WASH Field Report No. 290

STRATEGY RECOMMENDATIONS FOR WATER SUPPLY AND SANITATION IN AFRICA

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The study was written by a team of WASH staff and subcontractors. The recommended strategies were drafted by Bob Thomas. The recommendations grew out of a set of profiles of 20 African countries prepared by the WASH Project and available as a separate publication. The WASH staff members and consultants who worked on the profiles helped formulate the recommendations. The introduction, some annexes, revisions of the recommended strategies, and the overall editing were done by Diane Bendahmane. Additional revisions were made by Alan Wyatt and James McCullough of RTI. The tables and figures were prepared by Teresa Sarai.

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Craig Hafner
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June 1989

EXECUTIVE SUMMARY

The strategy recommendations for water supply and sanitation in Africa were prepared by the Water and Sanitation for Health (WASH) Project in response to a funded request from the A.I.D. Africa Bureau. The activity is intended to assist the Africa Bureau and the Office of Housing and Urban Programs in developing an overall strategy for water supply and sanitation interventions and in setting priorities for sector funding in the region.

The approach used involved two basic steps. First, WASH staff prepared sector profiles of 20 African countries where A.I.D. is active. Each profile contained recommendations for A.I.D. action. Second, a set of basic strategy recommendations were developed. This document presents those strategy recommendations; the country profiles are included in a separate document entitled "Water and Sanitation Sector Profiles of Twenty African Countries."

Twenty countries are addressed in this report: 12 in West and Central Africa (Mali, Niger, Burkina Faso, Senegal, Guinea, Liberia, Ivory Coast, Togo, Benin, Nigeria, Cameroon, and Zaire) and 8 in East and Southern Africa (Sudan, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, and Swaziland). These countries vary tremendously in size, population, climate, culture, language, and most other respects. However, they have in common serious water supply and sanitation needs and difficulties and generally poor health conditions. Foremost among the problems in the sector faced by these countries are

- a rapid rate of population growth, especially in urban areas, that often makes keeping pace with growth a daunting task;
- weak water and sanitation institutions and lack of trained personnel;
- limited financing for water and sanitation; and
- lack of accurate information on which to base plans.

The U.N. International Drinking Water and Sanitation Decade is entering its ninth year. In the period 1980-1988, 40 million persons were provided with a clean water supply. Despite this progress, unmet needs in the 20 countries are enormous. In 14 of the 20 countries, more than 50% of the population is without improved water sources and in 17 of the countries more than 50% is without sanitation. Overall 200 million still lack safe water and over 250 million lack sanitation out of an estimated total of 325 million.

Most of the countries have prepared or are in the process of preparing action plans for the Decade in which coverage targets have been set. For the 20 countries to meet their targets, 240 million additional persons must be provided with water and 154 million with sanitation by the year 2000. (These targets do not represent universal coverage.) According to the very rough estimates, reaching these year 2000 targets will cost over $20 billion. For most of the countries, it is unrealistic to assume that they can obtain the

investment needed. The problems do not end with the provision of facilities. Operation and maintenance and in some cases rehabilitation of existing facilities is an additional major need.

A.I.D. is not, with a few exceptions, a major donor in water and sanitation in the 20 countries. The primary donors are the World Bank, UNDP, EEC, various European donors (including the Nordic countries), UNICEF, and numerous private voluntary organizations. A.I.D. is funding ongoing water and sanitation projects in 6 of the 20 countries being addressed here. However, sometimes water and sanitation is merely a component of a primary health care or rural development project.

The improvement of water supply and sanitation services in Africa is an important target of A.I.D. activities as it serves three key objectives of the agency: 1) improving the health and well-being of the rural and urban poor, 2) supporting economic growth, and 3) promoting environmental improvements. A.I.D. should adopt a strategy based upon an integrated approach to ensuring the **sustainability of water supply and sanitation services**, based on demand-driven service provision. The A.I.D. strategy should go beyond infrastructure investment to promote institutional development in the sector. There are four basic elements of the strategy:

- institution strengthening and policy development,
- improved program/project design,
- effective water supply and sanitation service management, and
- cost recovery and financial sustainability.

Recommendations for each of the program elements were developed and are given below:

Institution Strengthening and Policy Development

(1) While not ruling out hardware assistance, A.I.D. should adopt a basic strategy of strengthening host country institutional capabilities to develop and manage long-term water and sanitation programs.

(2) A.I.D. should work cooperatively with other external support agencies to influence governments to develop and adopt appropriate water and sanitation policies (including policies on cost recovery).

(3) Training and community education activities should be expanded (to about 25 percent of project resources) and included in project design for all A.I.D. interventions in this sector.

Improved Program/Project Design

(1) A.I.D. should work closely with governments to plan projects and programs which respond to community needs. These projects must be planned with the close involvement of the communities themselves, utilizing willingness-to-pay criteria (where practicable), selection of appropriate technology and service levels, and opportunities for community based operations and maintenance.

(2) Water supply programs should build in linkages to other A.I.D. programs, especially child survival, but also other aspects of economic development and infrastructure to improve project benefits. Where agencies are dominated by engineers, additional staff and/or training may be needed to implement such an approach.

Effective Water Supply and Sanitation Service Management

(1) A.I.D. should place increased emphasis on selecting the appropriate management systems for operation and maintenance. Generally, strategies involving decentralization and community management have proven most effective.

(2) Water supply and sanitation programs should provide opportunities for private sector participation in service delivery, going beyond engineering and construction services to include maintenance contracting, financial management services, water service franchising, and outright privatization.

Cost Recovery and Financial Sustainability

(1) A.I.D. can provide an important influence on government policies in promoting cost recovery, appropriate targeting of subsidies, and improving fiscal discipline of water supply and sanitation institutions. This can best be done through policy dialogue and information exchange.

(2) A.I.D. can greatly assist in the areas of improving financial management expertise in water supply and sanitation institutions through the development of improved systems and training.

Due to funding constraints, A.I.D. must prioritize countries and activities. The 20 countries were ranked into three priority groups based on criteria such as (1) a past history of successful projects in water and sanitation, (2) readiness to accept help in institutional strengthening, (3) opportunity to integrate water and sanitation with child survival assistance, and (4) existence of an available niche for A.I.D. The first priority countries include Malawi, Zaire, Senegal, Togo, and Burkina Faso. Based on the country profiles,

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specific opportunities were outlined for implementation of the basic strategy in Africa. There are six common themes coming out of this analysis:

- Strengthen water supply and sanitation institutions.
- Combine water and sanitation projects with child survival efforts to work towards an integrated approach to rural health, often with UNICEF.
- Provide assistance in updating data and appraising existing systems.
- Assist programs to regularize village-level operation and maintenance.
- Encourage private sector involvement and the local manufacture of handpumps and the development of low-cost water supply and sanitation technologies.
- Collaborate with other donors.

A.I.D. Africa Bureau's support for the water supply and sanitation has declined from an annual expenditure of over $12 million in 1980, at the start of the Decade, to less than $1 million in 1988. It is hoped that the request for these strategy recommendations and the country profiles will reverse this trend and contribute to increasing A.I.D.'s awareness of the needs and importance of the sector in achieving the overall development objectives of the Africa Bureau in improving the quality of life of the people of Africa.

STRATEGY RECOMMENDATIONS FOR WATER SUPPLY AND SANITATION IN AFRICA

1. INTRODUCTION

The strategy recommendations for water supply and sanitation in Africa were prepared by the Water and Sanitation for Health (WASH) Project in response to a funded request from the A.I.D. Africa Bureau. The activity is intended to assist the Africa Bureau and the Office of Housing and Urban Programs in developing an overall strategy for water supply and sanitation interventions and in setting priorities for sector funding in the region.

The scope of work and methodology of this effort is given in Annex 1. The first step was to collect data and develop detailed profiles of 20 African countries where A.I.D. is active. A list of these countries is shown in the table on the next page. The strategy recommendations presented in this report were developed out of the findings and recommendations of these 20 country assessments. The country profiles are not included in this document, but are available as a separate document entitled "Water and Sanitation Sector Profiles of Twenty African Countries."

This report is divided into several sections. First, an overview of the sector provides data on current coverage of water and sanitation, target coverage by the year 2000, and resulting investment requirements. A number of tables with background information are included in Annex 2; these supplement the information in the overview. The overview also briefly surveys current A.I.D. experience. The second section contains the overall strategy, which is composed of four program elements focusing on **institutional support** to encourage the sustainability of water supply and sanitation services. Recommendations are given in each of the four areas. The third section identifies specific targets of opportunity, based on implementation of the strategy, and prioritizes countries for intervention.

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2. SECTOR OVERVIEW

2.1 Needs and Difficulties

The 20 countries included in the preparation of this report vary tremendously in size, population, climate, culture, language, degree of urbanization, and most other respects. However, they do have in common serious water supply and sanitation needs and difficulties. They also have generally poor health conditions, typified by child mortality rates in the range of 118 to 297 child deaths per thousand live births. (See Table A-1 in Annex 2.) High rates of Guinea worm infestation exist in many of these countries, especially in the west. In over half of the African countries that provided information for the mid-point review in 1985 of the International Drinking Water Supply and Sanitation Decade (IDWSSD or "the Decade"), more than half the population is lacking both safe water and adequate sanitation.

Predominant among the difficulties in extending water supply and sanitation coverage is the limited capability of African governments to focus their efforts on this complex set of issues. For instance, of the 20 countries considered here, only 17 reported to the WHO at the mid-Decade review point of the progress they had made under the Decade. Only 12 of these included sanitation status data in their reports. By 1988, only 13 had completed their Decade or sector action plans.

Summary data on the total and urban populations, GNPs, infant mortality rates, and populations estimated to be lacking water and sanitation service are presented in Table A-2 in Annex 2.

A constraint to good sector planning is the unreliable nature of the sector data (except possibly for urban water supply service) that were submitted to the mid-Decade review. In particular, existing sanitation services appear to be over-counted. Much more is known about specific projects and other interventions (especially foreign-assisted interventions) than about the actual water supply and sanitation conditions in most of these countries. While reporting of construction and installation is generally adequate, the present situation regarding the operational state of the water supply and sanitation systems is not well documented.

Population growth places an increasing burden on already weak sector institutions. Birth rates in Africa are the highest in the world. With falling death rates due to health improvements, population growth is high and is increasing most rapidly in urban areas, due to rural-urban migration. While rural populations predominate today and have water supply needs that have been least well served under the Decade to date, peri-urban growth is rapidly creating many new needs in urban water supply and especially urban sanitation. Particularly rapid urban growth is expected in the remaining years of the century in 12 of the 20 countries. Urban populations in several of these countries are expected to exceed the rural populations, and urban populations exceeding 10 million are expected to exist in Nigeria, Zaire, Tanzania, and Kenya.

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Table 1

STATUS OF DECADE/SECTOR PLANS

COUNTRY	STATUS
Benin	Completed in 1983
Burkina Faso	Completed in 1982
Burundi	Completed in 1984
Cameroon	No plan prepared
Guinea	Completed in 1980
Ivory Coast	No plan prepared
Kenya	In preparation
Liberia	In preparation
Malawi	Completed in 1988
Mali	Completed in 1984
Niger	No plan prepared
Nigeria	No plan prepared
Rwanda	Completed in 1984
Senegal	Completed in 1981
Sudan	In preparation
Swaziland	Original being revised
Tanzania	Completed in 1988
Togo	Completed in 1981
Uganda	Original being revised
Zaire	Completed 1985; Updated 1988

Contributing to the physical difficulties of providing water and sanitation service is that several (especially the Sahelian and countries to the north) typically have four to eight dry months each year. Another difficulty in the north is the scattered and in some cases nomadic rural populations, who need water for domestic purposes and for animal watering and crops. Provision and maintenance of water and sanitation systems is also made difficult by the low levels of technical education and the weak fabrication and repair infrastructure in both the government and private sectors. Cost recovery is often weak, so water and sanitation institutions are often heavily subsidized, consuming limited central government funds, and providing no incentive for good service provision.

2.2 Progress Made and Future Requirements

Progress within individual countries in achieving increased coverage of water supply and sanitation has been mixed during the Decade to date. In some countries, considerable increases in coverage have been made while in others the situation has remained static or

even declined. Overall in the 20 countries there has been an increase in water coverage while sanitation coverage has remained about constant. (See Figures 1 and 2.) Population growth has tended to dampen the efforts to extend water supply and sanitation coverage, however.

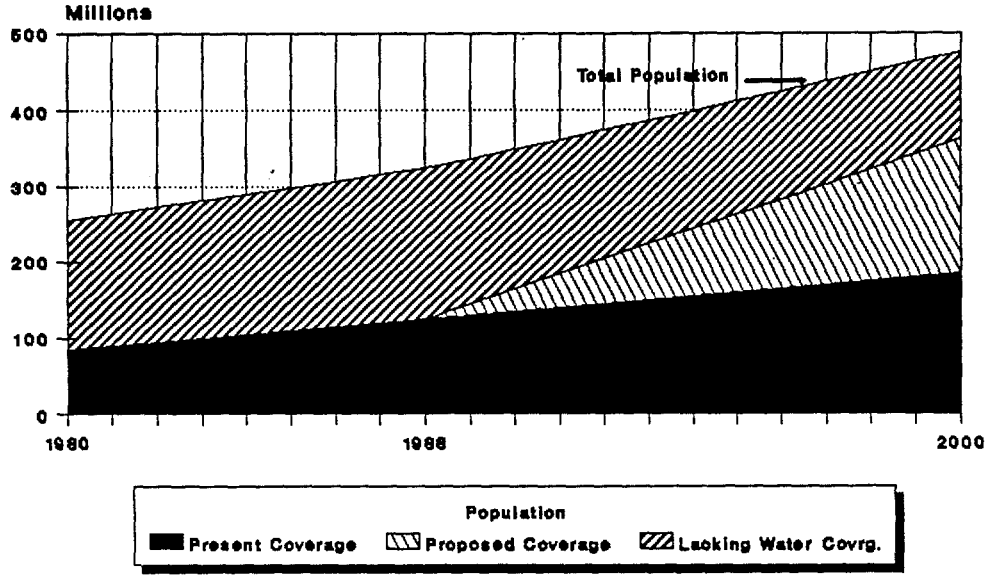
One of the benefits of water supply and sanitation is to contribute to reductions in child mortality. Comparisons of water supply and sanitation coverage with child mortality on a worldwide basis and for Africa have shown a significant relationship. (See Figures 3 and 4.) When countries with available data (not necessarily the 20 target countries) are analyzed in detail it appears that reductions in child mortality are most apparent when coverage is increased from about 20 to 60%.

Progress has been made, but much remains to be done. Figures 1 and 2 show the progress made in the provision of water and sanitation, respectively, in the 20 countries from the beginning of the Decade to 1988, the gains that would have to be made in the next 12 years to meet the Decade targets, and the coverage that would be attained in the year 2000 if the 1980-1988 rate of extending coverage is merely maintained.

Table 2 summarizes data on current and target future coverage, populations to be served to reach the targets for the year 2000, and investment requirements. The table was compiled from the following figures and tables in Annex 2:

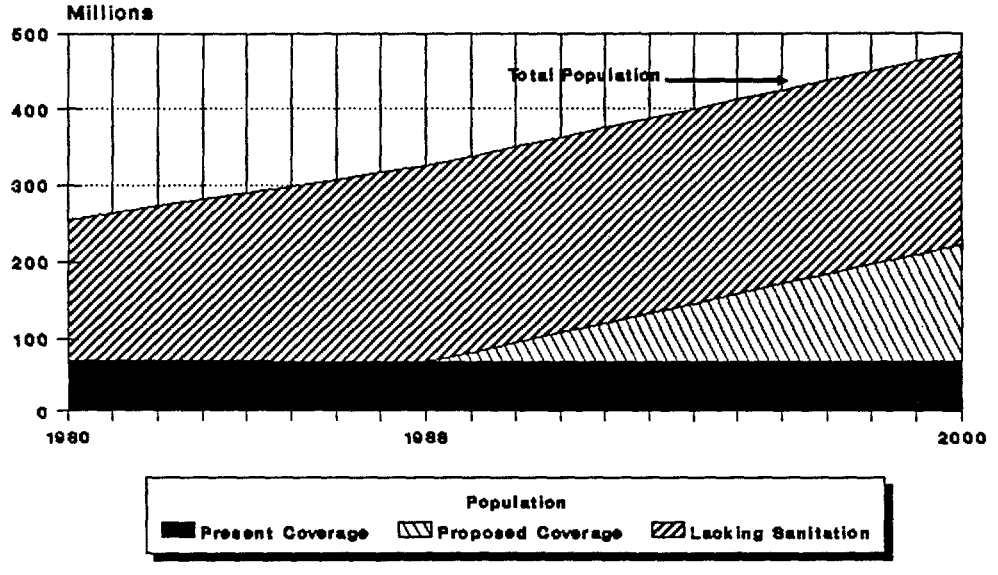
Figure A-1	Proportion of Population Served in 8 Countries in East and Southern Africa - 1988
Figure A-2	Proportion of Population Served in 12 Countries in West and Central Africa - 1988
Figure A-3	Total Population vs. Unserved Population in 8 Countries in East and Southern Africa - 1988
Figure A-4	Total Population vs. Unserved Population in 12 Countries in West and Central Africa -1988
Table A-1	Infant and Child Mortality Rates
Table A-2	Demographic, Economic, and Water Supply and Sanitation Data
Table A-3	Water and Sanitation Coverage
Table A-4	Unserved Populations - Difference Between 1988 Levels of Coverage and Year 2000 Targets
Table A-5	Total Costs to Meet Year 2000 Targets
Table A-6	Per Capita Rankings of Annualized Costs to Meet Year 2000 Targets

FIGURE 1
WATER SUPPLY COVERAGE
1980 - YEAR 2000 TARGET
FOR 20 AFRICAN COUNTRIES



Estimate for 1980 from mid-Decade for all African countries 33% coverage for water supply.

FIGURE 2
SANITATION COVERAGE
1980 - YEAR 2000 TARGET
FOR 20 AFRICAN COUNTRIES



Estimate for 1980 from mid-Decade for all African countries 28% coverage for sanitation.

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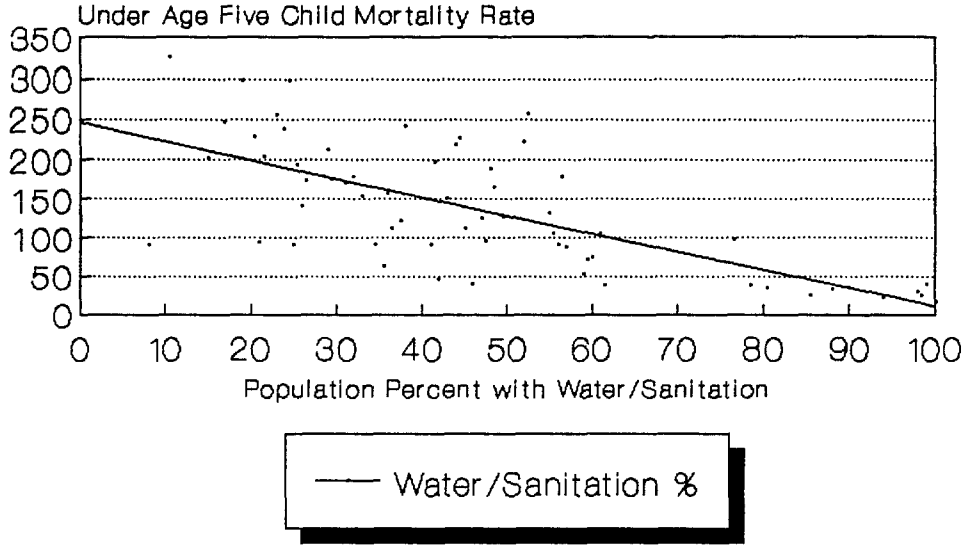
FIGURE 3

WORLDWIDE
Relationship Between Water & Sanitation and Child Mortality



Europe excluded since no under age five child mortality rates given

FIGURE 4

AFRICA
Relationship Between Water & Sanitation and Child Mortality

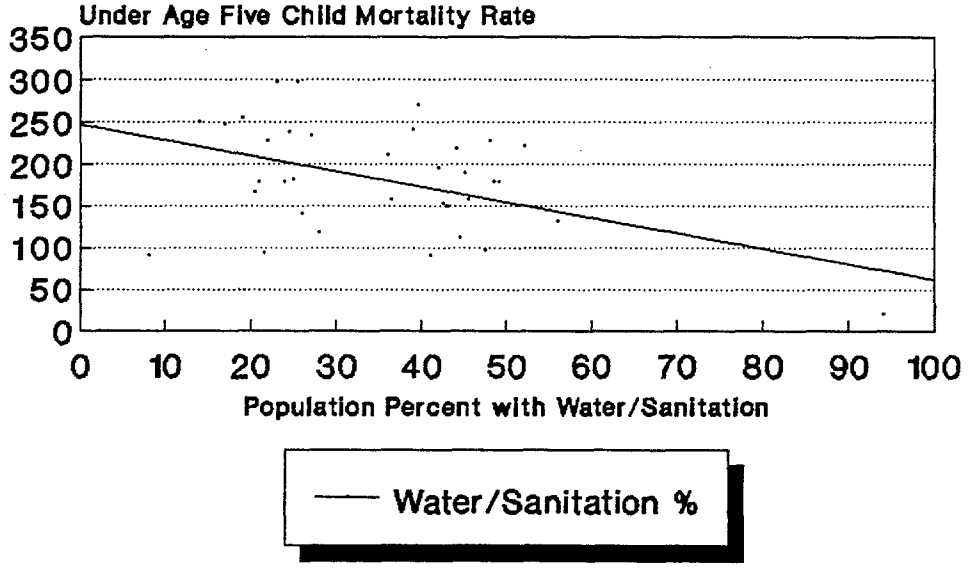


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Table 2

TARGET COVERAGE AND INVESTMENT ESTIMATES FOR THE YEAR 2000
Populations in millions, Costs in Billion US$

	URBAN	RURAL	TOTAL
Average coverage - 1988 - water supply	66.2%	33.0%	
Average coverage - 1988 - sanitation	52.6%	19.0%	
Target coverage - 2000 - water supply	86.2%	68.4%	
Target coverage - 2000 - sanitation	74.4%	48.2%	
Pop. to serve to reach target - water supply	94.7 million	144.9	239.6
Pop. to serve to reach target - sanitation	67.2	86.5	153.7
Investment to reach target - water supply	$5.3 billion	$3.9	$9.2
Investment to reach target - sanitation	$8.5	$2.4	$10.9
Total investment to reach target	$13.8	$6.4	$20.2

Note: The "averages" shown above are unweighted means for the 20 countries.

It should be noted that meeting Decade goals in most cases is far short of providing universal service. Table 2 shows that over $20 will be needed in the next 12 years to extend services to meet Decade goals set by the countries. The amounts needed by most countries are so large that they probably cannot be obtained, and these amounts are very often far larger on an annualized basis than past sector investments. In other words, sector activities would have to accelerate markedly for Decade goals to be met.

2.3 Current A.I.D. Experience

The U.N. Water and Sanitation Decade has effectively focussed the attention of national governments in Africa and elsewhere on the importance of providing adequate water and sanitation services to both rural and urban populations. During the first half of the Decade, however, coverage goals were not met. In particular, there have been major shortfalls in Africa in spite of considerable international assistance from a number of external support agencies.

A.I.D. is not, with a few exceptions, a major donor in water and sanitation in the 20 countries. The primary donors are the World Bank, UNDP, EEC, various European donors (including the Nordic countries), UNICEF, and numerous private voluntary organizations. Many of their activities have been strongly hardware- and facility-oriented, although certain donors, including A.I.D., the World Bank, and some other bilaterals, do address institutional and human resources needs.

Table 3 below lists the ongoing water and sanitation projects that A.I.D. is funding in the 20 countries being addressed here. It should be noted that water and sanitation is sometimes only a component of a primary health care or rural development project.

Table 3

ONGOING A.I.D. PROJECTS (HEALTH ACCOUNT)
AFRICA WATER AND SANITATION PROJECTS AS OF DECEMBER 1988

COUNTRY	TITLE	COST*	ACCOUNT	% WS&S	START	END	IMPLEMENTOR
Benin	Rural Water Supply	13.4	Health	100	1985	1990	Contractor (PRAGMA)
Cameroon	Northern Wells Project II	0.8	Health	90	1984	?	NGO (CARE)
Liberia	Primary Health Care	14.7	Health	5	1983	?	Contractor (MEDEX)
Malawi	Rural Piped Water	6.0	Health	90	1981	1989	Government
Malawi	(New project)	7.0	Health	75	1989	1994	Government
Sudan	Rural Health Support OPG	0.7	(SS)**	2	1988	?	Contractor (?)
Zaire	Basic Rural Health II	21.6	Health	20	1987	1993	NGO (ECZ)
Zaire	Shaba Refugee WS	2.2	Health	100	1985	1990	NGO (AIDR)

* Cost in millions of U.S. dollars.
** Development Fund for Africa.

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3. STRATEGY RECOMMENDATIONS

The improvement of water supply and sanitation services in Africa is an important target of A.I.D. activities as it serves three key objectives of the agency: 1) improving the health and well-being of the rural and urban poor, 2) supporting economic growth, and 3) promoting environmental improvements. A.I.D. should adopt a strategy based upon an integrated approach to ensuring the **sustainability of water supply and sanitation services,** incorporating demand-driven service provision. The A.I.D. strategy should go beyond infrastructure investment to promote institutional development in the sector. There are four basic elements of the strategy:

- institution strengthening and policy development,
- improved program/project design,
- effective water supply and sanitation service management, and
- cost recovery and financial sustainability.

The A.I.D. strategy should involve both country-level projects as well as regional efforts for information exchange, applied research, and training. These regional programs will allow information on successful techniques, methodologies, and lessons learned to be immediately communicated to others tackling similar issues.

Institution Strengthening and Policy Development

For sustainable water and sanitation programs to be implemented, capable governmental and other institutions must be in place. At the same time these agencies must have a clear policy framework within which to operate. Unfortunately these issues have received very little emphasis by donors in the past, and host country agencies and policies are weak.

Thus, there appears to be both a major area of need and a unique opportunity for A.I.D. in the provision of institutional strengthening assistance. Such assistance can be made highly attractive by being linked to donor-supported infrastructure projects and packaged with training, system and facility design, unaccounted-for water education, computer applications, and offers of hardware such as vehicles and computers.

The following institutional and policy issues and problems commonly need to be dealt with:

- lack of appropriate water and sanitation policies (sector plans, service, levels options, cost recovery, donor coordination, interministerial coordination),
- unclear or uncoordinated division of responsibilities among ministries or water and sanitation agencies,
- lack of manpower and skills,
- lack of suitable design and contracting procedures,
- lack of sound management systems,
- lack of adequate measures of performance and of performance monitoring,

- poor system and facility operations and maintenance,
- inability to identify, obtain funding for, implement, and sustain sound projects,
- inability to improve coverage and the quality and reliability of service, and
- lack of physical resources (vehicles, tools, equipment) to permit technical and administrative functions to be performed.

Potential institutional improvement measures that A.I.D. and others may be able to assist governments in implementing, under appropriate circumstances, include:

- assisting in national planning,
- initiating reforms to improve incentives for staff performance,
- developing training programs and training materials,
- promoting effective interagency cooperation,
- coordinating donor water and sanitation activities,
- establishing appropriate policies, procedures, and decision criteria,
- helping responsible agencies gain access to decision-makers and to funds,
- developing the capability to manage programs through decentralized decision-making,
- monitoring performance effectively, and
- privatizing appropriate functions (promoting the role of the private sector).

An essential component of both institution strengthening and policy development is human resources development and training. The countries must establish or strengthen the local capability to train personnel and institutionalize the personnel (certification systems, pay scales, career advancement) and support systems (management, supplies, facilities, equipment) needed for effective personnel performance. These key areas for donor intervention should be evaluated as potentially needed elements of all water and sanitation projects. Training comprised a key component of the successful A.I.D.-assisted water and sanitation projects in Togo where 25% of the total project costs were directed at training all levels, including the community, and hygiene education.

RECOMMENDATIONS

(1) While not ruling out hardware assistance, A.I.D. should adopt a basic strategy of strengthening host country institutional capabilities to develop and manage long-term water and sanitation programs.

(2) A.I.D. should work cooperatively with other external support agencies to influence governments to develop and adopt appropriate water and sanitation policies (including policies on cost recovery).

(3) Training opportunities should be expanded (about one-quarter of project resources) and included in project design for all A.I.D. interventions in this sector.

Improved Program/Project Design

Institutional support must help build organizations which can conceive, plan, design, fund, and implement projects and broad-based programs which meet local demands, are affordable, and can be sustained with local capabilities.

In the past, the planning process has been donor-driven. In the last 15 years, about two-thirds of the funds for rural water supply in Africa have been given or lent by external support agencies. Many countries do not have the capability to prepare and effectively utilize externally assisted projects. In addition, the heavy dependence on external assistance has led to a capsulized approach, under which progress is made through a series of projects, with little else of consequence going on in the sector. For each project, the external support agency involved understandably has stringent criteria of acceptability that must be met before it will commit funds. Some of these agencies provide assistance to governments in the identification and preparation of projects, but most do not, and the inability of many African countries to prepare and absorb externally assisted projects and to operate effectively between such projects is a key bottleneck to progress.

It is essential that the planning process begin with an evaluation of service level alternatives. That is, agencies and communities must work together to assess the service demands and willingness to pay of recipient citizens. It is this coordination that is the start of "community participation" or community "ownership." With such participation, projects can address true felt needs, and thus facilitate community involvement in operations and maintenance, community contribution to cost recovery, and improved understanding leading to behavior changes.

Linked to issues of willingness to pay and level of service are issues of technology choice. Often technologies are selected and designed on the basis of developed-country norms and design standards, which may be too costly to construct and maintain properly. It is important that the technology choice flow from the evaluation of willingness to pay/service level issues, within the communities. In addition projects must choose technical options which are appropriate to the local maintenance and repair capabilities. In some cases, local manufacture will be the most effective approach for ensuring supply of parts and operations and maintenance skills, however market and technical constraints may prevent local manufacture in some African countries.

Benefits from water supply and sanitation projects can often be greatly increased if they are planned to complement other A.I.D. program areas. In rural areas water supply and sanitation efforts should be coordinated with child survival efforts to produce an integrated approach to rural health. At the same time, such rural projects should not ignore links between water supply and sanitation and employment generation. In market towns, water and sanitation efforts should be planned in coordination with economic infrastructure investments. In larger urban areas, water supply and sanitation efforts should focus on the

needs of peri-urban areas and the poor and be coordinated with efforts on housing and urban infrastructure, urban environmental issues, solid waste management, and municipal finance and management. However, A.I.D.'s approach should not lead to large, overly complex projects. Simply, water supply and sanitation efforts should be linked with other complementary endeavors to maximize benefits.

Improvement of in-country data gathering is crucial to the planning, funding, and management of the country programs. To assist countries to make such improvements, donors should provide funds in their water and sanitation project budgets for data systems and data collection, and expansion and detailing of sector profiles. In addition, because there is so little reliable data, donors must share what information they have.

Such an orientation will require additional human resources development, helping organizations increase and expand staff capabilities. An emphasis on multi-disciplinary training will be important. Many water supply and sanitation agencies are dominated by engineers who rarely have the broader training needed to implement this approach.

RECOMMENDATIONS

(1) A.I.D. should work closely with governments to plan projects and programs which respond to community needs. These projects must be planned with the close involvement of the communities themselves, utilizing willingness-to-pay criteria (where practicable), selection of appropriate technology and service levels, and opportunities for community based operations and maintenance.

(2) Water supply and sanitation programs should build in linkages to other A.I.D. programs, especially child survival, but also other aspects of economic development and infrastructure to improve project benefits. Where agencies are dominated by engineers, additional staff and/or training may be needed to implement such an approach.

Effective Water Supply and Sanitation Service Management

Once water supply and sanitation facilities are installed, they must be operated and maintained. In addition ongoing programs for health and hygiene education must also be provided for, at least in the short term.

Poor operation and maintenance of water supply and sanitation systems are common in Africa. Poorly motivated staff, poor technical design and installation, transport and logistics problems, lack of financial resources, and problems with spare parts and supplies have led to high system failure rates and a low level of reliability. These problems are more institutional than technical. Another major issue is that neither donors nor host country governments give enough emphasis to operation and maintenance in program planning.

Selection of appropriate operation and maintenance systems is not a simple task, and the best approach will vary greatly from one location to another. Most approaches will involve efforts to improve staff capability and clearly to define the roles of the community, the local or regional government, the local private sector, and the central government. Field experience has shown that decentralization and community management are usually the most effective. Most operation and maintenance strategies will probably have to be accompanied by improved cost recovery.

However, good service management does not consist simply of operation and maintenance. Government agencies and non-governmental organizations should also encourage ongoing programs to provide health and hygiene education, follow-on efforts for local economic development, and improved water supply and sanitation service. Within water supply and sanitation, increased reliance on the private sector offers distinct advantages, although each situation must be analyzed separately. In many countries, the private sector is actively involved in construction, installation, operations, maintenance, accounting, billing, and a variety of other work tasks. In other countries, opportunities for private sector involvement are increasing, and some countries are changing their policies to promote the private sector. Ivory Coast offers the best example of an urban water authority which has been privatized. The authority is 51% owned and entirely managed by private interests. Private sector management capabilities, in particular, are normally superior to those of the public sector and should be utilized where possible.

RECOMMENDATIONS

(1) A.I.D. should place increased emphasis on selecting the appropriate management systems for operation and maintenance. Generally, strategies involving decentralization and community management have proven most effective.

(2) Water supply and sanitation programs should provide opportunities for private sector participation in service delivery, going beyond engineering and construction services to include maintenance contracting, financial management services, water service franchising, and outright privatization.

Cost Recovery and Financial Sustainability

National policies on finance and cost recovery have a large impact on institutional sustainability, and the actual benefits provided by water supply and sanitation systems. Many countries provide support to the water supply and sanitation sector only through earmarked capital construction grants. Donor policies and local political pressures favor capital investment projects over rehabilitation and operations and maintenance. National governments often dictate very low tariffs, thus creating large deficits for water supply institutions. The results are low levels of service and "bail-out subsides" to keep systems operating at minimum capacity. However, the poor often remain unserved. In urban areas the poor often are forced to purchase water from vendors and end up spending more for

water than the rich, despite far lower consumption. In such cases, subsidies help only the upper classes and not the poor.

Both capital funding and ongoing operations are dependent on cost recovery, which should be a key item of government water and sanitation policies. Where full cost recovery from users is not practicable, as is frequently the case in Africa, sustainability is generally strongly dependent on user involvement. On the basis of such cost-recovery or direct-user contribution principles, the beneficiary communities must be helped to arrive at informed decisions on levels of service, system design, and cost or other inputs. This again requires a high level of institutional capability within governments, as does the necessary training and support of user groups in the financial aspects of system operation where fees are to be collected.

It is important that water and sanitation development agencies have the opportunity to learn the lessons of the cost-recovery and contribution-in-kind experience of others. External support agencies help provide this opportunity by carrying out and disseminating the results of applied research on such topics as willingness to pay and in-kind contributions from users and by organizing workshops, conferences, and other exchanges on such issues as user payment scheduling, extended payments for user capital contributions, and the use of revolving funds.

The very difficult foreign debt situation of these 20 countries is likely to strengthen their natural reluctance to use hard currency loan funds for technical assistance. Any extensive technical assistance efforts would in all probability need to be in the form of grants.

In those countries which have recently changed from a policy of no payment for water to one of payment, short-term assistance by A.I.D. is warranted to help implement this change. In countries which still maintain a policy of no payment for water, A.I.D. should seek to bring about a policy change through support of willingness-to-pay studies, publicizing successful changes elsewhere, and collaborating with other external support agencies to lobby for policy changes.

RECOMMENDATIONS

(1) A.I.D. can provide an important influence on government policies in promoting cost recovery, appropriate targeting of subsidies, and improving fiscal discipline of water supply and sanitation institutions. This can best be done through policy dialogue and information exchange.

(2) A.I.D. can greatly assist in the areas of improving financial management expertise in water supply and sanitation institutions through the development of improved systems and training.

4. INTERVENTION STRATEGY

Given the data collected and recommendations made in the 20 country profiles, as well as the basic strategy outlined above, some specific recommendations for intervention activities are possible. These activities represent targets of opportunity for A.I.D. for early assistance. Given that A.I.D. resources are limited, countries were ranked in order of priority according to criteria which reflect the basic strategy.

4.1 Priority Countries

The countries have been ranked according to a number of criteria including (1) a past history of successful projects in water and sanitation, (2) readiness to accept help in institutional strengthening, (3) opportunity to integrate water and sanitation with child survival assistance, (4) the existence of an available niche for A.I.D. The results of the prioritization are given below, with detailed descriptions of selection considerations shown in Annex 3.

FIRST PRIORITY	SECOND PRIORITY	THIRD PRIORITY
Malawi	Kenya	Liberia
Zaire	Uganda	Tanzania
Senegal	Nigeria	Ivory Coast
Togo	Benin	Sudan
Burkina Faso	Burundi	
	Cameroon	
	Guinea	
	Niger	
	Rwanda	
	Swaziland	
	Mali	

4.2 Specific Opportunities

(1) A.I.D. should try to combine water supply and sanitation elements with projects in child survival[1] to work toward an integrated approach to rural health. This opportunity for A.I.D. and non-governmental organization (NGO) projects has been identified for Burkina Faso, Guinea, Mali, Nigeria, Sudan, Swaziland, Sudan, Togo, and Uganda. Togo, the best example in Africa where A.I.D. has combined water, health education, and child survival components into a successful project, serves as a model of integration.

[1] This strategy recommendation was also highlighted by an African water symposium sponsored by Atlanta University held in May 1987 (International Symposium on Water Supply and Sanitation in Africa: Final Report, Revised Draft, May 1988).

(2) Working with UNICEF is often mentioned as a practical way to support the integrated rural health approach. For example, in Guinea, UNICEF has long supported rural water supply and child survival activities and will be giving increased emphasis to environmental education, sanitation, and animation in future assistance. Given its interest in child survival, A.I.D. should envisage closer links with UNICEF in Guinea, and in Nigeria and Uganda as well. In Nigeria, the UNICEF-supported comprehensive water and sanitation (WATSAN) program could be increased in scope by 6 to 10% a year if A.I.D. were to contribute $1 million. A.I.D. is at present implementing a successful project with UNICEF in Benin.

(3) The lack of accurate data on the water supply and sanitation sector is a significant problem in almost all of the countries. In some cases, plans are incomplete or unrealistic. In others, much activity has occurred, but the effectiveness of water and sanitation interventions is in question. Assistance in updating data and in appraising existing systems should be considered by A.I.D..

(4) In five countries, there appear to be opportunities for A.I.D. to assist the governments to strengthen water supply and sanitation institutions: Malawi, Cameroon, Rwanda, Swaziland, and Uganda. In the area of institutional development, small amounts of aid can produce enormous long-term benefits.

(5) Assisting programs to regularize village-level operation and maintenance, including financial support arrangements, is emphasized for Guinea, Ivory Coast, Mali, Tanzania, and Zaire. Such efforts will reduce the burden on the governments, possibly create employment, and increase the reliability of newly constructed units. Strengthening operation and maintenance mechanisms is part of almost every country's needs for the sector. In Tanzania, A.I.D. (WASH)/UNICEF completed a willingness-to-pay study for operation and maintenance of a large rural water supply project. Now, as follow-up, A.I.D. could be involved in helping to institutionalize a mechanism for establishing a fee system and reestablishing a previously existing private water company.

(6) Often A.I.D. can make an effective contribution, in spite of its limited funds, by collaborating with other donors. This approach has been particularly effective in project financing in Togo. A.I.D. should also play a more active role in donor meetings such as the recent WHO/UNDP consultative meeting held in Harare, Zimbabwe, in November 1988, for donors active in the sector in East and Southern Africa. Collaboration is recommended for at least 5 of the 20 countries: Cameroon, Kenya, Liberia, Malawi, and Senegal. In Senegal, this approach is especially promising because the government is actively supporting donor collaboration. In December 1988, a donors' meeting was held in Senegal to further coordination and collaboration. Generally speaking, for these countries to keep ahead of their rapidly growing populations and meet their Decade coverage targets, a coordinated effort among donors and government agencies will be required.

(7) In three countries A.I.D. could serve a useful role by encouraging the local manufacture of handpumps through the private sector: Guinea, Kenya, and Mali.

In Guinea, UNIDO is supporting a maintenance and repair center in Conakry which is seeking support to manufacture a handpump locally. A.I.D. could possibly play a role in this type of activity. The Afri-Dev handpump, which has been developed and tested in Kenya, is mentioned as a possibility. In some countries, such as Liberia, other private sector activities are also mentioned as possible targets for A.I.D. support.

(8) To respond to the tremendous anticipated growth in urban areas, A.I.D. could assist Cameroon, Guinea, and Zaire in developing appropriate technologies for peri-urban water supply and sanitation. This is especially important in Cameroon where, in the year 2000, it is estimated that over 60% of the population will be urban.

(9) In Togo, Nigeria, and Burkina Faso, A.I.D. should consider emphasizing sanitation, as this component has lagged behind water supply in coverage. Although it is a lower priority country, technical assistance is required in Ivory Coast in the development of a range of low-cost sanitation technology options suitable for a variety of socioeconomic groups and, just as important, of an appropriate marketing strategy to promote this low-cost technology. Similarly, in Liberia, one of the most promising options is in rural sanitation.

(10) A.I.D. should continue to support and increase its assistance to strengthening the capacity of U.S. and indigenous NGOs to plan, implement, and evaluate water supply and sanitation projects. Major NGO support efforts are underway in Kenya, Malawi, Senegal, and Sudan. Increased collaboration with the African Development Foundation could also provide indirect support to African NGOs.

These recommendations should be viewed with some degree of caution since they were not based on an in-depth sector appraisal undertaken in each country. Rather, they were based on a review of the most up-to-date information from various sources available to WASH, on a limited number of interviews with knowledgeable experts, and on the writers' personal knowledge of the countries. Nonetheless, they do represent specific opportunities for A.I.D. to begin to implement the strategy outlined in Section 3 of this document.

It is hoped that these strategy recommendations will be useful to A.I.D., and to the people of Africa. The specific opportunities mentioned above and the overall strategy which they reflect should prove useful for A.I.D. in helping to focus in on the priority needs of the sector and to be able to design and implement programs which effectively respond to those needs. A.I.D. Africa Bureau's support for the water supply and sanitation has declined from an annual expenditures of over $12 million in 1980, at the start of the Decade, to less than $1 million in 1988. The ideas expressed in this document may help to reverse this trend and allow A.I.D., other donors, and African governments to place increased importance on the sector. Ultimately, it is hoped that these strategy recommendations will assist A.I.D. in achieving the overall development objectives of the Bureau in improving the quality of life of the people of Africa.

ANNEX 1

SCOPE OF WORK

The main objectives of this activity, as stated in the Scope of Work, are as follows:

- Obtain and codify information on existing and planned water supply and sanitation coverage for each country.
- Obtain information on past and current levels of host country and donor investment in water supply and sanitation.
- Determine which countries have water and sanitation policies, strategies, and plans.
- Review the plans of WHO/AFRO and the Africa Development Bank to obtain a list of funded and unfunded water and sanitation projects.
- Develop a set of criteria and propose realistic objectives for water supply and sanitation coverage by the year 2000 and determine whether the objectives can be met by each country given its current policies, technical skills, and proposed levels of funding.
- Consider how actions in the water supply and sanitation stimulate private enterprise at the local level and what contributions improved water supply and sanitation may make to economic growth.
- Use the information gathered to prepare a profile of each country.
- Prepare a draft strategy document based on the profiles and on the deliberations of the consultants who prepared the profiles.

Methodology

The profiles were prepared by a team of eight WASH staff and consultants with broad field experience in all aspects of water and sanitation in sub-Saharan Africa including: project management, community participation, hydrology, operation and maintenance, low-cost sanitation, training and institutional strengthening, and finance.

Travel to the countries was not included in this assignment, although nearly all of the consultants chosen had considerable first-hand experience in one or more of the 20 countries. The profiles were prepared by reviewing available reports and studies on the water supply and sanitation situation in the country. In addition the consultants met periodically over four months while the profiles were being prepared to exchange information and discuss their findings. Preparation time was limited to only three to five days for each country. Requests were sent to all of the A.I.D. missions for assistance in data collection, but replies were, for the most part, quite limited. UNDP, the World Bank, UNICEF, WHO, and other organizations supplied documents; however, these sources still often lacked up-to-date and reliable total coverage and investment figures.

In most cases, the largest problem faced by the team was the dearth of solid information about water supply and sanitation in the countries. The glaring deficiencies of many documents reveal clearly that one of the difficulties faced by the overwhelming majority of the 20 countries is lack of information on which to base their plans for the future. Preparing the profiles meant trying to piece together a picture of each country's water supply and sanitation status from various sources - sources based on different assumptions, aimed at different audiences, and written by people from various disciplines. Many documents were out of date. Some key documents, such as sector plans, were not available. Apparently, a few countries have yet to develop a sector plan.

Trying to arrive at even moderately reliable coverage statistics and investment levels was an especially daunting task. Coverage figures varied considerably from country to country. Some published data on water and sanitation coverage were doubtlessly inflated above actual operating conditions. In some cases the coverage figures reflected the number of new installations but did not take into account those that had become inoperable. Other figures suggested that entire populations of villages or urban zones were covered when in fact only a part of the population had reasonable access to the installation.

In the case of Water Decade objectives some countries were clearly overly optimistic in setting their goals. Goals which state, for example, 100% coverage for rural water supply are most unlikely to be achieved. Other countries put much more effort in their Decade plans and produced rather detailed and reasonable approaches to their development needs.

Some sources provided conflicting information. Population data in particular was difficult to judge. When such conflicts were encountered a judgment was inevitably made as to the most plausible source.

The U.N. International Water Supply and Sanitation Decade has succeeded in focusing attention on the sector, but, at the same time, its emphasis on measuring success in terms of numbers of people served has resulted in a lack of emphasis on other indicators (and perhaps also on programs that might provide more effective service while not showing much higher coverage figures). Also, it is likely that many countries overcount the number served to meet the implied expectations of the Decade. This is simply to say that the coverage statistics cannot be taken at face value.

ANNEX 2

STATISTICAL ANNEX

TABLE A-1

INFANT AND CHILD MORTALITY RATES*

COUNTRY	INFANT MORTALITY RATE (per 1,000 live births)	CHILD MORTALITY RATE (per 1,000 live births)
Mali	171	297
Guinea	154	255
Malawi	151	270
Niger	140	233
Burkina Faso	134	241
Senegal	134	227
Liberia	124	211
Rwanda	124	210
Swaziland	120	178
Burundi	117	196
Benin	112	189
Ivory Coast	107	153
Nigeria	107	178
Tanzania	107	179
Sudan	103	182
Uganda	103	174
Zaire	100	166
Cameroon	96	158
Togo	95	157
Kenya	74	118

Sources: WHO. IDWSSD Review of Mid-Decade Progress, 1985.
UNICEF. Statistics on Women and Children in UNICEF Assisted Countries.

* Countries are ranked in descending order based on infant mortality rates.

FIGURE A-1
Proportion of Population Served in 8 Countries in East and Southern Africa
1988

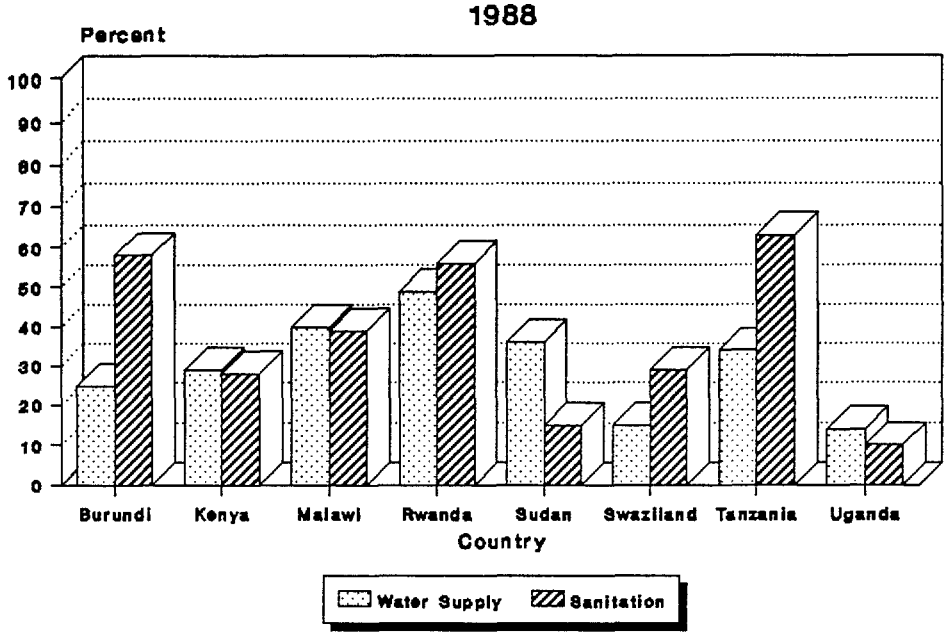


FIGURE A-2
Proportion of Population Served in 12 Countries in West and Central Africa
1988

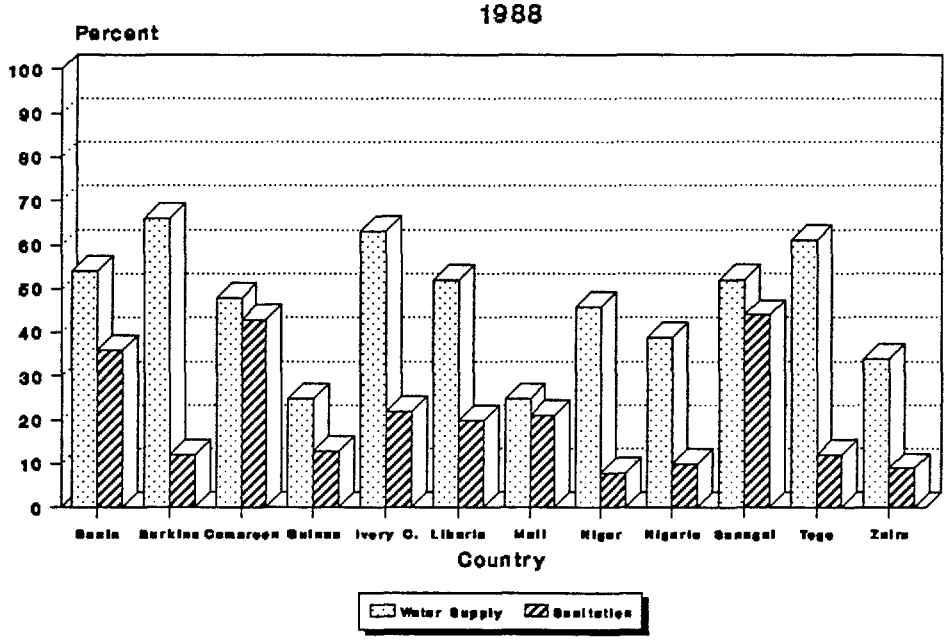
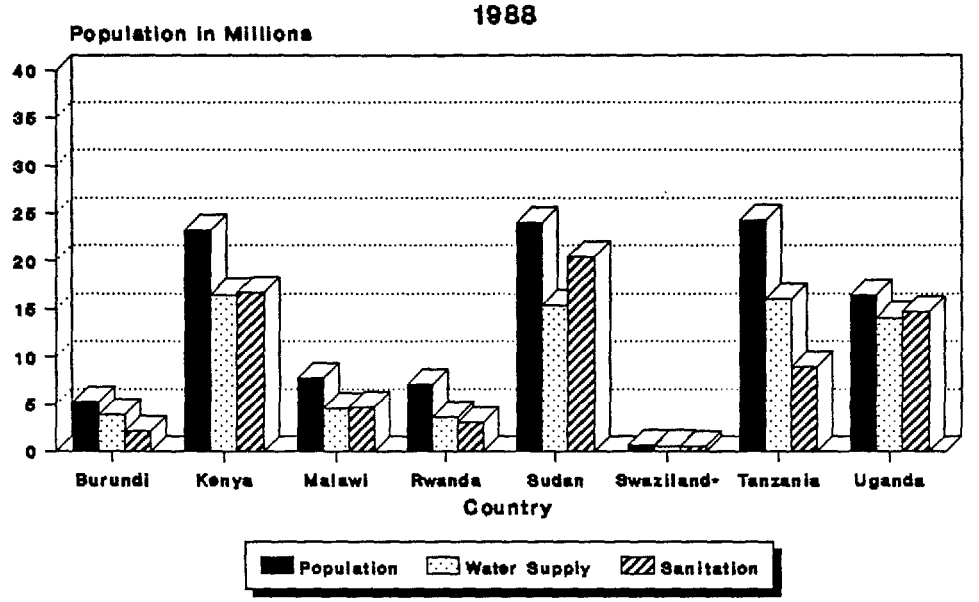


FIGURE A-3

Total Population vs. Unserved Population in 8 Countries in East & Southern Africa

1988

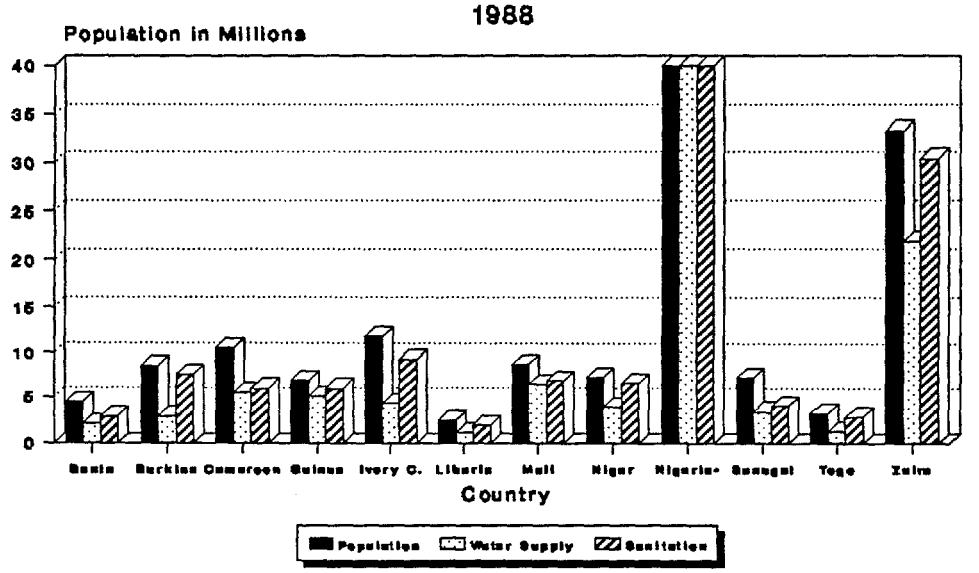


* Total population for Swaziland less than 1 million

FIGURE A-4

Total Population vs. Unserved Population in 12 Countries in West & Central Africa

1988



* Nigeria total population 112 M, unserved water supply 68.1M, unserved sanitation 100.7 M

TABLE A-2

DEMOGRAPHIC, ECONOMIC, AND WATER SUPPLY AND SANITATION DATA
(1988)

COUNTRY	1988 Population (millions)	1988 Urban Population (% of total)	Urban Growth Rate %	GNP per capita (US $)	Infant Mortality Rate* (per 1,000)	Population Lacking (millions)	
						Water	Sanitation
Benin	4.50	38.0	4.4	320.0	112.0	2.1	2.9
Burkina Faso	8.50	16.0	5.3	150.0	143.0	2.9	7.5
Burundi	5.20	6.0	2.7	230.0	117.0	3.9	2.2
Cameroon	10.50	42.0	7.0	910.0	96.0	5.5	6.0
Guinea	6.90	22.0	4.3	320.0	154.0	5.2	6.0
Ivory Coast	11.90	48.0	6.9	730.0	107.0	4.4	9.3
Kenya	23.30	20.0	6.3	300.0	74.0	16.5	16.7
Liberia	2.50	38.0	4.3	460.0	124.0	1.2	2.0
Malawi	7.70	12.0	7.0	170.0	151.0	4.6	4.7
Mali	8.70	20.0	4.5	180.0	171.0	6.5	6.9
Niger	7.20	17.0	7.0	260.0	140.0	3.9	6.6
Nigeria	112.00	32.0	5.2	640.0	107.0	68.1	100.7
Rwanda	7.10	6.0	6.7	280.0	124.0	3.6	3.1
Senegal	7.30	37.0	4.0	420.0	134.0	3.5	4.1
Sudan	24.00	28.0	4.8	320.0	103.0	15.4	20.4
Swaziland	0.67	16.0	5.0	810.0	120.0	0.6	0.5
Tanzania	24.30	16.0	8.3	290.0	107.0	16.0	8.9
Togo	3.30	33.0	6.4	300.0	95.0	1.3	2.9
Uganda	16.40	7.0	3.0	230.0	103.0	14.1	14.7
Zaire	33.30	38.0	8.4	170.0	100.0	21.9	30.4
TOTAL (Average)	325.27	(24.6)	(5.6)	(374.5)	(119.1)	201.2	256.5
TOTAL (excl. Nigeria)	213.20	-	-	-	-	133.1	155.8

SOURCES:
(1) Statistics on Children in UNICEF Assisted Countries, UNICEF 1988
(2) UNDP/World Bank Decade Program
(3) IDWSSD Mid-Decade Review
(4) U.S. Bureau of Census, World Population Profile, 1987
(5) World Bank, World Development Report, 1988.

* Per thousand live births

TABLE A-3

WATER AND SANITATION COVERAGE
(in percents)

	1988 Targets				Year 2000 Targets			
	WATER		SANITATION		WATER		SANITATION	
COUNTRY	URBAN	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN	RURAL
BENIN	80	34	60	20	100	80	80	50
BURKINA FASO	42	70	45	5	100	70	46	85
BURUNDI	98	21	84	56	96	90	100	70
CAMEROON	43	50	100	2	69	100	100	100
GUINEA	41	20	54	1	77	22	55	10
IVORY COAST	75	51	35	10	100	100	35	10
KENYA	61	21	40	25	100	75	90	50
LIBERIA	87	18	10	5	100	90	100	17
MALAWI	77	36	70	36	94	74	70	74
MALI	46	20	90	3	48	36	94	30
NIGER	36	49	36	3	36	100	36	3
NIGERIA	60	30	10	10	90	90	30	30
RWANDA	79	48	77	55	90	70	85	75
SENEGAL	79	38	87	20	93	67	94	20
SUDAN	50	30	15	15	100	80	65	50
SWAZILAND	100	7	100	25	100	9	100	66
TANZANIA	81	42	93	58	81	42	93	58
TOGO	79	49	20	10	100	99	90	80
UGANDA	45	12	20	10	80	40	85	50
ZAIRE	65	15	6	10	70	35	40	35

TABLE A-4

UNSERVED POPULATIONS
DIFFERENCE BETWEEN 1988 LEVELS OF COVERAGE
AND YEAR 2000 TARGETS
(in millions)

	WATER SUPPLY			SANITATION		
	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL
BENIN	3.8	1.5	2.3	2.8	1.3	1.5
BURKINA FASO	2.6	2.0	0.6	8.8	1.4	7.4
BURUNDI	5.3	0.1	5.2	2.2	0.1	2.1
CAMEROON	6.4	4.9	1.5	10.0	5.5	4.5
GUINEA	1.7	1.3	0.4	1.2	0.6	0.6
IVORY COAST	9.5	5.8	3.7	1.6	1.5	0.1
KENYA	24.4	6.9	17.5	16.5	6.9	9.6
LIBERIA	2.3	0.8	1.5	1.8	1.5	0.3
MALAWI	5.8	1.2	4.6	5.4	0.8	4.6
MALI	2.5	0.6	1.9	3.8	1.2	2.6
NIGER	5.6	0.6	5.0	0.6	0.6	0.0
NIGERIA	101.0	36.0	65.0	37.1	15.4	21.7
RWANDA	4.4	0.5	3.9	4.4	0.5	3.9
SENEGAL	4.4	1.9	2.5	2.1	1.7	0.4
SUDAN	20.4	8.0	12.4	14.8	6.4	8.4
SWAZILAND	0.1	0.1	0.0*	0.5	0.1	0.4
TANZANIA	11.1	5.1	6.0	9.4	5.9	3.5
TOGO	2.9	1.4	1.5	3.8	1.9	1.9
UGANDA	8.3	0.9	7.4	11.3	1.3	10.0
ZAIRE	17.1	15.1	2.0	15.6	12.6	3.0
TOTAL	239.6	94.7	144.9	153.7	67.2	86.5

* Less than 100,000 population

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TABLE A-5

TOTAL COSTS
TO MEET YEAR 2000 TARGETS
(in millions US $ - 1988)

	URBAN AREAS		RURAL AREAS		
	WATER	SANITATION	WATER	SANITATION	TOTAL
BENIN	90	159	55	56	360
BURKINA FASO	120	73	34	274	501
BURUNDI	6	10	104	210	330
CAMEROON	741	671	120	167	1,699
GUINEA	78	73	15	22	188
IVORY COAST	348	183	155	4	690
KENYA	1,035	1,139	438	480	3,092
LIBERIA	70	160	35	11	276
MALAWI	72	98	175	170	515
MALI	36	144	95	21	296
NIGER	36	73	190	0	299
NIGERIA	1,008	1,879	1,170	152	4,209
RWANDA	28	193	88	82	391
SENEGAL	114	207	95	15	431
SUDAN	480	781	471	311	2,043
SWAZILAND	6	11	1	15	33
TANZANIA	306	720	360	123	1,509
TOGO	84	232	36	70	422
UGANDA	54	159	296	250	759
ZAIRE	574	1,537	16	9	2,136
TOTAL	5,286	8,502	3,949	2,442	20,179

TABLE A-6

PER CAPITA RANKINGS OF ANNUALIZED COSTS TO MEET YEAR 2000 TARGETS

	1988 TOTAL POP. (millions)	TOTAL COST TO MEET 2000 TARGETS (US $ millions)	ANNUAL COST 1989 - 2000 (US $ millions)	PER CAPITA COST 1988 Population (US $)
CAMEROON	10.5	1,699	141.6	13.49
KENYA	23.3	3,092	257.6	11.05
TOGO	3.3	422	35.2	10.66
LIBERIA	2.5	276	23.0	9.20
SUDAN	24.0	2,043	170.3	7.10
BENIN	4.5	360	30.0	6.66
MALAWI	7.7	515	42.9	5.57
ZAIRE	33.3	2,136	178.0	5.35
BURUNDI	5.2	330	27.5	5.29
TANZANIA	24.3	1,509	125.8	5.18
BURKINA FASO	8.5	501	41.8	4.92
SENEGAL	7.3	431	35.9	4.92
IVORY COAST	11.9	690	57.5	4.83
RWANDA	7.1	391	32.6	4.59
SWAZILAND	0.7	33	2.8	4.00
UGANDA	16.4	759	63.3	3.86
NIGER	7.2	299	24.9	3.46
NIGERIA	112.0	4,209	350.8	3.13
MALI	8.7	296	24.6	2.82
GUINEA	6.9	188	15.6	2.26
TOTAL	325.3	$20,179	$1,681.7	

NOTE: Per capita costs were based on total costs required by year 2000 for water and sanitation divided by 1988 population and annualized. This ranking is intended to provide a better estimate of the relative needs between countries. The rankings are, however, influenced by the targets set by individual countries and by rates of population growth. Unrealistically high targets and higher than average population growth, particularly to urban areas with expensive facilities, are particularly strong influences.

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ANNEX 3

DETAILS OF COUNTRY PRIORITIZATION

Given that A.I.D. resources are limited, a list of priority countries has been identified for early assistance. The countries have been selected according to the following criteria which are listed in approximate order of importance:

1. A.I.D. has supported successful water and sanitation projects.

2. The country has exhibited a readiness to accept help in strengthening its water and sanitation institutions.

3. The country offers the opportunity for A.I.D. to integrate water and sanitation assistance with a child survival project.

4. A niche is available for A.I.D. to provide advisory assistance/institutional strengthening.

5. Other donors have supported successful water and sanitation projects in the country.

6. The country has shown an interest in privatization efforts.

7. Investments in water and sanitation projects will yield greater benefits in the country than in other countries.

8. Appropriate water and sanitation policies exist, or the country is ready to adopt them.

9. There is sufficient information on water and sanitation upon which to base decisions.

10. The country is an A.I.D. Africa Bureau category 1, 2, or 3 country.

11. The government is interested in a long-term water supply and sanitation assistance program.

12. The country has great unmet needs. (See Table A-6 in Annex 2, which ranks the countries according to the per capita cost to meet year 2000 coverage targets.)

13. The country is politically and economically stable.

First Priority Countries

MALAWI

- A.I.D., nongovernmental organizations, and other donors have supported successful water and sanitation projects.
- A.I.D. has positioned itself to provide effective advisory/institutional strengthening services.
- The government has demonstrated a willingness to change its policy on cost recovery for water services.
- A new A.I.D. project integrates water and sanitation and health/child survival.
- It is a relatively stable country with an A.I.D. category 1 rating.

ZAIRE

- Over the past 5 years, A.I.D. has supported a large successful water and sanitation component of a primary health care project. In addition, A.I.D. has assisted the government in developing sector policies, strategies, and action plans.
- This country is earmarked for child survival emphasis; it has a CCCD program; and it is ranked category 1.
- A.I.D. has found a niche in the sector through advisory assistance, institutional strengthening, and its integrated child survival program.
- The needs in the sector are enormous, but the information basis for making sound decisions is weak.

SENEGAL

- The water supply and sanitation sector is well organized institutionally.
- Sector policies are sound.
- It is a child survival emphasis country with an A.I.D. category 1 rating.
- It is stable politically with a strong private sector.

TOGO

- A.I.D. has funded a successful water supply and sanitation project and has an ongoing child survival project.
- Other donors are active in the sector.
- Its water and sanitation institutions are excellent, and its policies are generally sound.
- It ranks high in per capita needs.
- There are opportunities for A.I.D. to integrate water and sanitation with child survival activities and the government is interested.
- Togo is stable politically.

BURKINA FASO

- A.I.D. has funded a successful water supply and sanitation project.
- Other donors are active in the sector.
- The country has good institutions and generally sound policies.
- Emphasis on sanitation is needed.
- The political stability of the country is questionable.

Second Priority Countries

KENYA

- There is a great deal of information about the sector; and Kenya is a category 1 country.
- It ranks second in per capita needs.
- There are opportunities for A.I.D. through nongovernmental organizations to integrate water supply and sanitation assistance with child survival projects.
- There are numerous bilateral donors and a multitude of nongovernmental organizations active in the sector, leaving no obvious niche for A.I.D. to fill.
- The government policies toward appropriate technologies and cost recovery have not contributed to long-term sustainable projects.

UGANDA

- There are unmet needs, largely due to 20 years of destructive regimes and civil war which have destroyed a great deal of the sector infrastructure.
- There are some real opportunities in the sector for A.I.D. to expand, beyond its present support of UNICEF and CARE, and integrate water supply and sanitation assistance through its recently funded program to control diarrheal diseases.
- There appears to be an opportunity in collaboration with UNICEF and DANIDA for A.I.D. to provide advisory assistance and institutional strengthening services.
- Although the political situation in Uganda is still somewhat fluid, it is a category 1 country and the government has been adopting realistic water supply and sanitation policies.

NIGERIA

- The sector needs in Nigeria far surpass any other country in Africa, but the information available on which to base decisions is poor, partially due to the decentralized nature of the 21 separate states in the country.
- A.I.D. has not been active in the sector, but other donors (namely UNICEF) have implemented successful projects.
- It is a child survival emphasis country, with a CCCD program and the largest Guinea worm problem in Africa (with over 2.5 million people at risk). At the same time, however, it is a category 3 country.
- It could provide an opportunity to integrate water and sanitation assistance into a child survival project.

BENIN

- A.I.D. has a successful, ongoing water supply and sanitation project.
- The country's unmet needs are substantial.
- Guinea worm research is sound and significant gains can be expected.
- It shows willingness to accept institutional change.
- Water supply and sanitation policies and private sector are evolving positively.
- The country is economically weak.

BURUNDI

- Other donors have been successful in the water supply and sanitation sector.
- The country's unmet needs are substantial.
- The government is generally receptive to institutional change.
- Political stability is questionable.

CAMEROON

- It ranks first in per capita needs.
- Its institutions are good and its policies generally sound.
- The government is stable and the private sector is strong.
- More information is needed on the water supply and sanitation sector.
- A.I.D. has limited experience in its water supply and sanitation sector.
- It is a category 1 country.

GUINEA

- Its unmet needs are substantial.
- Its institutions and policies are generally untested.
- Opportunities exist for A.I.D. cooperation with other donors (UNICEF, etc.).
- Increased emphasis is being placed on the private sector.
- It is a category 1 country.

NIGER

- A.I.D. has had successful development projects, but little experience in the water supply and sanitation sector.
- Recent institutional changes indicate positive movement.
- The country's policies need clarification.
- More information is needed on the water supply and sanitation sector.

RWANDA

- Other donors have had successful water supply and sanitation projects.
- There are substantial environmental issues including water supply and sanitation.
- Policies and institutions need assistance
- There is a niche for A.I.D. interventions.

SWAZILAND

- A.I.D. has established a clear niche in the sector through its support of successful rural water and institutional strengthening projects over the past 7 years.
- It is a relatively stable country that is developing a reasonable information data base on the sector.
- It has a small population when compared to other African countries and is rated as a category 2 country by A.I.D.

MALI

- Donors, other than A.I.D., have been very active and have implemented a number of successful projects in the sector.
- The government has adopted appropriate water supply and sanitation policies that will contribute to long-term sustainability.
- Since Mali is a child survival emphasis country, the most appropriate niche for A.I.D. is the integration of water supply and sanitation with existing bilateral and nongovernmental organization child survival projects.

Third Priority Countries

LIBERIA

- It ranks fourth in per capita needs.
- Little evidence exists from A.I.D. or any other donor that successful water supply and sanitation projects have been implemented in recent years.
- Clearly, there could be a niche for A.I.D. in the sector since it has such a dominant presence in the country. However, Liberia is a category 3 country and is not a child survival emphasis country.
- The country offers some opportunities to integrate water supply and sanitation assistance with the primary health care project, but there is limited information available on activities in the sector.
- A.I.D. is in a position to influence policy changes, but the government has not demonstrated an ability to carry out policy changes.

TANZANIA

- Although great unmet needs exist and the government has recently expressed a willingness to review its cost-recovery policies, numerous other donors are active in the sector with probably no significant niche for A.I.D..
- There have been few successful sustainable water supply and sanitation projects because donors have tended to focus on improving coverage alone and not on strengthening national and local agencies.

IVORY COAST

- Privatization in water sector serves as model.
- There is no realistic niche for A.I.D. since it has not been active in the Ivory Coast for some time.
- The government and other donors meet most of the country needs.
- It is a category 3 country.

SUDAN

- It ranks fifth in per capita needs.
- The politically unstable situation and the civil war has prevented the government from looking at long-term projects. Hence, it is difficult to predict how successful water supply and sanitation interventions will be.
- The government has resisted changing some water supply and sanitation policies.
- The needs are great, but there is little water supply and sanitation information available on which to base decisions.