The district and town administration and resistance councils (RCs) will:

- Facilitate initial mobilization activities.
- Mobilize the town's population including the identification of WUGs and the establishment of WSCs.
- Support WSCs and WUAs, including assistance in resolving appeals submitted to them by WUGs, WSCs and WUAs.
- The DES will sign *Facilities and Management Contracts* on behalf of local government.

Other ministries, particularly the Ministry of Local Government and the Ministry of Health, will participate in project implementation by identifying and assigning local extension staff to project related activities such as promotion, hygiene education, and sanitation planning and interventions. These ministries will also provide follow-up support to better ensure sustainability.

The Consultant, contracted by DWD, will have a multi-disciplinary team made up of international and local community development, health and technical (water and sanitation) specialists to implement the project. The consultant will:

- Establish project offices in appropriate regional centers and in participating towns, staffed by persons hired by the consultant and assigned by Government and local NGOs.
- Train local extension personnel to implement the town program.
- Assist local authorities to mobilize communities including identification of WUGs and establishment of WSCs.
- Assist WSCs and WUAs to prepare their *Facilities and Management Plans*, providing information to them about technical and management options, including costs, technical constraints and construction grant regulations.
- Prepare construction designs, specifications and bidding documents.
- Assist WSCs/WUAs to prepare a signed *Facilities and Management Contract* with DWD and their district.
- Train WSCs/WUAs to manage their water supply and sanitation systems.
- Supervise construction and provide support to DWD in its monitoring and evaluation role.

DWD will be the government agency accountable for the overall implementation of the project. DWD will:

- Set policies/guidelines and the regulatory framework for RTWSP implementation.
- Mobilize national and international financial resources.

- Engage the services of consultants and contractors and supervise them.
- Procure materials and equipment as and when required.
- Supervise program implementation, monitor progress, and refine policies and guidelines.
- Ensure interagency coordination.
- Introduce the program to local decision makers and community members.
- Sign *Facilities and Management Contracts* with WSCs/WUAs when facilities plans, terms and conditions for a construction grant have been negotiated and agreed upon.
- Provide technical support to program towns through its local district offices.

CONSTRUCTION GRANT GUIDELINES

13. Government has responsibility for assisting communities to obtain basic water and sanitation services and for ensuring that public funds are spent on cost effective facilities that will be maintained. In financial terms this means that communities should pay part of the capital cost and all operation and maintenance costs for improved water and sanitation facilities. A contribution to the capital costs, paid in cash and kind as indicated in Para. 14, has a number of advantages. First, community contributions, being proportional to the capital costs, serve as a guide to help communities choose a system that is within their financial means. Second, being about the same amount as a community will need to raise in the future to cover operations, maintenance and normal repair costs, they provide an indication to Government as to whether or not beneficiaries will be willing and able to raise the funds required to maintain their systems. Third, they provide a basis for community ownership of the system.

14. Financing arrangements for construction under the RTWSP will be as follows:

- The community will contribute the equivalent of one year's operation and maintenance costs as their contribution to the construction of a water supply system. For private household connections the cost of the connection will be borne in full by the households.

- Future rehabilitation and expansion of source works and mains will be financed on an appropriate cost sharing basis to be determined. All rehabilitation and expansion of secondary piping in a community and individual connections will paid for by the beneficiary.

15. Communities are reticent to give cash in return for a promise of a new water supply, while Government is reticent to invest time and money to help a community obtain an improved water supply system if it won't meet its commitments. To build confidence, community contributions will be collected in several installments during the planning process: a commitment fee at the beginning of the planning and design phase and at least their full capital cost contribution prior to the signing of construction contracts. The initial commitment fee as well as full community contribution to the capital costs will be retained in dedicated bank accounts controlled by WUGs and the Project prior to the preparation of construction contracts. Actual payment will be required only after the water source has been tested for capacity and quality.

DESIGN AND CONSTRUCTION

16. It is important that communities are able to *choose the technology* that will give them the highest service level that they want, can afford, and can maintain. Different priced water supply

options for both point sources (springs, wells and boreholes) and piped systems will be identified, and information materials, easily understood by community groups, showing typical designs, costs (capital and operation and maintenance) and management options will be prepared. A *Facilities and Management Plan* will be prepared with consultant assistance through an iterative process involving local extension staff, WSCs, and WUAs (for piped systems). A similar exercise will be carried out presenting the sanitation/sewerage options.

17. Over design of pumps, piping and storage tanks should be avoided, and individual components should be locally available. Options will include manual, electric, diesel and solar pumps (both deep-well and surface mounted centrifugal pumps) as well as conventional and smaller, locally-made storage tanks. Handpump models suitable for corrosive groundwater conditions, i.e. with a PH value less than 6.8, are recommended. Groundwater sources including spring catchments, augured or dug wells and boreholes should be used whenever possible, as treatment of surface water is expensive and difficult to manage in rural towns.

18. *Construction* will be done by qualified contractors and awarded through competitive bidding, following pre-qualification, where appropriate. Civil works construction will be planned to incorporate wherever possible the in-kind contribution of the community in the form of labor and materials. For example, communities will assist in the construction of hand augured or dug wells, spring catchments, and pipe trenches as part of their capital cost contribution.

19. Contract management procedures to be used in the project will be formulated during project preparation, including pre-qualification, bidding, construction supervision and payment. Standard bidding documents will be used and preliminary geophysical surveying undertaken. Private borehole contractors will be employed to supplement DWD drilling capacity.

MAINTENANCE

20. *Maintenance* of **point source water supply systems** (handpumps, spring catchments, and stand pipes) will be the responsibility of individual WUGs with day-to-day management provided by their WSCs; and maintenance of all **on-site sanitation systems** will be the responsibility of individual households. The WSCs, unless otherwise decided by WUAs, will supervise use of the water point, collect revenues, keep accounts, and make repairs themselves or hire the services of a private mechanic. The WSCs will appoint a care taker (preferably a woman) who will be trained in the proper use of the water point, simple repairs and maintenance, and sanitation and hygiene extension work. Private mechanics in each town will be identified, trained, certified, and equipped with tools to carry out the repair of handpumps and other water points when called upon to do so by WSCs. DWD will assist WSCs/WUAs to resolve technical problems through its District Engineers who can advise groups on the best course of action to take. Local government personnel will monitor the maintenance system and provide back-up support. Maintenance of **piped water and sanitation systems** will be the responsibility of WUAs who normally will contract operation, maintenance and repair functions to a private entity. Household revenue collection will be the responsibility of individual WSCs, unless otherwise determined by the WUA, who will be charged by the association on the basis of water delivered as metered at individual outlets (standpipes and house connections). Area meters should also be installed to act as a check on meter accuracy and leaks in the system. Someone on each WSC will normally collect revenues from individual households, and each WUA will appoint/hire someone to prepare water bills and keep accounts.

21. To better ensure sustainability, a national rehabilitation program needs to be established to assist communities to pay for replacement of major equipment having a useful life expectancy of more than eight years (Para. 7). To be eligible WUGs/WUAs will be required to show proof that annual inspections by an authorized mechanic have been made and that recommended preventative maintenance work was completed.

22. To maintain their water supply and sewer systems communities must have access to *spare parts* and components that will need to be replaced within eight years, i.e. covered under normal by operation and maintenance. Until recently handpump spare parts were imported and distributed by external assistance agencies, and piped system components were imported by the Government and the National Water and Sewerage Corporation with donor assistance. The Program will support the approach taken in the RUWASA Project by encouraging local hardware retailers or private mechanics in individual towns to arrange with local suppliers of spare parts.

23. Of relevance to the RTWSP is the *local manufacture* of small water storage tanks used in intermediate technology piped systems. These can significantly reduce the cost of piped alternatives and are affordable, making replacement within the means of most small communities. The capacity in different parts of the country to make small (2-10m^3) storage tanks from galvanized sheet metal will be reviewed and if necessary technical support will be given to local manufacturers interested in fabricating them.

HUMAN RESOURCES DEVELOPMENT

24. Communities, program personnel, private contractors and mechanics will require considerable *training* to undertake their responsibilities and to learn about program policies and procedures. All project personnel will (i) learn communications skills that encourage dialogue and participation rather than rely on directives, (ii) master effective work planning skills including monitoring, evaluation, and problem resolution, (iii) gain a thorough knowledge of the policies and the technical details of the program, and (iv) obtain specialized training and practical experience for their particular assignments. During project preparation general training (i-iii above) as well as specific training materials for each project specialist (iv above) will be prepared and tested, as will simple presentation materials needed to help local authorities and communities to plan their water supply and sanitation facilities. Orientation programs for decision makers will also be required in order to expose them to the new way of doing business in the water sector.

TOWN IMPLEMENTATION PROCESS

25. *Program preparation* for the RTWSP will include (i) testing and refinement of the planning and implementation process within a community; (ii) refinement of water and sanitation construction grant regulations (detailing terms, conditions and procedures for project implementation); (iii) preparation and testing of training procedures and materials, and (iv) preparation of typical low-cost water supply and sanitation designs, specifications and tender documents for small user communities. Consistent with the principle of starting small, the project process will be initiated in one or two (maximum) appropriately selected town so that the implementation strategy and training materials can be developed and refined, and expanded to other towns thereafter.

26. DWD will, prior to officially inviting a particular town to participate in the project, carry out a "low key" rapid resource survey in order to confirm the population size and geographic distribution;

the need and willingness to participate and pay; and to identify technical options that are feasible. Thereafter the project will establish a formal contact with the district and town. A short description of the proposed steps in the RTWSP in a given town follows.

- *Promotion Phase* - A series of meetings will be held at the district and then town levels, so that a representative of DWD can discuss the program with local authorities and others as requested. The outcome of this should be a decision by the relevant local authorities in the towns concerned as to whether or not they wish to participate in the RTWSP. If yes, DWD will then authorize a consultant to assist the town to mobilize for planning.

- *Mobilization Phase* - If a town chooses to participate in the program it will open a "contact point" (simple office) and establish the local extension personnel to identify their preliminary WUG interest groupings and representation. Those parts of the community who wish to proceed jointly or severally, and deposit a commitment fee in a bank account controlled by them jointly with the Project within an agreed upon schedule, and to be utilized in an agreed manner, will continue on to the planning and design phase to establish the final delineation of WUGs, WSCs, and WUAs and establish the chosen service level and management structure details for each. Others will await a possible next project cycle for their town.

- *Planning and Design Phase* - The local extension personnel will then work with the representatives of the preliminary WUG interest groupings to help them determine the final delineation of WUGs, WSCs, and WUAs and the most appropriate service levels for each of them financially, organizationally, and technically. A mix of technologies is likely, where spring catchments, augured or dug wells, and boreholes fitted with handpumps will be more common in low-income peripheral areas, and piped schemes will be more common in the higher-income core area where commercial activities are centered. This process eventually results in a *Facilities and Management Plan* for each system that includes the design, management and financing arrangements proposed for each WSC or WUA. If a plan meets construction grant guidelines, a *Facilities and Management Contract* will be prepared. It will then be signed by designated representatives of the WSC/WUA, the DES, and DWD. Following this, the final design and detailed cost estimates will be prepared and, when the required community cash contribution has been made, tender documents will be prepared. It is important to note that the progress of each of the groupings will vary, such that whilst details of a WUA piped scheme are being completed, construction may have commenced or even been completed for one or several single source developments for WUGs/WSCs.

- *Construction Phase* - The construction phase starts with a call for tenders by DWD. The lowest evaluated bidder will be awarded the contract subject to no objection by the financing agency.

- *Operations and Maintenance Phase* - The O&M phase follows the commissioning of the constructed works and hand over to the communities. Follow up management and O&M training with assistance in resolving problems that arise will be provided over a defined period.

This January 13, 1994 revision of the Policies and Guidelines is based upon inputs from discussions during the negotiations between the Ministry of Natural Resources and the World Bank, and subsequent follow up dialogue, in relation to the Small Towns Water and Sanitation Project.

TOWN IMPLEMENTATION PROCESS

for the

RURAL TOWNS WATER AND SANITATION PROGRAM
of the Directorate of Water Development, Ministry of Natural Resources

1. Following is a description of a typical planning and implementation procedure in a town under the Government's Rural Towns Water and Sanitation Program (see Chapter II), containing the different phases, with the different tasks to be performed during these phases, and the different actors that play a role during the implementation process in each town. The reader should refer to the *Policies and Guidelines (Annex 3)* and the flow chart for the Town Implementation Process at the end of this Annex. More specific arrangements for certain steps of the process need to be worked out in the course of preparing the *Implementation Manual* and will need to be revised as experience with project implementation is gained.

PROMOTION

2. ***District and Town Leaders*** - Senior officials at the district and towns levels will be briefed by DWD about the RTWS Program. It is anticipated that this will lead to additional meetings that include a broader spectrum of government officials, elected representatives, and community leaders.

3. ***Resistance Council (RC) Members*** - All RC members in target districts and towns as well as community representatives will be invited to participate in a workshop to learn about and comment on the Program. The RC members will be encouraged to inform their constituencies and will be provided with written materials on the objectives of the program, its approach, and the process by which communities can improve their water and sanitation facilities.

4. ***Mass Media*** - Advertisements, newspaper articles and public notices that outline the proposed implementation process and the *Construction Grant Guidelines* will be prepared. The RCs will be encouraged to hold meetings with their constituencies to determine their interest in participating in the program. Simple, picture-based *extension booklets* with short texts in local languages and English that explain the Program will be developed and used to support these activities and distributed locally.

5. ***Line Ministry Staff*** - Staff of line agencies based in participating towns, particularly Health and Community Development, would also participate in a workshop to learn about the program and the role they may play in it.

6. ***NGOs and Others*** - NGOs, churches and others will be informed of the program, encouraged to disseminate information about it, and eventually participate in the program.

MOBILIZATION

7. The mobilization phase has two main objectives: to help communities to assess their needs and preferences in the sphere of water and sanitation, while raising their awareness of the potential impact of improved water supply and sanitation facilities on their health; and to increase their capacity to achieve this by mobilizing those most concerned with the improvements (particularly women) and strengthening the community's organizational capacity for self-help activities. This motivation and capacity enhancement is needed to enable full and effective community participation in planning the facilities and the related decision making. The latter is regarded as a precondition for the sense of ownership and further motivation for long-term operation, maintenance, and replacement (OMR), and the capacity to maintain their facilities.

8. ***Local Extension Staff*** - At the beginning of the Mobilization Phase the local authorities would appoint appropriate extension staff to focus on the Project and establish an office in the town. The extension staff will consist of several health and community development officials assigned by their ministries, a community development specialist and an engineer employed by the consultant, and representatives of participating NGOs, and should include both men and women. During the mobilization period the main activity of the extension staff will be to assist local RC members to identify households that want to join together to form WUGs. They will subsequently initiate information dissemination, hygiene education, women's mobilization and organizational development activities with the participating WUGs. Where appropriate, interested parties could be taken to other towns where community based management is already practiced so as to gain first hand information on the experience elsewhere.

9. ***Identification of WUGs*** - Many communities are not homogeneous, and may contain ethnic or settler minorities residing in a distinct area who frequently have little influence in community affairs. Subgroups within the towns may exist for various other social and geographical reasons. It will be the task of the RCs with the assistance of the extension staff to identify such differences as well as key community leaders, so that WUGs can be successfully delimited from the start.

10. ***Water and Sanitation Committees (WSCs) and the Water User Association (WUA)*** - The communities, with guidance from their RCs and the extension staff, will assist WUGs in forming WSCs. When there is a piped system, WSCs will get associated to form a WUA for the entire piped system. A WSC or WUA could be a new organization, or an existing organization or sub-committee thereof if this suits the local conditions and is more effective in the community. The WSCs/WUA will provide an institutional basis for the beneficiaries to assume ownership of their water and sewerage facilities and to sign agreements related to their operation and maintenance.

11. ***Women*** will be mobilized through group activities specifically targeted at them, and promoting their participation in community meetings by taking account of such factors as holding them at times when they are not fully occupied in the daily round of chores. They will be encouraged and supported to take an active role in the WSCs and WUA. It is the goal that at least half the members of the WSCs/WUA should be women.

12. ***Hygiene Education and Sanitation Promotion*** - Hygiene education at this stage will focus on the creation of demand for improved water supply and sanitation by establishing the linkages

between water, sanitation and health. Much of this will be done in small groups, including WSCs and women's groups, where people can discuss health and hygiene problems and identify sources and transmission routes for fecal contamination in their own environment. Discussions will also be held regarding hygiene improvements that could be made to existing water points and ways of reducing contamination during collection, transport and use at home.

13. ***Construction Grant Application*** - Printed material used in the publicity campaign will include a simple form for a community *Construction Grant Application* which will be submitted by WSCs to the extension staff and will set out the basis on which the Program operates, including the responsibilities of the WSC and the Government. It will contain basic data such as location/boundaries of the service area of the WUG, its approximate population, existing water supply and sanitation arrangements, composition of the WUG, and previous community development activities.

14. ***Commitment Fee*** - The community will have to show its commitment at this stage by collecting a commitment fee, the suggested level of which will be equal to the cash contribution needed for a hand dug well (generally the cheapest available option). This commitment fee will need to be kept in safekeeping in a separate account, preferably with interest, until planning is completed and construction is under way. The account should be interest bearing and have with at least two signatories which could be chosen from among the District Executive Secretary, the local manager of the consulting firm, a DWD official, or a community leader.

15. ***Verification and Assessment of Applications*** - To proceed to the planning and design phase the extension staff will need to confirm the accuracy of the information furnished in the *Construction Grant Application*, adding to it as necessary, and the collection of the requisite community commitment fee. In addition, an assessment will be made by the extension staff of the interest and commitment of each WUG to involve itself fully in the planning process, and the ability of its WSC members to pay for the chosen technology and to carry out their other commitments. Where necessary, additional discussions and strengthening of the WSCs may be required. The assessment team's findings will be sent to the district administration (District Executive Secretary) for review and endorsement, and then to DWD.

PARTICIPATORY PLANNING AND DESIGN PHASE

16. ***Problem Identification*** - Once a certain level of mobilization has taken place and *Construction Grant Applications* accepted by the district administration and DWD, the extension staff will lead the WSC through a self-assessment exercise. If a project is to be sustainable in the long term, it has to address the real needs of the community. Conversely, the process of identifying these needs can be a powerful tool in raising awareness and providing motivation. For both these reasons, the extension staff will actively involve the WSCs in identifying and prioritizing their own problems and recognizing the importance of improved water supply and sanitation facilities.

17. This might typically start with a WSC meeting to discuss the exercise and its objectives, after which the WSC will assist other interest groups (including a group of women) to conduct their own assessments. The results will be collected and discussed by the WSC and the extension staff prior to a second meeting, possibly of the entire WUG, in which the assessments and the different perspectives of the various sub-groups will be reviewed. This meeting will also seek agreement on whether water supply and/or sanitation are a high priority, and if not, the whole process

can still be halted at this point. If it is, an area map and a comprehensive water supply and sanitation inventory of the community will be made by the technical extension staff, assisted by the WSC, for use during the planning stage. At this time WSCs will be encouraged to organize self-help action to improve the present water points or make other appropriate improvements as a way of demonstrating their commitment, and building up community capacity to work together.

18. ***Discussion of Options*** - As the first stage in the participatory planning process, a community meeting, led by the technical extension staff, will present possible water sources, technical options and service levels, based on their earlier technology options survey. These will be discussed in the light of their potential costs and maintenance requirements. The community will give the technician a mandate to further investigate selected options.

19. ***Conceptual Designs*** - The extension staff will then prepare conceptual designs and cost estimates - including the capital contribution to be made by the WUG and the projected recurrent costs - of the option or options that the WSC would like to consider in more depth. At this stage the designs will be limited to simple sketches and approximate costs, but will need to be presented in a suitable format for WSCs and possibly larger groups to understand.

20. ***Determination of Chosen Service Level*** - The conceptual designs and cost estimates will then be presented to the WSC for its consideration. A follow-up meeting will then be held with the WSC after the WSC has discussed the options with their respective WUG.

21. ***Formation of the WUA*** - In situations where WUGs determine that they want to obtain a piped water supply they will be advised about other WUGs in the town that are also interested in this option and given more detailed information about the responsibilities of a WUA and the process of establishing one. Each WUG will need to appoint one or two of its members to serve on the WUA. Thereafter, planning discussions by the extension staff will primarily be held with the WUA, although WSC and WUG meetings could also be held if individual communities wish more direct information from the extension staff.

22. ***Hygiene Education and Sanitation Promotion*** - It will be necessary to continue emphasizing the hygiene education messages, which typically take a considerable time for the community to internalize. Integrating these discussions with project planning will also help to create the desired linkage between health and improved water supply and sanitation. The WSCs should also be further strengthened in management and technical and financial skills. The WSCs and the WUA will also be expected, with the support of the extension staff, to gradually assume a more active role in managing the planning process, arranging and chairing meetings, and keeping records.

23. ***Physical Surveys*** - The extension staff will then arrange for the required hydrologic, hydro-geologic and land surveys to estimate safe yields from surface sources and springs, to assess the potential for dug wells or boreholes and their possible locations, and to get approximate distances and elevations where piped systems are being considered. For dug wells test holes will be made. If a borehole source is being considered, arrangements will be made by the consultant for a geophysical survey. Where springs or surface water sources are being considered for piped systems, flow measurements will also be started at this time, and continue throughout at least one full dry season. This work can be given to the WSC to carry out, with basic training from the extension staff.

24. ***Preliminary Designs*** - Once the water resources assessment has been made, preliminary designs and better cost estimates will be prepared by the extension staff, or, in the case of piped systems, by a more senior engineer employed by the consultant. The WSC or WUA will then review this at a meeting with the extension staff and select an option, its Chosen Service Level, for preliminary engineering design. At this stage, the community will discuss in detail its future obligations to construction (cash and in-kind contributions) and define arrangements for the management and financing of the completed system. All water points, public standpipes and house connections should be marked clearly and unambiguously to ensure the accuracy of the final design and to avoid future conflicts with the contractor. At this stage land requirements should be identified and marked on the ground and land rights established for the WSC or WUA, as appropriate.

25. ***Facilities and Management Plan*** - A Facilities and Management Plan will be prepared, which specifies the facilities to be constructed as given in the preliminary designs and the community's arrangements for financing and managing them. This plan is like a micro-project document and will contain at least the following sections:

- The ***technical section*** will include a layout plan of the community, showing the location of roads, housing clusters, streams, existing and proposed water sources and outlets, and institutions such as schools, hospitals, and military barracks. Proposed water sources will be described in detail and will include a summary of hydrologic, geophysical and test hole investigations including expected yields, water table depth and quality in the wet and dry seasons. The proposed new facility will be described and shown on the plan. The service population and expected water consumption for household, institutional, and industrial uses will be estimated.

- The ***organizational section*** will describe proposed arrangements for managing the system and operating and maintaining it. Background information (dates, costs, funding sources, and success) about previous community development activities, together with names, educational, and data concerning on the management experience of the proposed members of the WSCs and the WUA should also be included. In the case of piped systems, WUA will be required to have signed service agreements with private companies for normal operations and maintenance and with equipment suppliers for the maintenance of pumping equipment will also be described. These should be described in the Facilities and Management Plan and should be signed before the construction contract is let.

- The ***financial section*** will describe the proposed financing arrangements for the system including a breakdown of household, institutional and industrial contributions towards capital costs and OMR costs. The community contribution in the form of cash or in kind must be specified and the method of revenue collection, tariff structure and accounting system should be described.

- The ***socio-economic section*** will include more detailed information on demographics, community organizations, knowledge, attitudes and practices on water and sanitation, and an economic profile of the community. Facilities and Management Plans will be agreed upon at a final meeting with the extension staff, the WSCs or WUA where the committee and all others present will indicate their agreement. Minority opinions will also be noted.

26. ***Appraisal of Facility and Management Plan*** - Facilities and management plans will first be sent to the district administration for review and approval and then to DWD. DWD will need to confirm the accuracy of the information furnished in the Facilities and Management Plan, determine if the proposed technical and financial plans are consistent with *Construction Grant Guidelines*, and verify that community members are familiar with, support and are prepared to pay the recurrent costs.

27. ***Initial Designs*** - The Consultant will then prepare the final design and cost estimates and present it to WSC or WUA meeting for final agreement on the community's contribution to the capital costs. The community may now need to top up its deposit to the amount required according to the technology chosen. The cash will then be transferred to a joint signatory account for eventual payment on completion of the work or installation of specific works. When this is completed, contract documents will be prepared.

CONSTRUCTION PHASE

28. ***Construction Contracts for piped schemes*** will follow the usual procedures for tendering. The consultant will prepare tender documents based on his final designs and will package work in consultation with DWD headquarters. Contractors will be instructed to inform communities well in advance of the proposed construction schedule, so as to allow them to prepare their labor and local material inputs. The water engineering technician of the extension staff, with the assistance of an engineer employed by the consultant and the advice of the community, will monitor progress and the quality of construction.

29. ***Construction of Spring Catchments and Dug Wells*** - It is anticipated that civil works related to spring protection, well auguring and digging will be implemented by small local contractors. Those who satisfy a stated minimum level of technical, managerial and financial capabilities will be given a brief training, followed by an initial contract as part of the training. Upon satisfactory completion of the training and the trial contract, the contractor will be pre-qualified to compete for work on the basis of local competitive bidding, as specified under Chapter III, Section F. In-kind community contributions for self-help labor will be encouraged but the contractor should be protected as described in Para. 17 of the *Policies and Guidelines (Annex 3)*. Dug well contracts will be paid on the basis of a mobilization cost per well plus an amount per meter depending on the depth of the excavation and penetration below the water table.

30. ***Boreholes*** - Borehole yields can only be assessed with any certainty after the wells have been drilled and developed. There is the risk that the actual yield will be insufficient for a piped system or even a hand pump, so re-planning of the whole water supply system may prove necessary. In such cases DWD will pay for any new planning and design work required. For all boreholes, the community will receive a guarantee from DWD that, in the event of substantial failure of the well within 10 years due to circumstances beyond the community's control, the well will be rehabilitated at Government expense.

OPERATION AND MAINTENANCE

31. ***Handover and Certification*** - On completion of the works, system design and performance will be checked. If both meet specifications, a final inspection and handover ceremony,

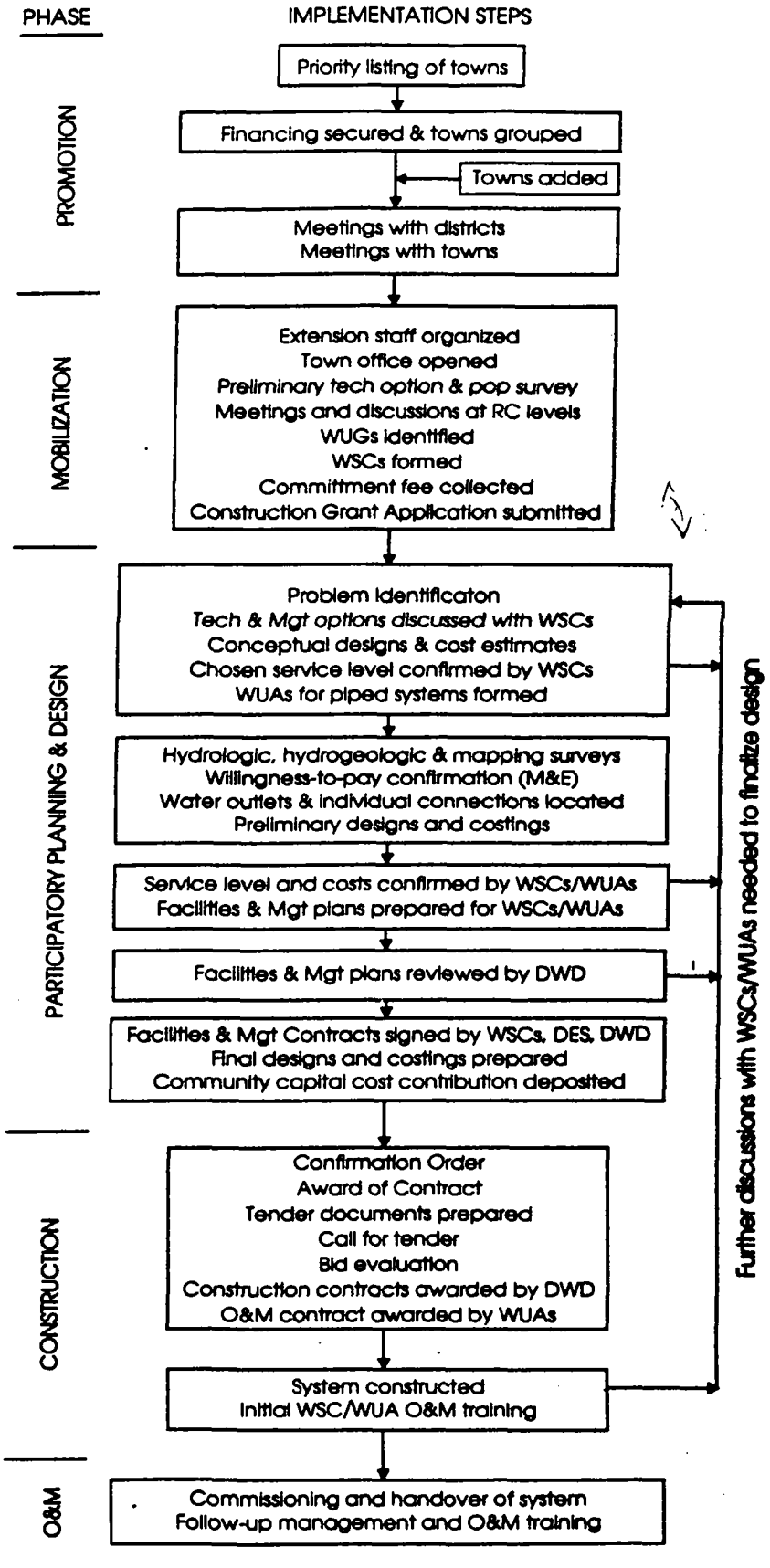
attended by representatives of WSC, WUA, DWD, local extension staff, and the local government will take place, at which a Certificate of Satisfactory Completion will be signed .

32. ***Hygiene Education and Sanitation Promotion*** - The extension staff will continue to provide support to the community during the OMR phase. The focus of hygiene education will shift from water-sanitation-health linkages to messages targeted at achieving changes in habits aimed at maximizing the health benefits of the improved facilities to the community. The emphasis will thus be on personal hygiene and the protection of water from pollution at the source up to the point when it is consumed.

33. ***OMR Training*** - Strengthening of the WSCs and the WUA will continue, again with practically-oriented subject matter such as book-keeping and financial management. The caretakers chosen by the community during the project planning phase will be trained by the extension staff including exchange visits to communities already operating similar systems, if possible.

34. ***Monitoring and Support*** - The District Water Officer of DWD will make occasional visits to monitor the WSCs and WUA, the water system, and related activities. Communities will be expected to identify with the advice of their extension staff and DWD personnel the external resources they require and access them through the private sector. Zonal meetings of WSCs to discuss their water supply systems and other sector activities will be encouraged.

Town Implementation Process



January 13, 1994

CHOICE OF TECHNOLOGY

for the

RURAL TOWNS WATER AND SANITATION PROGRAM
of the Directorate of Water Development, Ministry of Natural Resources

INTRODUCTION

1. As Uganda is rich in its natural water resources, various sources can be exploited by communities including surface water, groundwater and rainwater. But however rich in water resources these communities may be, safe water from protected sources and distribution systems is scarce and most people must draw water from unprotected surface sources such as swamps, lakes and rivers. Over the past 20 years safe water coverage has decreased as many of the piped systems, built in the fifties and sixties, have completely or partially fallen into disrepair. More recently, protected springs and boreholes equipped with handpumps have been employed, particularly in rural areas. Solar, wind, and animal powered pumps are hardly used in Uganda for water pumping.

2. The towns covered under the proposed Small Towns Water and Sanitation Project are small, typically having between 10,000 and 20,000 residents and low population densities compared to large towns Jinja with about 60,000 people. A small town typically consists of a commercial center comprising 10-15% of the total town area where about 30% of the population reside and where population densities are about 100 persons per hectare. In the outskirts, population densities of these towns drop to 10-20 persons per hectare. Hence many town residents live under conditions very similar to those found in the surrounding rural areas. As a result of the variable population density and affluence, mixed technologies would be offered in the Project, so that everyone would have the opportunity of obtaining a protected water supply that they can afford.

3. Groundwater has a number of advantages over surface water for the provision of water supply and should be used as the source of supply whenever possible: it is available within the community, is more reliable throughout the year and in periods of drought, and generally does not require treatment. Springs and hand dug wells are preferred sources of water because they are relatively inexpensive and provide a good basic service. Machine drilled boreholes are more expensive and should be used only if springs or hand dug wells are not suitable or when a more conveniently located higher level of service is desired. Gravity-fed piped systems provide a relatively cheap high-level service when such a source is available. In all cases care must be taken that the source provides a year round supply of water. Where required, water treatment for small and medium sized communities should be based on slow sand filtration preceded by roughing filters and should make use of hydraulic rather than electro-mechanical processes. Infiltration galleries can provide even better and more reliable treatment at lower costs and should be used whenever technically feasible.

4. Different priced water supply options for both point sources and piped systems and information materials, easily understood by community groups, showing typical designs and costs (capital and recurrent) should be available. For groundwater that needs lifting to the surface, they include dug wells with and without handpumps, boreholes with either direct-action or high-lift handpumps, and small piped systems utilizing either groundwater or surface water with appropriate pumping and treatment units. Pumping options would include electric submersible pumps powered by the electric grid, photo voltaic cells or diesel generating units. Lower cost surface-mounted, gas-

powered centrifugal pumps with locally made sheet metal storage tanks would also be an option. Generally, hand dug wells would be the least cost option, regardless of the community size. Where hand dug wells are not feasible due to hydrogeological constraints or a community wants a piped system, the least cost technology would depend on the population size, well yield, and proximity of the water wells to the national electric grid. The following chart shows the typical ranking of systems in terms of capital cost.

CAPITAL COSTS FOR WATER SUPPLY FROM GROUNDWATER[1]

	Community Population			
Type of System	< 500	500-1000	1000-2000	> 2000
Hand Dug Well[2]	1	1	1	1
Borehole + Handpump[3]	2	3	5	5
Borehole + Grid[4]	3	2[5]	2	2
Borehole + Solar	4	4	3	4
Borehole + Diesel	5	5	4	3

Notes:
1. One denotes the least cost option and five the highest.
2. Hand dug wells have capacity to serve up to 200 people.
3. The dynamic pumping level is less than 45 meters.
4. The water wells are in close proximity to the electric grid.
5. A single well has sufficient capacity to serve community.

5. It is important that communities are able to choose the technology that will give them *the highest service level that they want, can afford, and can maintain* — where service level is determined by a number of factors, including the quantity and quality of the water, the amount of time needed to collect water, and the reliability of the system. In the Project the communities will be able to choose the type of system that they want, with their choice guided by their felt need for safe water and the level of service offered by the various alternatives in relation to the anticipated costs of operations and maintenance and the required capital contributions. It is expected that households in lower density areas will generally opt for lower cost improved springs and dug wells, and that those living in the commercial areas will prefer piped systems.

6. Borehole drilling in Uganda dates back to the early part of this century. Nonetheless, groundwater has become widely used only in recent years, as a result of the ongoing rural water supply projects. During this period the Directorate of Water Development has gained considerable drilling experience. Despite their high cost and the potential for dug wells, boreholes have become the most common method of groundwater exploitation.

7. Piped systems, mostly supplied from surface water sources, require treatment and associated mechanized equipment and chemicals and are dependent on the intermittent electric service provided by UEB. As a result their performance is not very good, particularly in small towns. Where surface supplies and treatment are required, good results, even without chemicals, are being achieved with roughing filters and slow sand filtration - such that the combination is generally considered to be the technology of choice for small systems.

8. Borehole and well siting techniques have improved substantially over the past years. Given the substantial cost savings that can be achieved through the use of low cost technologies, adequate attention shall be given to siting procedures. In this respect the hydrogeological teams will use siting

techniques varying from the hand auguring of test holes where dug well potential is high to geophysical methods for boreholes, particularly for piped supplies. Where hydrogeologic conditions are unfavorable, geophysical methods should be used both for dug wells and boreholes.

DESCRIPTION OF WATER TECHNOLOGIES

9. Springs: Where the specific local hydrogeological conditions allow, protected springs can be the lowest cost and most reliable option, and, although they may not be located as conveniently as wells or piped systems, are very popular. In Uganda spring protection could play a more important role than they do now as only 35% of the 13,000 registered springs have so far been protected.

10. A protected spring typically comprises:

- a protected intake from a natural spring: the existing spring is cleaned, a layer of gravel is placed in conjunction with a collector pipe for collection purposes over all spring eyes, a layer of clay covers the spring against contamination together with upstream drainage works; in some instances a spring box is constructed;
- a platform with the water outlet(s), occasionally with a short transmission main that allows better access by the consumers; depending on the yield and the demand one or more outlet pipes can be provided; where yields are low, storage can be provided; and
- related site works consist of cattle fences, access steps to the spring, spring retaining walls and the required drainage works both upstream and downstream of the spring.

CAPITAL AND RECURRENT COSTS OF PROTECTED SPRINGS, IN USH

Capital Costs	2,280,000
Annual Recurrent Costs	23,000
Corresponding tariff level in USh per 20 liters	0.3

11. Hand Dug Wells: If equipped with bucket and rope as lifting device, this technology offers the lowest investment per capita after spring catchments, and also the lowest recurrent cost. If constructed with a collar and raised platform that is grouted, an open dug well provides considerably better quality water than is provided by unprotected surface sources. If fitted with a reliable and easily maintainable direct action handpump, i.e. one without a lever, the danger of contaminating the well would be reduced. It is important that dug wells be constructed two to three meters below the water table to ensure good yields and a year round supply. With static water levels ranging from 1-30 meters below ground level (the majority less than 15 meters) and the considerable depth of unconsolidated overburden (4-40m) found in most places in Uganda, well digging and/or auguring are technologies that could provide a service to many communities and that would considerably reduce the cost of water supplies in rural and low-density urban fringe areas.

- Hand dug wells are constructed in weathered rock, overburden or sedimentary formations. The well is lined down to the aquifer with in situ cast concrete. The penetration in the water bearing zone is done with caisson rings. This allows further deepening of the well in case the water table falls. Construction is done with community participation in digging down to the water table.

12. Handpumps: Handpumps provide a basic service level. These have the advantage over springs in that they can often be located closer to consumers. Handpumps are relatively simple and inexpensive and relatively easy to maintain. However simple, the requirement for spare parts can be problematic and at times relatively expensive components must be replaced. This technology typically comprises:

- A well (hand dug or hand augured), or a borehole; the choice of whether to use hand dug wells, augured wells or boreholes to abstract groundwater is determined by hydrogeological, technical and economic considerations; the choice is made by the consumer group in consultation with a hydrogeologist. For design depths up to 15-20 meters augured and hand dug wells are good options, for deeper design depths boreholes usually are the preferred option.

- In view of DWD's policy of standardization on U2 or U3 handpumps with corrosion resistant stainless steel rising mains and rods are required. The concrete platform, with the spout of the handpump placed near the center, provides a clean working area and protects against groundwater contamination. For pumping lifts of less than 15 meters a direct action pump is a corrosion free, easily repairable option that should be considered.

- Related site works consist of fencing to keep animals away, drainage works such as a drainage channel and soak away pit. Cattle troughs and washing facilities are optional.

13. Piped Systems: Small piped systems can provide a higher level of service than the point sources, where the pumps and appurtenant equipment can be maintained and the energy supply (electric or diesel) is dependable. Typically these comprise of a water source with or without a pump house, a pump and a reservoir, distribution mains and public standposts. Individual house connections will be encouraged in the RTWS Program so that more revenue can be obtained from the more affluent people in the community.

14. The design capacity for piped systems will be 20 litters per capita per day based on a town's current population. Additional production and distribution capacity for the following purposes will be financed under normal cost sharing arrangements, if communities so choose:

- Increasing population including 10 years for source works and 15 years for water mains, up to the town's average annual growth rate,
- Twenty percent unaccounted-for-water,
- Twenty percent for future household and institutional connections,
- Existing household and institutional connections:
  - House connections 100 litters/capita/day
  - Yard Taps 40 lcd
  - Schools (day) 5 lcd
  - Schools (boarding) 50 lcd
  - Prisons 50 lcd
  - Hospitals 200 litters/bed/day
- Peaking factor for pipes of 1.5 based on 10 hours per day pumping, and
- Storage capacity of 1/2 day's design demand.

TABLE 5.1

HANDPUMPS
CAPITAL, RECURRENT COSTS AND TARIFF LEVELS IN USH

	Hand Dug Well with Handpump	Hand Augured Well with Handpump	Borehole with Handpump
Capital cost:			
Hand Dug Well	10,370,000		
Hand Augured Well		5,570,000	
Borehole			12,770,000
Handpump with Rising Main	1,440,000	1,440,000	3,720,000
Reservoir	740,000	740,000	740,000
Total Capital Costs	11,810,000	7,010,000	16,490,000
Annual Recurrent Costs:			
Staffing	225,000	225,000	225,000
Maintenance	175,700	127,700	313,700
Total Annual Recurrent Costs	382,700	352,700	538,700
Corresponding Tariff Level per 20 Liters	4.4	3.9	5.9

15. The following restrictions apply:

- The cost of water deliveries above those provided for in para. 14, including commercial and industrial uses, and the cost of connecting households and institutions to the distribution system will be paid in full by individual beneficiaries.

- All government institutions will pay their share of the capital and recurrent costs. Prisons, military installations and other large government institutions, each one of which consumes more than 10 percent of the design capacity of a municipal system, will be provided separate facilities under normal cost sharing arrangements that they will manage themselves.

- Sale of any system or components financed with Government funds is prohibited.

16. Larger Piped Supplies are expected to serve the commercial core areas and will be custom designed. Cost figures for complete systems vary considerably with the local conditions. Based on recent tenders for such systems unit cots for larger piped systems are in the range of 90,000 to 120,000 USh (US$75-100) per capita.

DESCRIPTION OF SANITATION TECHNOLOGY

17. The demand for latrines has in the past been a problem, not so much because of disinterest, but because of their high cost and a lack of information about them; it is therefore important that a range of different cost designs for sanitation be promoted through the rural water supply and sanitation program both for household and public use. Technologies would include the single pit VIP latrine, the SanPlat latrine with and without a vent pipe, and in some cases the twin-pit VIP latrine. Multiple-pit VIP latrines (privately operated) would be used at health centers, markets and other public places. Standard designs and technical specifications will be prepared for each including drawings, bills of quantities, construction and quality control procedures, and sample bidding documents and contracts.

TABLE 5.2

SMALL PIPED SYSTEMS
CAPITAL AND RECURRENT COSTS AND TARIFF LEVELS IN USH

	Dug Well with Pump	Augured Well with Pump	Borehole with Handpump	With Gravity Supply
Capital Cost				
Intake Spring				2.280,000
Gravity Main[1]				20,160,000
Platform Site Works				540,000
Hand Dug Well				
Hand Aug. Well	9,720,000			
Borehole		4,920,000		
Pumping Main[1]			12,120,000	
Diesel Pump	20,160,000	20,160,000	20,160,000	
Pump House	7,920,000	7,920,000	7,920,000	
Reservoir	4,800,000	4,800,000	4,800,000	
Platform, etc.	1,300,000	1,300,000	1,300,000	
	1,210,000	1,210,000	1,210,000	
Total Capital Cost		40,310,000	47,510,000	22,980,000
Recurrent Cost				
Staffing	585,000	585,000	585,000	585,000
Maintenance	733,600	685,600	757,600	179,400
Power	74,000	74,000	74,000	
Replacement Fund	792,000	792,000	792,000	
Total Recurrent Annual Costs	2,184,600	2,136,600	2,208,000	
Tariff level in USh/20 l	24	23	24	7 USh[1]

1 Assumes that 250 persons use the system and the gravity main extends for 500 m.

SANITATION AND HYGIENE EDUCATION

for the

RURAL TOWNS WATER AND SANITATION PROGRAM
of the Directorate of Water Development, Ministry of Natural Resources

BACKGROUND

1. A recent Program Preparation Report[1] of the Directorate of Water Development (DWD) indicates that sanitation[2] coverage in the 60 towns which currently form the priority area for the Government Rural Towns Water and Sanitation Program (RTWSP) is about 60-70%. These figures were based on a fairly rapid reconnaissance, and more exact figures would be gathered during project implementation. Most of the sanitation coverage consists of traditional latrines which, while counted as *coverage*, offer little more than privacy as the hygiene conditions are very poor in most. A very small percentage of the population in the 60 towns is served by septic tanks (<5%) and far fewer by the six existing waterborne collection and treatment systems. Of these six, only Njeru is operating well (under the National Water and Sewerage Corporation (NWSC)) and the Gulu system as it has only recently been rehabilitated. The other four systems are in poor condition with little or no treatment. The remaining 40% of the population counted as *not served* rely on extremely unhygienic communal facilities or defecate wherever they might find some privacy.

2. The Report only confirms what has been generally accepted globally in the sub-sector - that the demand for improved urban sanitation is less than that for water supply. To increase people's awareness of the public health effects of improper excreta disposal, thereby raising the demand for improved services and facilities, a combination of software extension services and improvements in the methods of delivery of the chosen technologies needs to be better provided. It is well known that water supply interventions without improvements in sanitation conditions and a complementary program of hygiene education have very little effect in improving the target communities' overall health. Water supply interventions are a basic prerequisite for the effectiveness of all other interventions to improve community health. Indeed, investments in water supply and proper operation and maintenance of these facilities can lead to some reductions in waterborne diseases, however, in the absence of hygiene education and improved excreta disposal services the fecal-oral disease transmission routes would continue to persist and circumvent any significant health benefits which should be realized from the improvements in water supply.

SANITATION

3. *Technology Choice* - The most common forms of household sanitation facilities found in Uganda are:

- traditional pit latrines,
- the more recently introduced VIP latrines,

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1 "Small Towns Water and Sanitation Project - Program Preparation", September 1992, COWIconsult.
2 Sanitation is defined in the context of this discussion only as excreta disposal.

- the more recently introduced SanPlat (sanitation platform hygienic latrine slab) for upgrading traditional latrines,
- septic tanks with soakage pits or trenches, and
- centralized collection and treatment systems.

While these technologies are suitable for households, public toilets and public latrines also serve some of the larger urban areas where congested public markets or long-distance transport depots require such facilities for public health considerations. Pour flush latrines, while not common in Uganda, may be appropriate for the project towns, demand for which would be tested during project implementation, which most probably would include some pilot activities.

4. The selection of a sanitation technology is a household decision (or the user group's if a waterborne system is chosen), but should be based on adequate information about the technologies, including all costs; the user's willingness-to-pay; and the Government's policy on subsidies, all of which would be studied and presented through the Project. Government policies would have a significant influence upon the household's decision of technology selection in regard to cost sharing of investment cost; subsidy levels; management structure for the operation and maintenance of the facilities; tariff structures for services such as desludging of latrines and septic tanks or operating and maintaining the communal portion of a community collection and treatment system

5. The supply of SanPlat slabs to upgrade traditional latrines or construct new hygienic latrines (improved traditional) and slabs for ventilated improved pit latrines (VIPs) would be subsidized by the Government through project funding. For the septic tank option very little Government involvement would be necessary outside of the software and technical guidance support that would come from the Ministry of Health (MOH) and quality control support from DWD. Those responsible for project management in DWD would monitor the pre-qualification process of contractors at district level; tender for latrine and SanPlat slabs production at district or town level; and identify local commercial traders in the towns who would market the slabs. A model latrine for demonstration purposes would be constructed in each town to allow interested buyers the opportunity to see the quality of the completed package. Training packages for small contractors to quickly acquire the skills to construct improved latrines and/or produce slabs would be designed and run by qualified specialists. Initially this might require outside assistance.

6. The relationship between the slab producer and the retailer requires clear definition before implementation begins. One option would be for the Project set the price at which the retailer is to sell the slabs (based upon production costs, subsidy decisions, and the purchasers willingness-to-pay) providing the retailer with a reasonable commission on the sale. Alternatively, once the Project tenders the slabs for production it could then be left to the producer to sell either directly to the householders or through a retailer allowing market forces to dictate the appropriate price.

7. Apart from the slab production and sale, other material components for the latrine would be the responsibility of the user. Standard drawings and a construction manual for latrines would be a part of both the sale of VIP slabs and SanPlat slabs. Operation and maintenance would be the responsibility of the householder including the desludging of the pits. For the construction of septic tanks no Government involvement is foreseen other than that of a regulatory/inspection element to ascertain the quality of design and construction of the septic tank and, more importantly, the absorption fields or pits. Private sector involvement in emptying services for septic tanks would be promoted through the Government purchase and leasing out of two vacuum tankers from project funds.

In the initial stages of the Project these arrangements will be detailed before procurement of the vacuum tankers is finalized. Properly designed septage disposal sites (one or two) would be identified and constructed to mitigate negative environmental effects of indiscriminate septage disposal. Some regulatory function of the urban or district authorities would be required to ensure that the desludging operations are disposed of in designated places and carried out according to the specified health regulations.

8. Where *sewerage* is the technology of choice, DWD would assist the urban and district authorities together with the users in tendering the contract as well as supervising the construction of the system. The operation and maintenance of the collection system and treatment system would require at least one full-time community paid employee who would be trained by DWD staff or their consultants. If a town elects the waterborne technology it is essential that the technology designed and constructed for collection and treatment is operable and maintainable by the community. When there is a community demand and when considerations such as population density, soil permeability, the risk of groundwater pollution, and affordability dictate the technology selection of centralized sewerage collection and treatment, Government subsidies would be required for the capital investment in the facilities. In these cases the community would be required to share with Government the investment cost of the system, the amount of which would be determined in the early stages of project implementation.

9. Community preference for the waterborne technology alone would not necessarily mandate a Government subsidy. If population densities are low, the soils are accommodating, and the risk of groundwater pollution is not a factor, the cost of sewerage should be born completely by the community without Government subsidy. Government would not subsidize waterborne reticulated systems unless a substantial justification exists. Operation and maintenance costs for waterborne reticulated systems in all cases would be the responsibility of the users. Where there are existing sewerage facilities, careful consideration would be given to whether rehabilitation of the system is the best solution or abandonment of the facilities in favor of on-site solutions. Where an existing system is functioning it would be difficult to justify abandoning the facility, but where it has been out of service for some time, other level of service and facilities should be considered. Any investment of project funds for sewerage would require direct approval from the Director, DWD.

10. *Public latrines* would be owned by the urban authority, market association, or transport association. The Project, based on a justified demand, would rehabilitate or newly construct public facilities, but maintenance would be contracted out by the owner. The tender submissions would be based on the contractors projected costs for operating and maintaining the facilities plus their anticipated profits and offset by revenue generated by user fees. The award of tender would be based on the highest guaranteed payment to the "owner" per month. The user fees would be determined by the owner in consultation with the political leadership in the community. Contracts for maintenance would be vetted on a one year basis with clauses permitting the owner to dismiss the contractor if the services are not deemed satisfactory.

11. *Jinja-Njeru* - Sewerage rehabilitation work would be undertaken in Jinja and Njeru to upgrade the sewerage network and existing ponds under NWSC implementation. Some extensions to the network would be constructed as well as new ponds in Njeru. Public latrines and toilets would be rehabilitated and newly constructed in collaboration with Jinja Municipal Council and Njeru Town Council as later identified. Household on-site sanitation options and simplified sewerage systems

would be considered, particularly in the housing estates, through joint planning by Jinja Municipal Council and NWSC.

HYGIENE EDUCATION

12. Before starting the implementation of sanitation activities, the hygiene education elements of the Project should be carefully designed and coordinated with the water supply and sanitation activities. Two workshops would be launched in all project towns over the duration of the Project. MOH personnel would coordinate these efforts with DWD project management. If a suitable NGO is identified to assist in the hygiene education elements of the Project they would be directed by the MOH in project implementation. Hygiene education materials would be produced for the Project and disseminated by the MOH personnel.

TRAINING

13. DWD was formerly responsible for the operation and maintenance of the water supplies and sewerage systems in the small towns. With personnel retrenchments in the civil service and given the logistical problems of a centrally managed operation and maintenance system, this mechanism is no longer considered to be an effective means of service delivery. For all sewerage systems outside of the NWSC systems, the urban authorities would be required to manage the maintenance of their facilities. This can be done either through the direct employment of staff from the user community or tendering for the provision of these services. User community staff would be trained in maintenance procedures of sewerage systems, and "in-service" training would be provided for MOH personnel working on the Project. The training of small contractors to construct latrines and manufacture latrine slabs will also be a part of the Project as well.

POLICY GUIDELINES

14. The following principles would form the basis of implementing the sanitation and hygiene education interventions of the Project and would be verified during the two workshops to be held on or before November 30, 1995 and November 30, 1998 and the Mid-Term Review of the Project:

a. The investment cost of all on-site sanitation interventions would be paid for by the householder with a marginal Government subsidy for the provision of approved latrine slabs.

b. The operation and maintenance costs for all on-site sanitation facilities would be the complete responsibility of the user or user group.

c. Public latrines would be owned by the urban authority or particular association which requires such facilities. The investment cost for such facilities would be met by the Project with a percentage investment cost contribution from the owner.

d. The operation and maintenance costs for the public facilities would be offset by users fees, which would be regulated by the owners with monitoring by the district administration. The O&M requirements for public facilities would be undertaken by contractors on a commercial basis.

e. The provision of Government subsidies for waterborne collection and treatment facilities can only be justified if a strong demand by the community exists and a combination of other requirements are met, such as high population densities, poor absorptive capacity of soils, and special pollution risks. If the waterborne option is selected purely on the basis of community demand, the community would be required to pay the capital cost of the entire system.

f. The district health officers, community development officers, and possibly NGOs would have the task of sensitizing the population in the project area about the health effects of sanitation in order to increase the demand for sanitation improvements.

PROJECT DESCRIPTION AND COSTS

PART A - SMALL TOWNS

Total Cost, including contingencies: ***US$ 19.4 million***
Responsible Agency: ***DWD***

Description

7.01 The water supply and sanitation facilities in the following eleven towns would be rehabilitated, expanded, and in some cases newly constructed, depending on their existing state: Busia, Kalisizo, Kyotera, Lugazi, Luwero, Lyantonde, Malaba, Ntungamo, Rakai, Rukungiri, and Wobulenzi. For water supply the technologies would typically consist of piped water supply systems of varying sizes, ranging from a small distribution network without water treatment to a large piped network with or without water treatment; boreholes or wells equipped with handpumps; and protected springs. Sanitation improvements would typically consist of the upgrading or construction of pit latrines of different designs, rehabilitation or construction of septic tanks, and rehabilitation or construction of sewers and sewage treatment works (see *Annex 11*).

7.02 Out of the combined design population (year 2001) of the eleven towns of 130,000, two towns have populations between 1,000 and 5,000; four between 5,000 and 12,000; four between 12,000 and 25,000; and one at 37,000. The combined Jinja-Njeru design population is 130,000. The eleven towns were selected by DWD in consultation with the districts and in attempting to coordinate national interests with donor criteria. Water supply and sanitation interventions would be designed and implemented such as to assist the communities to have access to the basic level of improved water supply service. The following *selection criteria* were used to arrive at these towns:

- Variety of current institutional arrangements in the communities, i.e. municipalities, town councils, town boards, and trading centers;
- Wide range of town sizes - design population of less than 5,000, 5,000-12,000, 12,000-25,000, and over 25,000 by the year 2001;
- Variety in the likely water and sanitation technologies and water sources;
- High likelihood that the communities are willing to participate in planning and construction and to sustain the systems through proper operations and maintenance, including provision for replacement;
- The package of towns to be small enough, and geographically concentrated, to allow effective implementation and monitoring of this first phase of the Rural Towns Water and Sanitation Program;
- Consideration of the interest of the World Bank funding in the East and the Luwero triangle complementing their existing agricultural and feeder rods activities; and

- Exclusion of the Northern towns for this first project package as there is an extensive reconstruction project (NURP) funded by the World Bank and the Netherlands active in the water sector currently being implemented.

7.03 Preliminary designs for a mix of technologies in each town were prepared by DWD with the help of consultants as part of the preparations for the Project. The final mix of technologies would be determined through the participation of the community and would be based on the given physical conditions (such as the available water sources, topography, and housing density) and the users' willingness to pay (see *Town Implementation Cycle*, Para. 2.08 of the main text and *Annex 4*). Also included in the scope of work are the design and supervision of the works to be constructed and the arrangements necessary for the sustainable operation of the schemes once they have been completed, including training; provision of hygiene education; technical assistance; acquisition of vehicles, equipment, spare parts, chemicals, and rehabilitation of office buildings.

7.04 As described in Para. 1.11 of the main text the water sector legislation is currently being reviewed, and recommendations are being considered for significant amendments, including a provision allowing to empower community organizations to operate and maintain their water supply. In light of the revised sector policies, the method for establishing tariff levels in the communities would be reviewed periodically to determine the appropriateness of the tariffs and the progress made in collecting tariffs in the project towns.

7.05 The scope of work includes the construction of *water supplies*, such as boreholes equipped with handpumps, protected springs, and piped schemes varying in size from very small ones without water treatment and with a limited distribution network (e.g. a spring catchment fitted with a small surface mounted pump that pumps water to a small overhead tank serving 40 or 50 families) to somewhat larger schemes serving those living in the central parts of towns where housing densities are higher (about 3,000 or 4,000 families). With respect to *sanitation* improvements the scope of the work would provide assistance to households desiring to upgrade their existing traditional latrines with the promotion of (i) the SanPlat (sanitation platform), a very basic hygienic concrete slab for latrines; (ii) the ventilated improved pit (VIP) latrine; (iii) the pour-flush latrine (minimal water use facility); and (iv) rationalization through the urban and district health officers of septic tank and drainage field/pit design and construction (see *Annex 11* for a more detailed description of the sanitation component). In exceptional cases sewerage schemes would be rehabilitated or newly built, for which a case-by-case permission would be required from the Director of DWD. To ensure that adequate attention is paid to sanitation during project implementation, specific targets are set and implementation would be monitored for the construction of latrines and other sanitation facilities. Three septic tank emptying sites would be developed ($40,000 per site, sites still to be determined) to promote the safe disposal of septage, currently no such facilities exist.

7.06 Through the initiative of municipal or district based health officials, the Project would promote better *hygiene practices*, including the proper use of household sanitation facilities; training of local artisans to construct *improved latrines*; and the supply of sanitation related construction materials through local retail outlets. Two hygiene education campaigns would be launched during the project implementation, one in November 1995 and one in November 1998. In those instances where household connections for water supply are provided, the disposal of excreta and sullage water would be planned on a house by house basis jointly by the health officials and the user groups. DWD would coordinate in the project towns with the municipal or district personnel of the Ministry of Health in

promoting hygiene education activities. The private sector would be involved in the manufacture and retailing of the appropriate latrine components.

Cost Estimates

7.07 *Civil Works* - As the finalized designs of the water supply systems would not be completed until a dialogue with the communities has been initiated, standard sizes of piping and pumping supplies would be procured in advance and stocked by DWD. The digging of trenches and other labor intensive work for the water distribution system may be done by the beneficiaries as part of their capital cost contribution. The laying and fitting of pipes would be done mostly through small contracts for labor only, with the materials supplied by DWD. Wells and springs development and sanitation interventions would be contracted out to smaller contractors at the district level.

A.1 Civil Works	Base Cost[1] (US$ million)		
	Foreign	Local	Total
Source development	2.622	0.757	3.378
Water Distribution	1.331	0.516	1.848
Wells/springs	2.923	0.489	3.412
On-site sanitation	0.000	0.371	0.371
Sub-Total A.1	6.876	2.133	9.009

7.08 *Equipment and Materials* - The piping and fittings for water distribution would be procured by DWD to suit the demand driven approach and the need to avoid procurement delays. DWD is currently developing the methodology which would be used to estimate equipment and materials needs, inventory and monitor stock, and the transfer mechanisms to communities/contractors. Four 4-wd vehicles ($110,000) would be purchased to assist with project administration and two vacuum tankers ($250,000) would be purchased to assist in removing septage from the project towns. Currently there is no reliable service available for septic tank emptying. The private sector would be involved in the arrangements allowing DWD to concentrate on policy and supervision functions. Some form of lease-purchase arrangement for the operation of the vacuum tankers would be negotiated with private firms, such arrangements recently have been successfully undertaken in Kumasi, Ghana utilizing ODA funding for the vehicles.

A.2 Equipment and Materials	Base Cost (US$ million)		
	Foreign	Local	Total
Piping, pumps, etc.	1.044	0.000	1.044
Training materials	0.060	0.040	0.100
Vehicles	0.356	0.000	0.356
Sub-Total A.2	1.460	0.040	1.500

1 Base costs are the market price of items or services inclusive of taxes and duties.

7.09 *Consulting Services and Training* - Also included are funds for DWD to engage consultants (see *Town Implementation Cycle, Annex 4*); hire one technical assistance person for 24 staff-months to assist DWD with implementation management; and assist in preparing another Program financing package for marketing to other external assistance agencies. The consultants engaged to assist DWD with implementation would be retained initially under a three year contract allowing for two separate selection processes over the life of the Project. These costs are summarized below.

7.10 As the demand driven community based approach to serving these towns with water supply and sanitation infrastructure involves a large number of persons from different local and national organizations, training would be provided with the following cost estimates. More detailed training information and costs are detailed in *Annex 9*, Institutional Strengthening of DWD.

DETAILED BASE COST ESTIMATES FOR TRAINING

	No. of Events	No. of Days	Partic. / Workshop	Total Partic.	Cost/Day/ Partic.	Cost FUP [1]	Cost STWSP	TOTAL COST
Nat. Launch	1	2	200	200	$200		$80,000	$80,000
Team Bldg Works.	3	3	30	90	$200	$18,000	$36,000	$54,000
District Orient.	5	1	50	250	$30	$1,500	$6,000	$7,500
Mobilization	5	4	12	60	$50	$2,400	$9,600	$12,000
Trg needs assess.	9	1	10	90	$30	$300	$2,400	$2,700
Monit./eval.	1	3	20	20	$100	$0	$6,000	$6,000
Community Mgt	9	4	30	270	$30	$3,600	$28,800	$32,400
Health Camp.	18	2	15	270	$30	$900	$15,300	$16,200
Health Camp.	18	1	30	540	$30	$900	$15,300	$16,200
Financial Mgt	1	3	27	27	$100	$0	$8,100	$8,100
Maintenance	2	5	15	30	$100	$0	$15,000	$15,000
Regional conf.	45	5	45	45	$250	$0	$56,250	$56,250
In-country	55	10	55	55	$100	$5,000	$40,000	$45,000
Total	172	44	539	1,947	1,250	32,600	318,750	351,350
Materials								100,000
Grand Total								451,350

[1] FUP is the IDA-GOU First Urban Project which has earmarked $850,000 for implementation in one town before the Small Towns Water and Sanitation Project Credit is effective.

A.3 Consulting Services and Training	Base Cost (US$ million)		
	Foreign	Local	Total
TA Project Implementation	0.300	0.000	0.300
Design and Supervision Consultancy	2.055	1.215	3.270
Additional Towns Preparation	0.234	0.156	0.390
Training	0.096	0.224	0.320
Sub-Total A.3	2.685	1.595	4.280

7.11 *Operating Costs* - The administrative costs associated with the implementation of the Project are detailed below.

A.4 Operating Costs	Base Cost (US$ million)		
	Foreign	Local	Total
O&M Vehicles	0.050	0.210	0.260
Office Operations	0.020	0.090	0.110
Local Staff Allowances	0.000	0.376	0.376
Sub-Total A.4	0.070	0.676	0.746

SMALL TOWNS WATER AND SANITATION PROJECT
DETAILED COST ESTIMATES
(US$ million)

PART A SMALL TOWNS COMPONENT

Item	--Town	Sub--Item	Base Costs			Physical Contingencies			Price Contingencies			Total Contingencies			Total Cost		
			Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total
A.1	Civil Works																
	--Kalisizo	Source development	0.055	0.018	0.073	0.008	0.003	0.011	0.008	0.003	0.011	0.017	0.005	0.022	0.072	0.023	0.095
		Water distribution	0.032	0.015	0.047	0.005	0.002	0.007	0.005	0.002	0.007	0.010	0.005	0.014	0.042	0.020	0.062
		Wells/springs	0.140	0.016	0.156	0.021	0.002	0.023	0.021	0.002	0.024	0.042	0.005	0.047	0.182	0.021	0.203
		On site sanitation	0.000	0.005	0.005	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.007	0.007
		SUB-TOTAL	0.227	0.054	0.281	0.034	0.008	0.042	0.035	0.008	0.043	0.069	0.016	0.085	0.296	0.070	0.366
	--Kyotera	Source development	0.085	0.009	0.094	0.013	0.001	0.014	0.013	0.001	0.014	0.026	0.003	0.028	0.111	0.012	0.122
		Water distribution	0.058	0.023	0.081	0.009	0.003	0.012	0.009	0.003	0.012	0.018	0.007	0.025	0.076	0.030	0.106
		Wells/springs	0.211	0.023	0.234	0.032	0.003	0.035	0.032	0.003	0.036	0.064	0.007	0.071	0.275	0.030	0.305
		On site sanitation	0.000	0.005	0.005	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.007	0.007
		SUB-TOTAL	0.354	0.060	0.414	0.053	0.009	0.062	0.054	0.008	0.063	0.107	0.016	0.125	0.461	0.078	0.539
	--Lugazi	Source development	0.469	0.054	0.543	0.073	0.008	0.081	0.074	0.008	0.083	0.148	0.016	0.164	0.637	0.070	0.707
		Water distribution	0.194	0.091	0.285	0.029	0.014	0.043	0.029	0.014	0.043	0.059	0.027	0.086	0.252	0.118	0.371
		Wells/springs	0.296	0.038	0.334	0.044	0.006	0.050	0.045	0.006	0.051	0.089	0.011	0.101	0.385	0.049	0.435
		On site sanitation	0.000	0.007	0.007	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.009	0.009
		SUB-TOTAL	0.979	0.190	1.169	0.147	0.028	0.175	0.149	0.029	0.178	0.296	0.057	0.353	1.275	0.247	1.522
	--Luwero	Source development	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Water distribution	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Wells/springs	0.602	0.074	0.676	0.090	0.011	0.101	0.092	0.011	0.103	0.182	0.022	0.204	0.784	0.096	0.880
		On site sanitation	0.000	0.007	0.007	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.009	0.009
		SUB-TOTAL	0.602	0.081	0.683	0.090	0.012	0.102	0.092	0.012	0.104	0.182	0.024	0.206	0.784	0.105	0.889
	--Lyantonde	Source development	0.194	0.022	0.216	0.029	0.003	0.032	0.030	0.003	0.033	0.059	0.007	0.065	0.253	0.029	0.281
		Water distribution	0.056	0.029	0.086	0.008	0.004	0.013	0.009	0.004	0.013	0.017	0.009	0.026	0.073	0.038	0.111
		Wells/springs	0.396	0.044	0.442	0.060	0.007	0.066	0.061	0.007	0.067	0.120	0.013	0.134	0.516	0.057	0.576
		On site sanitation	0.000	0.005	0.005	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.007	0.007
		SUB-TOTAL	0.646	0.100	0.746	0.097	0.015	0.112	0.099	0.015	0.114	0.196	0.030	0.226	0.844	0.130	0.975
	--Ntungamo	Source development	0.095	0.011	0.106	0.014	0.002	0.016	0.014	0.002	0.016	0.029	0.003	0.032	0.124	0.014	0.138
		Water distribution	0.082	0.054	0.136	0.014	0.005	0.019	0.014	0.005	0.019	0.028	0.010	0.038	0.120	0.044	0.164
		Wells/springs	0.153	0.019	0.172	0.023	0.003	0.026	0.023	0.003	0.026	0.046	0.006	0.052	0.199	0.025	0.224
		On site sanitation	0.000	0.005	0.005	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.007	0.007
		SUB-TOTAL	0.340	0.089	0.429	0.051	0.010	0.061	0.052	0.010	0.062	0.103	0.021	0.124	0.442	0.090	0.532
	--Rakai	Source development	0.094	0.010	0.104	0.014	0.002	0.016	0.014	0.002	0.016	0.028	0.003	0.031	0.122	0.013	0.135
		Water distribution	0.022	0.013	0.035	0.003	0.002	0.005	0.003	0.002	0.005	0.007	0.004	0.010	0.028	0.017	0.045
		Wells/springs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		On site sanitation	0.000	0.005	0.005	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.007	0.007
		SUB-TOTAL	0.116	0.028	0.144	0.017	0.004	0.022	0.018	0.004	0.022	0.035	0.008	0.043	0.151	0.036	0.187

SMALL TOWNS WATER AND SANITATION PROJECT
DETAILED COST ESTIMATES
(US$ Million)

PART A SMALL TOWNS COMPONENT .. (continued)

			Base Costs			Physical Contingencies			Price Contingencies			Total Contingencies			Total Cost		
Item	--Town	Sub-Item	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total
A.1	Civil Works																
	--Rukungiri	Source development	0.196	0.022	0.218	0.029	0.003	0.033	0.030	0.003	0.033	0.059	0.007	0.066	0.255	0.029	0.284
		Water distribution	0.130	0.052	0.182	0.020	0.008	0.027	0.020	0.008	0.028	0.039	0.016	0.055	0.170	0.068	0.237
		Wells/springs	0.339	0.038	0.377	0.051	0.006	0.057	0.052	0.006	0.057	0.102	0.011	0.114	0.441	0.049	0.491
		On site sanitation	0.000	0.007	0.007	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.009	0.009
		SUB-TOTAL	0.665	0.119	0.784	0.100	0.018	0.118	0.101	0.018	0.119	0.201	0.036	0.237	0.866	0.155	1.021
	--Wobudeni	Source development	0.125	0.014	0.139	0.019	0.002	0.021	0.019	0.002	0.021	0.038	0.004	0.042	0.163	0.018	0.181
		Water distribution	0.054	0.024	0.078	0.008	0.004	0.012	0.008	0.004	0.012	0.016	0.007	0.024	0.070	0.031	0.102
		Wells/springs	0.164	0.019	0.183	0.025	0.003	0.027	0.025	0.003	0.028	0.050	0.006	0.055	0.214	0.025	0.238
		On site sanitation	0.000	0.005	0.005	0.000	0.001	0.001	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.007	0.007
		SUB-TOTAL	0.343	0.062	0.405	0.051	0.009	0.061	0.052	0.009	0.062	0.104	0.019	0.122	0.447	0.081	0.527
	--Busia	Source development	0.957	0.514	1.471	0.144	0.077	0.221	0.146	0.078	0.224	0.289	0.155	0.445	1.247	0.669	1.916
		Water distribution	0.500	0.187	0.687	0.075	0.028	0.103	0.076	0.028	0.104	0.151	0.057	0.207	0.651	0.244	0.894
		Wells/springs	0.473	0.181	0.654	0.071	0.027	0.098	0.072	0.028	0.100	0.143	0.055	0.198	0.616	0.236	0.852
		On site sanitation	0.000	0.100	0.100	0.000	0.015	0.015	0.000	0.015	0.015	0.000	0.030	0.030	0.000	0.130	0.130
		SUB-TOTAL	1.930	0.982	2.912	0.289	0.147	0.437	0.294	0.149	0.443	0.583	0.297	0.880	2.513	1.279	3.792
	--Malaba	Source development	0.331	0.083	0.414	0.050	0.012	0.062	0.050	0.013	0.063	0.100	0.025	0.125	0.431	0.108	0.539
		Water distribution	0.193	0.048	0.241	0.029	0.007	0.036	0.029	0.007	0.037	0.058	0.015	0.073	0.252	0.063	0.314
		Wells/springs	0.147	0.037	0.184	0.022	0.006	0.028	0.022	0.006	0.028	0.044	0.011	0.056	0.192	0.048	0.240
		On site sanitation *	0.000	0.220	0.220	0.000	0.033	0.033	0.000	0.033	0.033	0.000	0.066	0.066	0.000	0.286	0.286
		SUB-TOTAL	0.672	0.388	1.060	0.101	0.058	0.159	0.102	0.059	0.161	0.203	0.117	0.320	0.875	0.505	1.380
	TOTAL A.1		6.876	2.139	9.009	1.031	0.320	1.351	1.046	0.325	1.371	2.078	0.644	2.722	8.954	2.777	11.731
	TOTAL BREAKDOWN	Source development	2.622	0.757	3.378	0.393	0.114	0.507	0.399	0.115	0.514	0.792	0.229	1.021	3.414	0.986	4.399
		Water distribution	1.331	0.516	1.846	0.200	0.077	0.277	0.203	0.078	0.281	0.402	0.156	0.558	1.733	0.672	2.406
		Wells/springs	2.923	0.488	3.412	0.438	0.073	0.512	0.445	0.074	0.519	0.883	0.148	1.031	3.806	0.636	4.443
		On site sanitation	0.000	0.371	0.371	0.000	0.056	0.056	0.000	0.056	0.056	0.000	0.112	0.112	0.000	0.483	0.483
		SUB-TOTAL	6.876	2.133	9.009	1.031	0.320	1.351	1.046	0.325	1.371	2.078	0.644	2.722	8.954	2.777	11.731

* Includes $120,000 for development of septage emptying sites not necessarily in Malaba.

SMALL TOWNS WATER AND SANITATION PROJECT
DETAILED COST ESTIMATES
(US$ Million)

PART A SMALL TOWNS COMPONENT .. (continued)

Item	--Town	Sub-Item	Base Costs			Physical Contingencies			Price Contingencies			Total Contingencies			Total Cost		
			Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total
A.2	Equipment and Materials :																
	-Piping, pumps, training materials, etc.		1.104	0.040	1.144	0.166	0.006	0.172	0.168	0.006	0.174	0.334	0.012	0.346	1.438	0.052	1.490
	- Vehicles		0.356	0.000	0.356	0.053	0.000	0.053	0.054	0.000	0.054	0.108	0.000	0.108	0.464	0.000	0.464
	TOTAL A.2		1.460	0.040	1.500	0.219	0.006	0.225	0.222	0.006	0.226	0.441	0.012	0.453	1.902	0.052	1.954
A.3	Consulting Services, Technical Assistance and Training																
	- Training		0.096	0.224	0.320	0.000	0.000	0.000	0.013	0.030	0.042	0.013	0.030	0.042	0.109	0.254	0.362
	- TA Project Implementation		0.300	0.000	0.300	0.000	0.000	0.000	0.040	0.000	0.040	0.040	0.000	0.040	0.340	0.000	0.340
	- Design and Supervision Consultancy		2.055	1.215	3.270	0.000	0.000	0.000	0.272	0.161	0.433	0.272	0.161	0.433	2.327	1.376	3.703
	- Additional Towns Preparation		0.234	0.156	0.390	0.000	0.000	0.000	0.031	0.021	0.052	0.031	0.021	0.052	0.265	0.177	0.442
	TOTAL A.3		2.685	1.595	4.280	0.000	0.000	0.000	0.355	0.211	0.566	0.355	0.211	0.566	3.040	1.806	4.846
A.4	Operating Costs																
	- O&M Vehicles		0.060	0.210	0.260	0.000	0.000	0.000	0.007	0.028	0.034	0.007	0.028	0.034	0.067	0.238	0.294
	- Office Operations		0.020	0.090	0.110	0.000	0.000	0.000	0.003	0.012	0.015	0.003	0.012	0.015	0.023	0.102	0.125
	- Local Staff Allowances		0.000	0.376	0.376	0.000	0.000	0.000	0.000	0.050	0.050	0.000	0.050	0.050	0.000	0.426	0.426
	TOTAL A.4		0.070	0.676	0.746	0.000	0.000	0.000	0.009	0.089	0.099	0.009	0.089	0.099	0.079	0.766	0.845
PART A	SMALL TOWNS COMPONENT TOTAL		11.091	4.444	15.535	1.250	0.326	1.576	1.633	0.631	2.264	2.883	0.957	3.841	13.975	5.401	19.376

PROJECT DESCRIPTION AND COSTS

PART B - JINJA - NJERU

Total Cost, including contingencies: ***US$ 24.8 million***
Responsible Agency: ***NWSC***

Background

8.01 Jinja Municipality has a current population of approximately 60,000, however about 125,000 people live in NWSC's Jinja service area that includes Jinja Municipality, part of Njeru town, and outlying areas of Jinja and Mukono Districts. Rehabilitation and expansion of facilities in parts of Njeru (1991 population of 38,000) would be included in the Project and be part of an expanded Jinja-Njeru service area. Because of the economies of scale with the NWSC piped system, and NWSC tariff structure, most other technologies are unlikely to be able to compete with the piped supply. While most of the Jinja service area lends itself to NWSC's public utilities approach, many localities within the NWSC service area and in the immediate surrounds have more of a rural character and therefore would require a different approach to providing sustainable service. The Jinja service area in the Project provides an opportunity for NWSC to develop a holistic approach to community water supply service. A pilot stand post unit in NWSC would be formed with an objective of providing more widespread coverage of the urban fringe areas which utilities have generally not serviced in the past.

8.02 The water supply and sewerage system in Jinja, the second-largest town in Uganda, has undergone no substantial rehabilitation in the last thirty years and is thus the only major town under NWSC that has not had an expansion in recent years. A component for Jinja was appraised in 1989 as a part of NWSC's water supply and sanitation program, other parts of which are being financed through IDA Credit 2124-UG as the Second Water Supply Project, with cofinancing from EEC, the Austrian Government and GTZ.

8.03 Since the time the plans for expansion in Jinja were proposed, several significant events have occurred: (i) The distribution system has deteriorated considerably, mainly due to external and internal pipe corrosion, to the extent that major rehabilitation of the rising mains and the distribution system is now necessary. (ii) The demand has risen much more slowly than anticipated, mainly due to the consumers' reluctance to pay for the higher tariffs that were imposed as part of the Second Water Supply Project. (iii) The water quality at the intake from Lake Victoria has deteriorated due to several causes that are under investigation, including a drastic change in the fauna of the lake following the introduction of the Nile Perch and the increased use of fertilizer and other pollution in the lake basin. A project is under preparation for studies in the entire Lake Victoria basin to be financed by the Global Environment Fund to better understand the reasons for the rapid degradation of the lake water quality and to propose mitigating measures for the countries in the basin to implement. Water supply and sanitation improvements would be part of the proposed Small Towns Water and Sanitation Project, including rehabilitation of existing facilities and expansion in high priority areas. The new feasibility study for Jinja-Njeru completed in March 1993 concluded that the expansion of the water treatment plant proposed in the previous study was unnecessary at this stage, since at present the plant was operating substantially below capacity because of the large leaks in the system and the low demand.

Description

8.04 The existing water supply facilities in Jinja would be rehabilitated, involving mainly the replacement of pipes, fittings, valves, hydrants, and related equipment. This would include leak detection and repair as well as water meter replacement and installation, with emphasis on providing communal stand pipes. The existing water treatment works and raw water intake would be rehabilitated and modified as required. The water distribution network would be expanded to serve other parts of Jinja, parts of Njeru, and other select areas outside Jinja Municipality and consumer registration carried out for standposts and household connections.

8.05 The existing sewers in Jinja would be rehabilitated and expanded. The sewage treatment ponds in Jinja would also be rehabilitated and modified as needed, the existing sewers expanded, and new sewage treatment ponds constructed at two locations in Njeru. Other sanitation improvements would typically consist of the upgrading or construction of pit latrines of different designs, rehabilitation or construction of septic tanks, and construction of public latrines.

8.06 The detailed drawings for water supply and sewerage expansion which were prepared about five years ago for Jinja would be reviewed and revised as needed. A limnological study related to the future raw water intake from Lake Victoria would be conducted (in junction with the Uganda Fresh Water Resources Research Organization based in Jinja) and plans for the further expansion of water supply and sanitation in Jinja-Njeru prepared. Also included are the provision of hygiene education; training; technical assistance; computerization of billing; a tariff and affordability study; and acquisition of vehicles, equipment, spare parts, and chemicals for Jinja-Njeru.

Cost Estimates

8.07 *Civil Works* - For the water supply this includes the replacement of microstrainers, electromechanical work, supply and installation of piping and fittings, reservoir rehabilitation and system metering. For the sewerage works, sewer cleaning and repairs would be undertaken, inflow improvements at the Kimaka and Kirinya ponds, and the Kirinya ponds rehabilitation and new ponds constructed in Njeru.

B.1 Civil Works	Base Costs (US$ million)		
	Foreign	Local	Total
Water Supply	8.200	2.800	11.000
Sewerage	1.780	0.870	2.650
Sanitation	0.000	0.200	0.200
Sub-Total B.1	9.980	3.870	13.850

8.08 *Equipment and Materials* - Sewer cleaning equipment would be procured as well as a tractor with back hoe, vacuum tanker, and dewatering pump and generator. A three year supply of spares and tools would also be purchased. The following vehicles and chemicals would be procured:

Vehicle Requirements :

2 nos.	4X4
1 nos.	pickup
1 nos.	lorry
2 nos.	double cabin

Chemical Requirements :

Alum	900 tons
Chlorine gas	55 tons
Powered Chlorine	50 tons

B.2 Equipment and Materials	Base Costs (US$ million)		
	Foreign	Local	Total
Equipment and Spares	0.570	0.000	0.570
Vehicles	0.230	0.000	0.230
Chemicals	0.590	0.000	0.590
Sub-Total B.2	1.390	0.000	1.390

8.09 *Consulting Services, and Training* - As described in Para. A8.03 a limnological study would be conducted to determine the optimal location of the raw water intake(s) for Jinja. This study would assess the overall environmental impact of the Jinja component of the Project. Work would be undertaken in identifying better ways of servicing areas normally not covered by NWSC. These would be the lower income group areas where community management and payment for standpost service levels could be better developed. A demand and affordability study for Jinja-Njeru would be carried out very early in the project implementation period in order to determine methodologies for improvement of the financial position of NWSC and to determine the affordability of the service with a possibility of then proposing more options at the lower end of the service levels such as stand posts.

8.10 Review and redesign of phases II and III for Kampala and Entebbe would be undertaken. Existing tender documents would be revised. Source investigations for the Gulu water supply (Tochi Dam) would be financed under the credit. For the overall design and supervision of the Jinja component consultants would be engaged by NWSC. The scope of work would include planning and design for the water supply and sewerage systems, pilot water pre-treatment studies, and system mapping, leak detection, and metering. One technical assistance staff would be financed for two years.

B.3 Consulting Services and Training	Base Costs (US$ million)		
	Foreign	Local	Total
Limnological Study and EIA	0.300	0.240	0.540
Community Management Study and Facilitation	0.130	0.050	0.180
Hygiene Studies and Sanitation Promotion	0.070	0.030	0.100
Training	0.200	0.300	0.500
Demand and Affordability Study	0.030	0.020	0.050
Kampala, Entebbe, Gulu , and Jinja-Njeru Expansion Studies	1.840	0.200	2.040
Design and Supervision Consultancy	1.000	0.640	1.640
Technical Assistance	0.290	0.000	0.290
Vehicles in above contracts	0.190	0.000	0.190
Sub-Total B.3	4.050	1.480	5.530

8.11 *Operating Costs* - The administrative costs associated with the implementation of the Jinja-Njeru component of the Project are detailed below.

B.4 Operating Costs	Base Costs (US$ million)		
	Foreign	Local	Total
Running costs (fuel, spares)	0.000	0.050	0.050
Performance Allowance	0.000	0.150	0.150
Sub-Total B.4	0.000	0.200	0.200

SMALL TOWNS WATER AND SANITATION PROJECT
DETAILED COST ESTIMATES
(US$ Million)

PART B JINJA – NJERU COMPONENT

Item	Sub Item	Base Costs			Physical Contingencies			Price Contingencies			Total Contingencies			Total Cost		
		Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total
B.1	Civil Works															
	– Water Supply	8.300	2.800	11.000	0.820	0.280	1.100	0.915	0.313	1.228	1.735	0.593	2.328	9.985	3.393	13.328
	– Sewerage/Sanitation	1.780	1.070	2.850	0.178	0.107	0.285	0.199	0.119	0.318	0.377	0.226	0.603	2.157	1.296	3.453
	TOTAL B.1	9.980	3.870	13.850	0.998	0.387	1.385	1.114	0.432	1.546	2.112	0.819	2.931	12.092	4.689	16.781
B.2	Equipment and Materials :															
	– Equipment and Spares	0.570	0.000	0.570	0.057	0.000	0.057	0.064	0.000	0.064	0.121	0.000	0.121	0.691	0.000	0.691
	– Vehicles	0.280	0.000	0.280	0.023	0.000	0.023	0.026	0.000	0.026	0.049	0.000	0.049	0.279	0.000	0.279
	– Chemicals	0.580	0.000	0.580	0.058	0.000	0.058	0.066	0.000	0.066	0.125	0.000	0.125	0.715	0.000	0.715
	TOTAL B.2	1.390	0.000	1.390	0.139	0.000	0.139	0.156	0.000	0.156	0.294	0.000	0.294	1.684	0.000	1.684
B.3	Consulting Services, Technical Assistance and Training															
	– Limnological Study	0.300	0.240	0.540	0.000	0.000	0.000	0.030	0.024	0.055	0.030	0.024	0.055	0.330	0.264	0.595
	– Community Management, Hygiene, Demand	0.230	0.100	0.330	0.000	0.000	0.000	0.023	0.010	0.033	0.023	0.010	0.033	0.253	0.110	0.363
	– Kampala, Entebbe, Gulu, and Jinja Investigations	1.840	0.200	2.040	0.000	0.000	0.000	0.187	0.020	0.207	0.187	0.020	0.207	2.027	0.220	2.247
	– Design and Supervision Consultancy	1.190	0.640	1.830	0.000	0.000	0.000	0.121	0.065	0.186	0.121	0.065	0.186	1.311	0.705	2.016
	– Training	0.300	0.300	0.600	0.000	0.000	0.000	0.030	0.030	0.061	0.030	0.030	0.061	0.330	0.330	0.661
	– Technical Assistance	0.290	0.000	0.290	0.000	0.000	0.000	0.029	0.000	0.029	0.029	0.000	0.029	0.319	0.000	0.319
	TOTAL B.3	4.050	1.480	5.530	0.000	0.000	0.000	0.411	0.150	0.561	0.411	0.150	0.561	4.461	1.630	6.091
B.4	Operating Costs															
	– Running Costs	0.000	0.050	0.050	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.005	0.005	0.000	0.055	0.055
	– Performance Allowance	0.000	0.150	0.150	0.000	0.000	0.000	0.000	0.015	0.015	0.000	0.015	0.015	0.000	0.165	0.165
	TOTAL B.4	0.000	0.200	0.200	0.000	0.000	0.000	0.000	0.020	0.020	0.000	0.020	0.020	0.000	0.220	0.220
PART B	JINJA – NJERU COMPONENT TOTAL	15.420	5.550	20.970	1.137	0.387	1.524	1.680	0.602	2.283	2.817	0.989	3.807	18.237	6.539	24.777

PROJECT DESCRIPTION AND COSTS

PART C - INSTITUTIONAL STRENGTHENING

Total Cost, including contingencies: ***US$ 2.3 million***
Responsible Agency: ***DWD***

Background

9.01 The proposed capacity building component aims at: (i) strengthening DWD to ensure its continued leadership role in the sector; and (ii) improving the planning and implementation capacity of local governments and communities to introduce demand-driven, community-managed water supply and sanitation services. The financial and management capacity of the main institutions involved in the Rural Towns Water and Sanitation Program (the Program) would be strengthened to facilitate the implementation and operation of the water supply and sanitation improvements in the small towns. The two main factors which call for this institutional strengthening are (i) the changing role of DWD as a planner and regulator of the sector rather than an implementor and to provide the needed backup to the community organizations that would be responsible for the operation and maintenance of the schemes, and (ii) the involvement of the communities in all stages of the project, starting with planning. The involved institutions are (i) the user organizations to be formed, (ii) the district and urban governments, and (iii) DWD. This includes the provision of training, technical assistance, studies, workshops, preparation of training materials, vehicles, office furniture and equipment, training equipment, and rehabilitation of office buildings. An in-depth assessment and strategic planing study would be carried out in one district and a participatory organization assessment and strategic planning study to help strengthen the restructured DWD. The Program's approach in the context of decentralization involves fundamental institutional transformations. Training that is directly related to project implementation is included in the cost estimates for Part A: Small Towns *(Annex 7)*, while all other training, related to capacity building beyond the Project and for operation and maintenance of the works that would be constructed under the Project is included here.

Description and Cost Estimates

- STRENGTHENING OF DWD

9.02 DWD would supervise consultants and contractors and provide guidance to district and local authorities on the implementation of the Program and more specifically, the Project. It would undertake capacity building at headquarters and district levels to carry out this new mandate and perform its scope of work for the Program, which would entail:

- *At Headquarters:*

a. **Establishment of a Human Resources Development (HRD) Unit.** The Unit would be directed by an experienced HRD specialist skilled in performing a wide range of training management responsibilities, from initial assessment of training needs to impact evaluation. The HRD specialist would be responsible for facilitating and managing the training and development programs with the assistance of a management and organization specialist to be

called upon when necessary. As an initial step, a training needs assessment would be conducted. Funds would be provided through the proposed Small Towns Water and Sanitation Project to develop training materials and a training presence in the towns targeted for assistance. Thus, the HRD Unit would take an active management role to ensure that materials and resources developed are used in other towns. It would also ensure coordination of other training initiatives.

b. **Participatory Organization Assessment and Strategic Planning Study.** The study would support DWD in its restructuring process and preparing for operations under a changed mandate. It would assist DWD appraise options to meet these on-going project implementation and management responsibilities and in defining a course of action. This study would be undertaken by a small team of local consultants assisted in the first instance by external expertise.

c. **Management and Professional Training.** Activities would be budgeted according to the HRD Plan to be developed and managed by the new HRD Unit following the training needs assessment. The training funds would be utilized for local training, e.g., technical training given by NWSC. In addition, regional programs that are congruent with DWD's development needs would be considered. The training should be particularly relevant to the Ugandan context.

d. **Executive Development.** Senior management officials in DWD would be encourage to participate in programs helping them prepare for changes that are imminent in DWD and its work environment. These programs, conducted over a 4-6 week period, typically involve top executives from a wide range of private and public organizations. Their main objective is to improve individual and organizational performance.

e. **Selective Technical Assistance.** Short term expertise is envisaged to assist DWD managers and professional staff to assume new responsibilities. It includes monitoring and evaluation, legal and financial expertise; and one long-term technical assistance staff member who would assist DWD in the transitional period.

f. **Refurbishing of DWD Offices.** DWD would prepare space to accommodate the expanded training unit and provide conference and workshop facilities by refurbishing presently unutilized space in the DWD complex.

Base Cost Estimates for Headquarters

Infrastructure & Equipment	Seminar Room and related office equipment	$290,000
Training/Studies	Strategic Planning and Training Needs Assessment	$ 50,000
	Management/Professional Training	$ 90,000
	Executive Development	$ 60,000
Technical Assistance	Organization Development (6mm)	$120,000
	Monitoring/Evaluation (3mm)	$ 60,000
	Legal Advisor-Local (3mm)	$ 9,000
	Financial Advisor (2mm)	$ 40,000
Total		$719,000

- ***At District Level:***

a. **Participatory Assessment and Strategic Planning Study.** This study would be carried out in one district targeted for the Project and decentralization. It aims at providing information and insights about future district organization and operation, particularly in respect to its water and sanitation responsibilities. The assessment and subsequent planning activities would take into account decentralization, DWD restructuring and community management strategies. This exercise would involve a small team of local consultants assisted in the first instance by external expertise.

b. **Management and Professional Training.** This training targets knowledge and skills acquisition required by District Water Officers and staff to operate in the new policy and program environment. It would include management and technical instruction; regional workshops and conferences; specialized courses for identified competency need such as advice to water user groups on infrastructure alternatives; and executive briefings for elected and appointed leaders on developments in water and sanitation policies and programs.

c. **Physical Improvements.** Renovation of district water offices, provision of furniture and office equipment would ensure efficiency of operation.

Base Cost Estimates for the District Level

Infrastructure & Equipment	Rehabilitation of offices and related equipment	$402,500
Training/Studies	Strategic Planning Study	$ 50,000
	Management/Professional Training	$ 40,000
Total		$492,500

- **CAPACITY BUILDING OF LOCAL GOVERNMENT AND COMMUNITY ORGANIZATIONS**

9.03 Helping water users get organized to manage affordable and sustainable systems that would meet their needs in the foreseeable future would require training and development inputs at local government and community levels. Eventually, the water users in the Project target towns should have the capacity to finance, manage, operate and maintain water systems, based on their choice of technology. Therefore, training interventions would be addressed from two perspectives: (i) planning for community-managed water and sanitation facilities and services; and (ii) managing, operating and maintaining these systems.

9.04 **Planning for Demand-Driven Water and Sanitation Services -** Local government elected officials and their staff specialists have some responsibilities in the water and sanitation sector. They would, through properly designed and delivered training, be equipped to assist in the planning and implementation of the Project. In order to do so, they need to understand their roles and contributions in the Project's approach. Information sessions and workshops with elected officials and appointed officers at the RC-5 (district), RC-3 and 4 (sub-county and town) levels would be led by DWD officials and staff. Once these meetings have been held, the project team would work with community development officers, health assistants and others already working as community mobilizers to plan the promotion and mobilization phase of the project. Users would become more understanding of realistic alternatives available to them and financial and social obligations associated

with each option through an orientation process in relation to community managed projects. In the beginning of this process, the community would be involved in gathering information; using it for decision-making; mobilizing other actors; understanding and communicating on operation and maintenance of the systems; and determining how collective decisions would be made and further responsibilities would be carried out as the user community moves from planning to implementation. Knowledge and skills to perform these tasks would be imparted through training at the town level.

	Participants	Events	
Orientation and National Launch Seminar	200	1	$ 80,000
Team Building Workshops	30	3	$ 36,000
District Orientation Workshops	250	5	$ 6,000
Communication/Mobilization Skills Workshops	60	5	$ 10,000
Training Needs Assessment Workshops	90	9	$ 2,000
Monitoring and Evaluation Workshop	20	1	$ 6,000
Community Management Workshops	270	9	$ 29,000
TOTAL			$169,000

9.05 **Managing Community-Owned Facilities and Services -** Assistance to the communities to undertake certain technical functions and to establish simple management, operating procedures and systems would include training in: organizing and operating water and sanitation committees and water user associations; establishing and staffing an organization to manage, operate and maintain the water supply and sanitation facilities; developing financial regulations and procedures to ensure that the services and programs are sustained; preparing staff to assume full responsibility for the management, operation and maintenance of the facilities, and conducting sanitation and health education campaigns.

	Participants	Events	
Financial Management Workshop	27	1	$ 8,000
Maintenance Skills Workshops	30	2	$ 15,000
Environmental Health Campaigns Workshops	270	2	$ 15,000
Health Education Campaign Workshop	540	1	$ 15,000
Regional Conferences/Workshops	45	45	$ 56,000
In-Country Specialized Training	55	55	$ 40,000
Materials			$100,000
TOTAL			$249,000

9.06 The following is a **cost summary** for civil works, equipment and materials, and consulting services related to the institutional strengthening component of the Project as detailed above. Under the equipment and materials category 7 nos. 4X4 pickups would be procured for DWD district offices ($150,000). For DWD headquarters 4 nos. 4X4 pickups, 1 nos. bus, and 1 nos. station wagon would be procured.

C.1 Civil Works	Base Costs (US$ million)		
	Foreign	Local	Total
Office Rehabilitation			
- Headquarters	0.060	0.230	0.290
- District	0.080	0.320	0.400
Sub-Total C.1	0.140	0.550	0.690

C.2 Equipment and Materials	Base Costs (US$ million)		
	Foreign	Local	Total
Vehicles	0.352	0.000	0.352
Training Materials	0.050	0.050	0.100
Sub-Total C.2	0.402	0.050	0.452

C.3 Consulting Services	Base Costs (US$ million)		
	Foreign	Local	Total
Headquarters			
- Training / Studies	0.120	0.080	0.200
- Technical Assistance	0.140	0.089	0.229
District DWD			
- Training / Studies	0.070	0.020	0.090
Local Government			
- Planning for Demand Driven Services (Workshops)	0.020	0.149	0.169
- Managing Community Services	0.010	0.139	0.149
Sub-Total C.3	0.360	0.477	0.837

SMALL TOWNS WATER AND SANITATION PROJECT
DETAILED COST ESTIMATES
(US$ Million)

PART C INSTITUTIONAL STRENGTHENING COMPONENT

		Base Costs			Physical Contingencies			Price Contingencies			Total Contingencies			Total Cost		
Item	--Sub-Item	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total	Foreign	Local	Total
C.1	Civil Works															
	– HQ Office Rehabilitation	0.060	0.230	0.290	0.009	0.035	0.044	0.009	0.035	0.044	0.018	0.069	0.088	0.078	0.299	0.378
	– District Office Rehabilitation	0.080	0.320	0.400	0.012	0.048	0.060	0.012	0.049	0.061	0.024	0.097	0.121	0.104	0.417	0.521
	TOTAL C.1	0.140	0.550	0.690	0.021	0.083	0.104	0.021	0.084	0.105	0.042	0.166	0.208	0.182	0.716	0.898
C.2	Equipment and Materials															
	– Vehicles	0.352	0.000	0.352	0.000	0.000	0.000	0.047	0.000	0.047	0.047	0.000	0.047	0.399	0.000	0.399
	– Training Materials	0.050	0.050	0.100	0.000	0.000	0.000	0.007	0.007	0.013	0.007	0.007	0.013	0.057	0.057	0.113
	TOTAL C.2	0.402	0.050	0.452	0.000	0.000	0.000	0.053	0.007	0.060	0.053	0.007	0.060	0.455	0.057	0.512
C.3	Consultancy															
	– Staff Development/Training	0.190	0.100	0.290	0.000	0.000	0.000	0.025	0.013	0.038	0.025	0.013	0.038	0.215	0.113	0.328
	– Technical Assistance	0.140	0.089	0.229	0.000	0.000	0.000	0.019	0.012	0.030	0.019	0.012	0.030	0.159	0.101	0.259
	– Studies	0.030	0.288	0.318	0.000	0.000	0.000	0.004	0.038	0.042	0.004	0.038	0.042	0.034	0.326	0.360
	– Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	TOTAL C.3	0.360	0.477	0.837	0.000	0.000	0.000	0.048	0.063	0.111	0.048	0.063	0.111	0.408	0.540	0.948
PART C	INSTITUTIONAL STRENGTHENING COMPONENT TOTAL	0.902	1.077	1.979	0.021	0.083	0.104	0.122	0.153	0.276	0.143	0.236	0.379	1.045	1.313	2.358

AMOUNTS AND METHODS OF PROCUREMENT IN US DOLLARS (MILLION)
SMALL TOWNS AND INSTITUTIONAL STRENGTHENING
COMPONENTS - (DWD PARTS A & C)
SMALL TOWNS WATER AND SANITATION PROJECT

Description	ICB	LCB	Other	Shopping	Total
Civil Works					
Source development	1.30		**** 3.10		4.40
Water distribution	1.00	1.00	* .40		2.40
Wells/springs		3.64	* .80		4.44
On site sanitation			* .48		0.48
Rehabilitation of Buildings	.38	.52			0.90
Subtotal for Civil Works	**2.68**	**5.16**	**4.78**		**12.62**
Goods					
Piping, pumps etc.	.83		*** .35		1.18
Vehicles	.40		**.46		0.86
Training materials		.11			0.11
Computer			** .02		0.02
Office equipment/supplies				.09	0.09
Latrine slabs			* .20		0.20
Subtotal for Goods	**1.23**	**0.11**	**1.03**	**0.09**	**2.46**
Consultancy					
Training			.36		0.36
TA Project implementation			.34		0.34
Design and supervision			3.70		3.70
Additional towns preparation			.44		0.44
Short term TA			.26		0.26
Staff development			.33		0.33
Management studies			.36		0.36
Subtotal for Consultancy			**5.79**		**5.79**
Operating Costs					
O&M vehicles			.29		0.29
Office operations			.13		0.13
Performance allowances			.43		0.43
Subtotal for Operating Costs			**0.85**		**0.85**
T O T A L	**3.91**	**5.27**	**12.45**	**0.09**	**21.72**

* Competitive bidding on the District level ** IAPSO *** UNICEF **** Force Account.

AMOUNTS AND METHODS OF PROCUREMENT IN US DOLLARS (MILLION)
JINJA-NJERU COMPONENT - (NWSC PART B)
SMALL TOWNS WATER AND SANITATION PROJECT

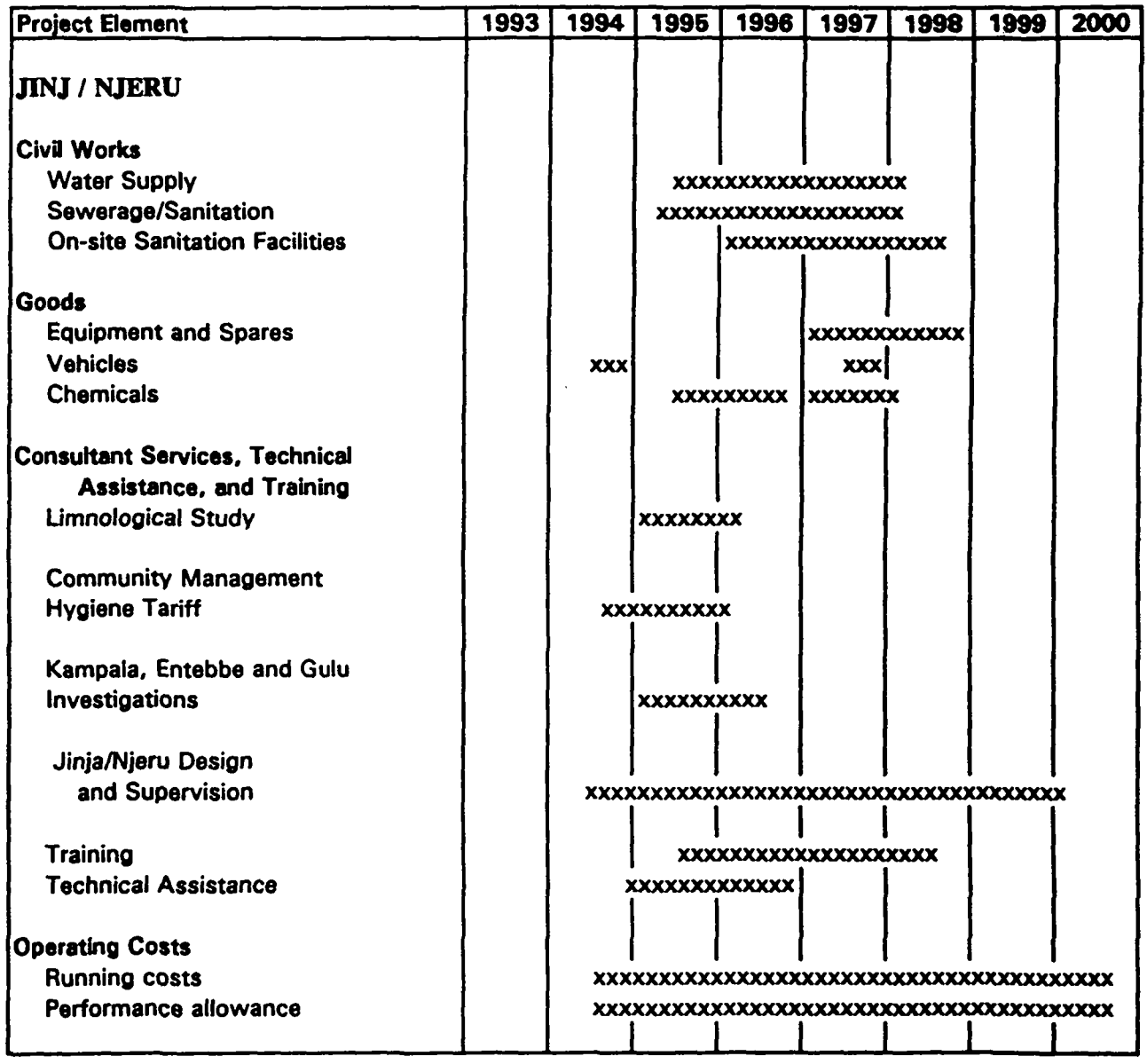
Description	ICB	LCB	Other	Shopping	Total
Civil Works					
Water Supply	13.32				13.32
Sewerage	2.95	.50			3.45
Subtotal for Civil Works	**16.27**	**0.50**	**0.00**	**0.00**	**16.77**
Goods					
Vehicles	.13		** .15		0.28
Chemicals	.68			.04	0.72
Equipment and Spares	.60				0.60
Computer			** .02		0.02
Office equipment/supplies				.07	0.07
Subtotal for Goods	**1.41**	**0.00**	**0.17**	**0.11**	**1.69**
Consultancy					
Limnological studies			.60		0.60
Community management, hygiene tariffs, affordability, water demand study			.36		0.36
Kampala, Entebbe and Gulu investigations			2.25		2.25
Jinja/Njeru design and supervision			2.02		2.02
Technical Assistance			.32	0.00	0.32
Training			.55	0.00	0.55
Subtotal Consultancy			**6.10**	**0.00**	**6.10**
Operating Costs				0.00	
Running costs			.06		0.06
Performance allowance			.16		0.16
Subtotal for Operating Costs			**0.22**	**0.00**	**0.22**
T O T A L	**17.68**	**0.50**	**6.49**	**0.11**	**24.78**

** IAPSO

Implementation Schedule
Directorate of Water Development
Small Towns Component - Parts A & C
Small Towns Water and Sanitation Project

Project Element	1993	1994	1995	1996	1997	1998	1999	2000
SMALL TOWNS								
Civil Works								
Source Development		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Water Distribution		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Wells/springs		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
On-site Sanitation			xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx					
Rehabilitation of Buildings			xxxx		xx	xx	xxx	
Goods								
Piping, pumps, etc.		xxxxxxxxx			xxxxxx			
Vehicles		xxx			xxx			
Training Materials		xxx		xxx				
Computer		xxx						
Office Equipment/Supplies		xxx			xxx			
Latrine slabs		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Consulting Services, Technical Assistance, and Training								
Training		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Technical Assistance		xxxxxxxxxxxxx						
Design and Supervision								
Consultancy		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Additional Towns Preparation			xxxxxx					
Short Term TA								
Staff Development		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Management Studies		xxxxxxxxx						
Operating Cost								
O&M Vehicles		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Office Operations		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						
Performance Allowances		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx						

Implementation Schedule
National Water and Sewerage Corporation
Jinja-Njeru Component - Part B
Small Towns Water and Sanitation Project



CONSULTING SERVICES AND TECHNICAL ASSISTANCE SUMMARY
SMALL TOWNS WATER AND SANITATION PROJECT
(Tentative)

Specialist	Type of Service
Project Components A&C **DWD**	
a) Training	Consulting Firms or NGOs Foreign and/or Local
b) Technical Assistance Implementation	International Expert
c) Design and Supervision	Consulting Firms or NGOs Foreign and/or Local
d) Additional Town Preparation	Consulting Firms or NGOs Foreign and/or Local
e) Short Term Technical Assistance	International Expert
f) Staff Development	International / Local Expert
g) Management Studies	Consulting Firms or NGOs Foreign and/or Local
Project Component B **NWSC**	
a) Liminological Study	Consulting Firms or NGOs Foreign and/or Local
b) Community Management and Hygiene Studies	Consulting Firms or NGOs Foreign and/or Local
c) Tariff and Affordability Study	Consulting Firms or NGOs Foreign and/or Local
d) Kampala, Entebe, and Gulu Investigations	Consulting Firms or NGOs Foreign and/or Local
e) Design and Supervision	Consulting Firms or NGOs Foreign and/or Local
f) Technical Assistance	International Expert

PRELIMINARY TERMS OF REFERENCE
DESIGN AND SUPERVISION
DIRECTORATE OF WATER DEVELOPMENT
SMALL TOWNS WATER AND SANITATION PROJECT

INTRODUCTION

DWD has at times not been able to effectively fulfill its assigned functions, mainly due to financial constraints. The Government is presently reviewing its functions and responsibilities in the water sector in order to make DWD and related sector organizations more effective, guided by the following principles:

- an integrated approach to water supply, sanitation, and health education to achieve sustainable and effective use of water and sanitation facilities through methods that are replicable;
- promotion of community participation and low-cost technologies;
- introduction of financial self-sustainability; and
- adoption of demand-driven investment planning.

The key *objectives* of the assignment are the completion of the activities leading to rehabilitation/expansion and new construction of water supply and sanitation services in the town of Lugazi, on the basis of demand driven, community based services, and for the initiation and completion of all activities leading to rehabilitation/expansion and new construction of water supply and sanitation services in the remaining ten towns.

SCOPE OF WORK

(a) **Preparation -** Following the methodologies used by the consultant in the Appraisal Study, Reports 4, 5, and 6 develop the data and options f or the two towns of Busia and Malaba, to the same detail as the other towns, taking into account and incorporating the critique of that assignment by DWD and the World Bank. -In the consultants proposal, he must define the sequence of his phased approach to the towns and how they interrelate to each other.

(b) **Guidelines and Methodologies -** Based upon experiences gained in the assignment, the consultant will continue to assist DWD to fine tune the Policies and Guidelines, as verified under Phase I.

(c) **Promotion -** Assist DWD, by providing local or regional specialist expertise and materials, in it's role in promoting the programme and the project at national, district and community levels. This will involve the production of promotional materials, and assistance with the organisation of seminars and workshops.

(d) **Mobilisation -** Based upon the findings of the previous activities in Lugazi, assist DWD, by provision of specialist expertise and materials, in mobilisation activities, utilising the district and local resources, to assist the residents of the towns in the formation of Water User Groups (WUG), Water and Sanitation Committees (WSC) and Water User Associations (WUA). This will involve the production of materials, and assistance with the organisation of seminars and workshops.

(e) **Planning and Design -** As a result of the community dialogue developed in mobilisation, and based upon the experiences gained in the Phase I activities in Lugazi, assist the WUG'S, WSC's

and WUA's in selecting their choice of service levels and technologies for the different service areas, development of designs with capital and recurrent cost estimates to facilitate dialogue with the communities, whilst carrying out simple socioeconomic verification exercises, and preparation of detailed designs of the various technological solutions for the service levels chosen by the communities, with detailed cost estimates covering both capital costs and recurrent costs, specifications and bills of quantities.

(f) **Construction** - Assist DWD in assessing the procurement needs of each town (to include for the method of provision of SanPlat slabs, and VIP latrine slabs if required), including the identification of local contractors and helping the communities in identification of ways in which they can contribute their input in kind, through provision of materials and/or labour.

(g) **Operations and Maintenance** - As the chosen service level is established for each beneficiary group whether a WUG represented by a WSC or a WUA for larger piped schemes, the consultant will assist the communities in the identification of the community personnel for management and for operations and maintenance.

(h) **Capacity Building** - In the methodology adopted for the activities, develop capacity building in Uganda, in both the public and private sectors, to take an increasing role in the programme and project management during this and future projects.

(i) **Hygiene Education** - Through the medium of developing training materials and campaign activities, increase the awareness in the community of the need for hygienic practices and encourage the use of safe sanitation facilities in the community. The methodology should allow for assisting DWD to monitor and evaluate the impact of the campaigns during the post construction activities, and provide for follow up campaigns during this period.

ORGANIZATION:

The consultants will be engaged to carry out the services described above, and will work closely under the direction of the Urban and Institutional Water Development Department (UIWDD) of DWD.

TIMING AND STAFFING:

The consultancy is expected to be awarded for commencement by July 1994, and take a maximum of approximately forty two months in total. It is anticipated that the consultants staffing structure will encompass, but not necessarily be limited to, the disciplines of appropriate technology, training, institutional strengthening, hygiene education, and hydrogeology. The total anticipated man months of consultancy input for the activities are not expected to exceed 420 man months of which over 80% is expected to be in local inputs. The expatriate staffing is expected to be of the highest standard with the principle aim of developing expertise in Ugandan personnel to further reduce the expatriate input in the other future projects under the programme.

REPORTING:

The consultant will report to the Commissioner for the Urban and Institutional Water Department at DWD for all activities and consultation.

PRELIMINARY TERMS OF REFERENCE
DESIGN AND SUPERVISION
NATIONAL WATER AND SEWERAGE CORPORATION
SMALL TOWNS WATER AND SANITATION PROJECT

OBJECTIVES

The objectives of the assignment are to:

- develop a community management programme for water supply and sanitation services and the institutional structure for a community management unit, within the NWSC;
- prepare institutional, financial and implementing options for the delivery of sanitation services by the NWSC; and
- develop a schematic plan outlining the existing and projected urban and rural development areas of the Jinja Water Supply Area (WSA), including the existing and projected water and sanitation infrastructure, which with the Jinja Structure Plan, will support the formulation of the community management programme (a map of the Jinja WSA is appended).

SCOPE OF SERVICES

Phase One: Data Collection and Analysis

- Review On-Going Programmes and Committed Development
- Base Mapping/Aerial Photography
- Identify Existing Conditions
- Demographic and Social Analysis
- Water Supply, Distribution and Management
- Sewerage and Sanitation Review
- Economic Base Analysis
- Women in Development
- Infrastructure Standards, Building By-law and Construction Codes
- Identification and Analysis
- Public Participation

Phase Two: Project Preparation Studies

- Planning
- Willingness-To-Pay
- Community Management
- Environmental Impact
- Sanitation Alternatives
- Tariff Structures
- Delivery of Low Cost Sanitation
- NWSC Community Water Supply and Sanitation Unit

Phase Three: Action Programming

- Preferred Alternatives
- Action Programmes
- Public Participation

REPORTING

An Inception Report will be written within one month of mobilisation followed by the Schematic Development Plan and Special Studies at the end of Phase Two. The Final Report at the end of Phase Three will include the action programmes, budget estimates and implementation schedules.

TIMING

The Consultant should outline a proposed time schedule for the Study, with associated task time lines for each team member.

STAFFING

The Consultant should identify the team members, their functions according to the tasks and their relevant experience in these tasks. The team should have at least the following expertise.

Municipal Engineer
Environmental Engineer
Economist
Health Education Specialist
Social Anthropologist (or similar)

TERMS OF REFERENCE
TECHNICAL ASSISTANCE
DIRECTORATE OF WATER DEVELOPMENT

OBJECTIVES

The principal objective is to strengthen the in-house capacity of the DWD to be able to cope with the extra tasks involved in management and procurement of services to acceptance standards for this project.

SCOPE OF SERVICES

(a) The Adviser shall be stationed in the DWD (Kampala) and attached to the DUIWD. The Adviser may however be required to travel upcountry in the course of executing official duties.

(b) The Adviser will be charged with the responsibility of assistance and advice in the implementation of the Small Towns Water and Sanitation Project and the preparation of documentation for other towns in the RTWSP.

(c) During the preparatory and implementation phases, the Adviser shall be responsible to the Commissioner (DUIWD) of DWD who will also approve his travel and leave requests. The Adviser will however be afforded easy access to the Director, (DWD) to discuss issues related to projects under RTWSP. Direct Communication with the World Bank or any other donors should be by prior consent of the Commissioner (DUIWD) or Director (DWD).

In particular, the Adviser shall:

(a) Liaise with NWSC and other related organizations/individuals to achieve project objectives in respect of the Small Towns Water and Sanitation Project and his first priority.

(b) Advise and assist on technical matters for selection/employment of Consultants/Contractors and project contract management.

(c) Advise and assist in documentation to acceptable standards and format in respect of procurement of goods and services.

(d) To undertake any other duties as may be assigned to him from time to time which are in line with the project objectives.

REPORTING

The Adviser shall be required to prepare monthly work plans and quarterly reports on all the activities covered above.

PRELIMINARY TERMS OF REFERENCE
TRAINING AND INSTITUTIONAL DEVELOPMENT SPECIALIST
DIRECTORATE OF WATER DEVELOPMENT
SMALL TOWNS WATER AND SANITATION PROJECT

OBJECTIVES

The main objective of the technical assistance is to enhance the capacity of the Training/HRD Section to effectively manage and coordinate training activities at all levels of staff of DWD. The Training and Institutional Development Specialist would provide professional advice to DWD's Training/HRD Section in its efforts to build-up the skills required to execute its functions. The Specialist will work with staff of the Training/HRD Section located in the newly created Inspectorate and Support Services Department, serving DWD on a cross-departmental basis.

SCOPE OF WORK

In close liaison with the Training/HRD Section's staff the Training and Institutional Development Specialist will undertake, but not necessarily limited to,' the following tasks:

a) Assist in improving and strengthening the functioning of DWD's Training/HRD Section.

b) Carry out training need assessments based on performance discrepancies and task analyses for all levels of staff; and design a three-year training programme covering all levels of DWD management.

d) Carry out short courses in management skills.

e) Provide overall guidance and support to the STWSP training activities.

f) Carry out training evaluations in collaboration with heads of sections in order to determine training effectiveness and impact.

QUALIFICATIONS

The Specialist should have a graduate degree in human resource development or related fields, at least 10 years of relevant experience in training and institutional development (with a significant portion of that experience in developing countries), and a commitment to contemporary approaches to human resource development.

DURATION OF ASSIGNMENT

The assignment is for a total of six -months. The first two to three months will be spent on continuous service with the remaining months to be spent on an intermittent basis, e.g. three visits each of a month duration, based on an agenda of activities mutually agreed upon between the DWD, STWSP and the Specialist prior to each visit.

PRELIMINARY TERMS OF REFERENCE
TRAINING AND INSTITUTIONAL DEVELOPMENT SPECIALIST
DIRECTORATE OF WATER DEVELOPMENT
SMALL TOWNS WATER AND SANITATION PROJECT

OBJECTIVE

The STWSP Financial Adviser will work with the Project Accountant to strengthen the financial management of the Project in accordance with the Directorate of Water Development (DWD) financial procedures and in liaison with DWD's Financial/Administrative Adviser.

SCOPE OF WORK

a) Review the accounting procedures, make recommendations as necessary, and assist in implementing any revisions.

b) Advise and train the staff involved in Project accounts in World Bank disbursement procedures.

c) Improve the design of the forms and control books necessary for efficient accounting.

d) Undertake a feasibility study on the computerization of the Project account and prepare TOR for the design of the accounting and financial information system.

e) Ensure that the work, whilst being specific to the needs of the Project and World Bank procedures, is coordinated/harmonized with the general DWD financial control strategy being developed through support by the Danida-financed Financial/Administrative Adviser.

QUALIFICATIONS

Qualified professional accountant with CPA or equivalent, and with 10 years of relevant experience. The Adviser should have knowledge in computer application to accounting procedures ("Navision" and/or other)

DURATION OF ASSIGNMENT

Two months.

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SMALL TOWNS WATER AND SANITATION PROJECT

Estimated Schedule of Disbursements

IDA FISCAL YEAR	EXPECTED PROJECT DISBURSEMENT BY SEMESTER	CUMULATIVE	CUMULATIVE %	STANDARD DISBURSEMENT CUMULATIVE %
	---------- (US$' 000) ----------			
FY94				
Jun-94	4.00	4.00	9.0	0
FY95				
Dec-94	2.94	6.94	16.00	6.00
Jun-95	2.31	9.25	21.00	10.00
FY96				
Dec-95	1.97	11.22	26.00	18.00
Jun-96	4.18	15.40	36.00	30.00
FY97				
Dec-96	4.27	19.67	46.00	42.00
Jun-97	5.23	24.90	58.00	54.00
FY98				
Dec-97	3.40	28.30	66.00	62.00
Jun-98	2.70	31.00	73.00	70.00
FY99				
Dec-98	3.36	34.36	81.00	78.00
Jun-99	1.34	35.70	84.00	86.00
FY2000				
Dec-99	2.35	38.05	89.00	94.00
Jun-00	1.35	39.40	93.00	98.00
FY2001				
Dec-00	2.90	42.30	100.00	100.00

KEY PERFORMANCE INDICATORS

RURAL TOWNS WATER AND SANITATION PROGRAMME
SMALL TOWNS WATER AND SANITATION PROJECT

PERFORMANCE MONITORING INDICATORS.

The Rural Towns Water and Sanitation Programme (RTWSP) will adopt performance monitoring indicators encompassing technical, financial and operational monitoring in order to gauge achievements against the overall welfare, technical and project targets. The monitoring indicators over time will reveal how the project performs in the direction of achievement of each of the stated goals. These indicators should lead to the application of corrective as well as preventive measures in the management of the project. The indicators are to be derived from periodic reports prepared at the town office level and passed on the RTWSP Monitoring Unit for analysis and compilation into highly summarised forms to support planning and policy decisions at the Directorate of Water Development management level.

The forms to be filled at the town office will seek to collect as much information as possible and will be updated in successive periods in order to give both the attainment in the additional time as well as the general/cumulative performance of the project. All sources and outlets are to be monitored throughout the reporting period in order to determine their operational status and hence the actual service rate offered by the project facilities to the user community. Ideally attainment of over 75% operational time of all sources and water outlets is acceptable.

The Monitoring indicators given below are of two categories:

CATEGORY A: PROJECT MONITORING INDICATORS FOR TOWN.

Comprises of indicators for the monitoring of the phased implementation activities in a town mainly aimed at gauging the rate at which activities chronologically follow each other. The indicators are to be obtained per town and eventually aggregated for the entire project for the period prior to handover of the sources. This category includes water supply facilities as well as health education/sanitation.

CATEGORY B: SCHEME PERFORMANCE MONITORING INDICATORS.

These aim at revealing the extent to which the project facilities are rendering services to the beneficiary community i.e coverage. The number of water facilities alone is not sufficient in defining coverage to the people. It is the actual time these sources are available for use by the intending users which is crucial if any impact is to be realised. It is therefore the intention of the RTWSP to closely monitor the operational status of the sources as shown on the attached forms. These will also be prepared per town and eventually aggregated for the entire project/programme.

The monitoring systems will be strengthened at all levels in order to report on the changes of the project achievements over time in each of the pre-handover phases as well as the operational status of the facilities during the operation and maintenance phase of the project.

CATEGORY A:

PROJECT MONITORING INDICATORS FOR TOWN.

Activity	Phase	Indicator/Unit	Type
WATER SUPPLY			
1.Communities advised about programme/project	Promotion	Y/N Time	Project
2.Town community as a whole organised themselves for dialogue with project team and collected C.C.F	Mobilisation	Y/N Time	Project
3.C.C.F confirmed as being representative of community commitment.	•	Y/N Time	Financial
4.No. of WUGs/WSCs/WUAs formed	•	Quantity	Project
5.No. of WUGs/WSCs/WUAs who have finalised on CSL & CCC paid	•	Quantity Time	Financial
6.Structure of CCC confirmed as representative of community willingness to sustain O&M of CSL	•	Y/N Time	Financial
7.% of entire town pop. represented by those who have finalised on CSL, paid CCC and confirmed all proceedings with the project at this point.	Design	% Time	Project/Financial
8.No. of point sources under construction Springs Boreholes Wells	Construction	Quantity Time	Technical
9.Commencement of construction of piped water	•	Time	Technical
10.Outlets completed No. of Standposts No. of Yardtaps No. of Houseconnection. No. of Industrial No. of Springs No. of Boreholes No. of Wells	•	Time	Technical/Project
11.Technical Training completed for: Boreholes Wells Piped scheme	•	Y/N Time	Project/ Technical/Welfare
12.Management Training completed for constructed sources.	•	Time	Project
13.Outlets completed and handed over No. of Standposts No. of Yardtaps No. of Houseconnectn. No. of Industrial No. of Springs No. of Boreholes No. of Well	•	Time	Project/ Technical/ Welfare

	Activity	Phase	Indicator	Type
HEALTH EDUCATION AND SANITATION				
1.	Health education campaigns conducted in the town as a whole.	Mobilisation	Y/N Time	Project
2.	Follow-up training of WSCs selected members by the project.	Mobilisation/ Construction	Time, % training done	Project
3.	No of WSCS/WUA for whom improvement Pit latrines are not appropriate	Mobilisation	Quantity/Time	Project/Technical
4.	Commencement of making of Sanplats.	Construction	Time	"
5.	No of demo latrines constructed	"	Quantity, Time	Welfare
6.	No. of Sanplats sold to the Population.	"	Quantity, Time	"
7.	Percentage of Population bought Sanplats.	"	%	"
8.	No. of Improved latrines/under construction.	"	Quantity, Time	"
9.	No. of Improved latrines completed and being used todate.	"	Quantity, Time	"
10.	Percentage of the entire town population represented by those who are using improved latrines.	"	%, Time	"

CATEGORY B:

SCHEME PERFORMANCE INDICATORS

General indicators	
	Unit
Water production	m^3
Water sold	m^3
Un-accounted for water	m^3
Total pipe length	Km
No. of Standposts	Nos
No. of Yardtaps	Nos
No. of Houseconnection.	Nos
No. of Industrial	Nos
No. of Springs	Nos
No. of Boreholes	Nos
No. of Well	Nos
Financial Indicators	
MULTIPLE-POINT WATER SUPPLY	
Projected Revenue	Currency
Total Revenue	Currency
Total Operating Cost of which	
- Wages	%
- Maintenance	%
- Operations	%
Balance	Currency
POINT SOURCE WATER SUPPLY	
Highest borehole operating cost	Currency
Lowest borehole operating cost	Currency
Mean borehole operating cost	Currency
Operational indicators	
MULTIPLE-POINT WATER SUPPLY	
No of standpipes with no breakdown	Quantity
No of standpipe days lost in breakdown	Quantity
No of standpipe days lost in disconnection	Quantity
No of Yardtap days lost in disconnection	Quantity
No of Yardtap days lost in breakdown	Quantity
No of industrial/institution/House connection days lost in disconnection	Quantity
No of Industrial/institutional/house connection days lost in breakdown	Quantity
POINT SOURCE WATER SUPPLY	
No of handpumpdays lost in breakdown	Borehole days
No of handpumps with recorded breakdown	Quantity
No of handpumps with less than 25% downtime	Quantity
No of handpumps with no downtime	Quantity
No of springs with average filling time of 2-3 minutes per 20 litre container	Quantity
No of springs with filling time of more than 5 minutes per 20 litre container	Quantity

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SMALL TOWNS WATER AND SANITATION PROJECT

Supervision Plan

1. The Borrower's supervision activities would be carried out by the Urban and Institutional Water Supply Department of the Directorate for Water Development (DWD), except for the Jinja-Njeru component which would be supervised by the PIU at the National Water Sewerage Corporation (NWSC). Their supervisory functions would involve the following:

(a) initial review, recording and forwarding of:
  (i) all procurement orders,
  (ii) all disbursement requests,
  (iii) special accounts expenditures/reimbursements,

(b) preparation of an annual project implementation budget,
(c) preparation of bidding and other project contracts documents,
(d) preparation of monthly financial statements,
(e) preparation of semi-annual progress reports by February 15 and August 15 each year on all aspects of project implementation,
(f) preparation of and participation in a review workshop by March 15 every year,
(g) monitor key performance indicators as detailed in Annex 15,
(h) arranging for the annual audits of project accounts and SOEs, and
(i) liaising with all Bank supervision missions.

2. In addition to the regular supervision missions to be carried out by IDA in accordance with the schedule set out below, IDA staff would spend time at headquarters on dealing with correspondence, reviewing and commenting on procurement documents, disbursement requests, half-yearly reports and audited accounts. The estimated amount of time is as follows:

Project Year 1	6 sws
Project Year 2	5 sws
Project Year 3	4 sws
Project Year 4	4 sws
Project Year 5	4 sws
Project Year 6	4 sws

3. A Mid-term Review by the Government and IDA would be held not later than March 31, 1997. The terms of reference would be prepared by IDA and would be cleared with the Government in advance of the review date. Overall, the Mid-Term Review would examine the status of implementation of the project, progress in procurement, disbursements and construction. It would also include a review of quantitative and qualitative benefits anticipated from the project.

Bank Supervision Input into Key Activities

Approximate Date	Activity	Expected Skills	Staff Input (Staffweeks)
FY94			
April 1994	Project Launch Mission	Sanitary Engineer, Institutional Specialist Procurement, Disbursement Financial Analyst	7.5
FY95			
October 1994	Supervision Mission	Engineer, Financial Analyst	3.0
April 1995	Supervision Mission	Engineer, Financial Analyst, Institutional Specialist	4.5
FY96			
October 1995	Supervision Mission	Engineer, Financial Analyst	3.0
April 1996	Supervision Mission	Engineer, Financial Analyst Institutional Specialist	4.5
FY97			
October 1996	Supervision Mission	Engineer, Financial Analyst	3.0
June 1997	Mid-term Review	Engineer, Financial Analyst, Institutional Specialist, Procurement, Disbursement	7.5
FY98			
October 1997	Supervision Mission	Engineer, Financial Analyst	3.0
April 1998	Supervision Mission	Engineer, Financial Analyst Institutional Specialist	4.5
FY99			
October 1998	Supervision Mission	Engineer, Financial Analyst	3.0
April 1999	Supervision Mission	Engineer, Financial Analyst, Institutional Specialist	4.5
FY2000			
October 1999	Supervision Mission	Engineer, Financial Analyst	3.0
April 2000	Supervision Mission	Engineer, Financial Analyst Institutional Specialist	4.5
FY2001			
October 2000	Supervision Mission (Preparation work for the Project Completion Report)	Engineer, Financial Analyst, Institutional Specialist, Disbursement, Procurement,	7.5

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DOCUMENTS IN THE PROJECT FILE

1. Rural Towns Water and Sanitation Program, Program Preparation for Small Towns and Sanitation Project, Vol. 1-2, September 1992, COWIconsult

2. Rural Towns Water and Sanitation Program, Appraisal Study for Small Towns and Sanitation Project, Vol. 1-7, March 1993, COWIconsult.

3. UNDP Working Paper, Assessment for the Uganda Water and Sanitation Sector

4. Development Strategy and Action Plan, March 1989, Ministry of Water and Mineral Development (MWMD).

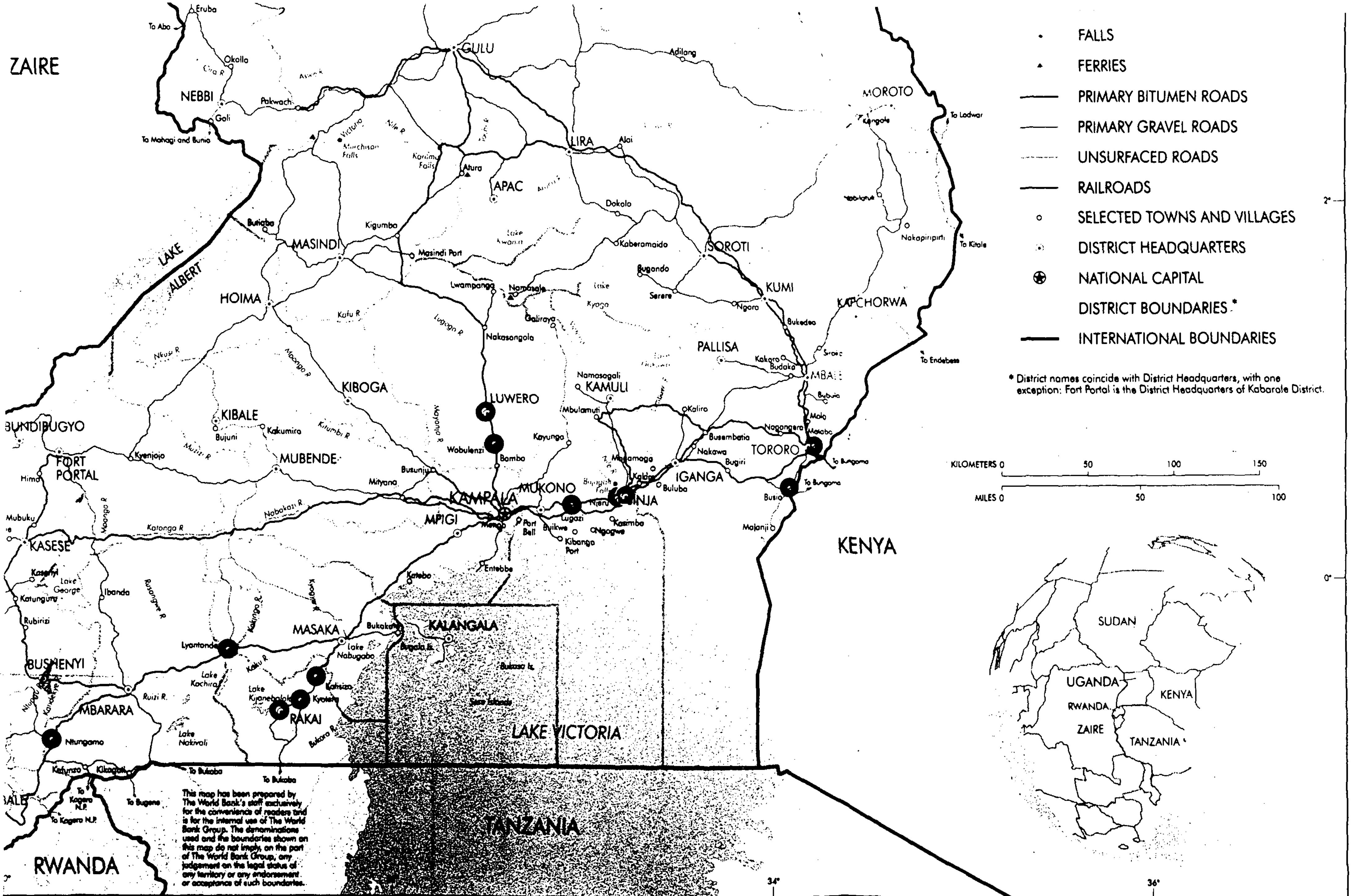
5. Applications of Geographical Information Systems in Economic Analysis: A Case Study of Uganda, 1990, IBRD.

6. Report on Water Well Construction Activities in Uganda, November 1987, Ministry of Water and Mineral Development.

7. National Planning Strategy Rural Water Supply Program, July 1991, DANIDA/I. Kruger Consult AS/NORDIC Consulting Group.

8. Sector Legislation Review, May 1993, MWMEP/Mott MacDonald International

9. Organization and Management of the Water Development Department, 1989, MWMD/Carl Bro International


FALLS
FERRIES
PRIMARY BITUMEN ROADS
PRIMARY GRAVEL ROADS
UNSURFACED ROADS
RAILROADS
SELECTED TOWNS AND VILLAGES
DISTRICT HEADQUARTERS
NATIONAL CAPITAL
DISTRICT BOUNDARIES *
INTERNATIONAL BOUNDARIES
* District names coincide with District Headquarters, with one exception: Fort Portal is the District Headquarters of Kabarole District.
KILOMETERS 0 50 100 150
MILES 0 50 100
ZAIRE
NEBBI
GULU
LIRA
APAC
MOROTO
SOROTI
KUMI
KAPCHORWA
MASINDI
HOIMA
LAKE ALBERT
PALLISA
MBALE
KIBOGA
LUWERO
KAMULI
KIBALE
BUNDIBUGYO
MUBENDE
FORT PORTAL
TORORO
IGANGA
MUKONO
KAMPALA
MPIGI
JINJA
KENYA
KASESE
MASAKA
KALANGALA
BUSHENYI
MBARARA
RAKAI
LAKE VICTORIA
TANZANIA
RWANDA
SUDAN
UGANDA
KENYA
RWANDA
ZAIRE
TANZANIA
34°
36°
2°
0°
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JULY 1993