

Regional Urban Low-cost Sanitation Workshop

23rd - 26th May 1994, Mukono, Uganda

Country Sanitation Notes

and

Information and Background Sheets

From:

Ethiopia	by S. Abebe and M. Tesfay
Kenya	by H.K. Changwony, L.W. Mwangi and I.G. Kariuki
Malawi	by J.D. Kasenje
Mozambique	by P.O. Madero
Tanzania	by K. Ambroce, M. Kinenekejo and S. Lupuga
Uganda	by J.M.R. Kizza
Zimbabwe	by T. Mahachi and S. Musingarubwe

Regional Urban Low-cost Sanitation Workshop

Introduction to the 'Sanitation Notes'

General

The compiled notes are based on drafts prepared by the country delegates to the workshop. Most of the drafts were written by busy people, who had to interrupt their work program in order to write the papers. We are most grateful for the time and effort they have put into doing this.

Purpose

There were four main reasons for requesting the preparation of these notes:

- * To give participants and organizers of the workshop a 'glimpse' at the sanitation situation, existing projects and the institutional arrangements in each of the participating countries. Therefore to assist with ensuring the workshop is directed at the practical situations found in each country.
- * The writing of the notes was also intended to help the participants reflect and summarize the sanitation situation in their country, as preparation for discussing and sharing the information at the workshop.
- * To act as a basis for a 15 minute 'Country Sanitation Situation' presentation at the start of the workshop.
- * To act as a reference and reminder material during work sessions.

Format

The country delegations were not given standard format for the presentation of the sanitation notes. The notes therefore, are all different and reflect the approach taken by the different authors.

The short time between the drafts arriving and the workshop starting has limited the amount of editorial work that has been possible.

ETHIOPIA - SANITATION NOTES

Prepared by: S. Abebe and M. Tesfay

The Majority of the Ethiopian population lacks adequate sanitary facilities and methods used for disposal of human excreta poses a threat to public health. In dense slums and squatter settlements of the country in particular, the lack of basic sanitation exacts a tremendous toll in human lives. In the absence of concerted efforts the number of people lacking proper and adequate sanitary facilities will increase.

Sanitation development in Ethiopia is very limited and has not been a prioritized issue either by the government or the population. The implications of the poor sanitary situation combined with high density settlement and extremely poor housing presents the potential for an outbreak of disease. According to reports from health facilities, it is estimated that only 7% of families have access to sanitary facilities in the country. In towns and urban centers outside Addis Ababa, the most recent data indicate that 48% of families have no sanitary facilities and in rural areas 98% of the families are in a similar situation.

The most important and most difficult part of any sanitation project, however, is to insure that the beneficiaries make use of the new system. The provision of the facility is not the final aim of the project but it is a means to improve the living condition of the people. Living conditions can only improve if the beneficiaries make proper use of the facilities. This requires an extensive mass mobilization to change the attitude and lifestyle of the population. Hence, it becomes a matter of equity and social justice to make health progress available to all people through new approaches, new strategies and better management of available resources. The country is now unanimously committed to health for all a strategy firmly anchored on three basic pillars.

From the Baseline Data Survey conducted in Woreda 24 Addis Ababa Region - 14 November-December 1993 we can conclude the following:- Although it had been shown the physical accessibility of health service is relatively fair comparing to other parts in the country:

- care of women during pregnancy, child birth and care of under five years is limited/sporadic;
- shows high prevalence and incidence of infections, parasitic disease, malnutrition, high infant mortality rate, high fertility and low life expecting at birth;
- very low practices of environmental health facilities;
- lack of integrated and conducted approach;
- shows low follow-up and supervision are to be mentioned but a few.

Every programme for development needs to be executed by the people themselves to become successful. The inclusion of all the essential projects is only one step on the road towards development. The programme has to be carried out by the community and it is communal effort rather than a particular project which results in success and progress. This means that progress takes place in the mind before it materialises.

Now it is time for an intervention of community based health service activities planned by the community and performed along with the community with close follow-up and supervision work.

1. Appropriate technology
2. Intersectoral collaboration
3. Community and individual participation in quest for better health, health for all.

Information from various reports, surveys and studies indicate that on the whole sanitation coverage is very low. The figure below refers coverage of sanitation facilities in the community.

Service Category	Population Served	
	Number	%
Rural Sanitation	0.5 million	1.0
Urban Sanitation	3.4 million	6.0
Overall Total	3.9 million	8.0

Addis Ababa

With a population of more than 3,000,000 Addis Ababa is divided into six Zones, 28 Districts 303 Kebeles (Urban Dwellers Association) according to the study by sanitation master plan project of Addis Ababa (Water Supply and Sewerage Authority 1992) about 90% live in unplanned housing with low standard of construction. Most housing units in these areas are inaccessible for vehicles and lack basic sanitary facilities.

Another study by SOS Ethiopia shows that:

- 70% of the population have access to latrine facilities, 56% use dry pit latrines.
- Only 12% uses water flush latrine.
- More than 70% of the houses in Addis Ababa have three or less rooms (including kitchens) per household.
- Only 3% of households have sanitary disposal of solid waste (out of 260,000 total houses).
- Out of the total 165,000 - 220,000 tones of solid waste generated the Regional Health Bureau is only able to dispose 55-60% properly because of many constraints.

In strengthening the health service in Addis Ababa a new approach, or strategy was designed. An identified Woreda was chosen (i.e. Woreda 24 Zone 2) as a model for Woreda Integrated Basic Services (WIBS), which will be backed by UNICEF during a five year project span.

A. WOREDA 24 ADDIS ABABA REGION - 14 ADMINISTRATION

Baseline Survey was conducted (November-December 1993) to provide data for planning, monitoring and evaluating basic services and other special programmes at woreda level.

1. The specific survey objectives were:
 - a. To access prevailing socio-economic conditions and practices in the woreda with special reference to situation of children and women.
 - b. To provide data that would enable formulate specific programmes which should be initiated and further enhance improvement of socio-economic conditions.
 - c. To provide data needed for the development of demographic and socio-economic indicators that can serve as a yardstick against which impacts of intervention programmes are monitored and evaluated.

2. Survey Instruments

The basic survey instruments were used in the conduct of the Base Line Survey. These include:

- a. Form 1/A - Urban kebele information (for collecting general information on conditions at kebele level from Kebele officials).

- b. From 3/A - Household and housing characteristics (for collecting information on basic socio-economic and demographic characteristics of households as well as on housing condition from households).
 - c. Form 4 - Feeding and health practices (for collecting information on the socio-economic conditions, knowledge, feeding and health practices of women with children under two years of age from women with live births in the last two years.
3. A two stage sample design was adopted for the purpose:- selection of kebelles (Urban Dwellers Association) at the first stage and households at second stage.

Seven Kebeles were selected from a list that covered all Kebeles in the Woreda on a random basis using reported number of households of the Kebeles as weighting factor. The list and the household data were obtained from Woreda Administration at the time when the survey was about to be launched. A total of 10 Kebeles was reported within each of the selected Kebeles, a complete list of households was generated by going house to house. This was followed by a systematic selection of 100 households from each sample Kebeles at random for the detailed enquiry. Forms 3/A and 4 were then filled out for each of the sample households.

B. GENERAL INFORMATION ON WOREDA 24 ADDIS ABABA

1. Population

Woreda 24 is in Zone-2 of Region-14 (Addis Ababa). It has ten Kebeles. The population of Woreda 24 is estimated to be 86,334 of which 45,423 or 52.6 percent are females.

The number of Kebeles which have and do not have the various type of Urban Associations or committees are shown below.

Types	Number of Kebeles	
	<u>Have</u>	<u>Have Not</u>
Women Association	-	10
Youth Group	1	9
Development Committees	6	4
Health Committees	6	4

2. Health Service

The Woreda has two Hospitals and two Health Clinics out of which one Clinic is not governmental.

The main health problems of the Woreda are reported to be

- Inadequate health care service
- Inadequate latrine facilities
- Lack of garbage bins and dumping ground
- Inadequate sewerage system and
- Shortage of drugs

3. Development Priorities

The development requirements of Woreda 24 according to priority are reported to be:

- Public toilet facility
- Health care service
- Day care service
- Water supply
- Garbage bins/trunks and market place.

Information and Background Sheet

ETHIOPIA

A Basic Data

Population:	52.8 million	Pop. Growth Rate:	2.7%
Size:	1,222,000sqkm	GNP per capita:	US\$ 120
Infant Mortality Rate:	130/1000		
Capital:	Addis Ababa	Pop. of Capital:	2.5 million
Other Large Towns:	Nazaret, Gondar, Harar, Jima, Dessie		
% Urban:	13%	Urban Growth Rate:	5.3%/annum

(Source: WDR, World Bank, 1993)

B1 The Water and Sanitation Sector

% of population with Water Supply

Urban 70%, Rural 11%

% of population with access to Sanitation (incl. water systems & all pits)

Urban 97% Rural 7% (World Bank estimates)

Government Institutions involved in the sector: Water Resources Commission (WRC), Water Supply & Serwerage Authority (WSSA), Ethiopian Water Works Construction Authority (EWWCA), Water Resources Development Authority (WRDA) Ministry of Health (MoH), Ministry of Urban Development and Housing (MUDH), Relief & Development Commission (RRC), Ministry of Agriculture (MOA) Addis ababa water and Sewerage Authority (AAWSA)

(Source: UNDP World Bank Water & Sanitation Program, Country Work Plans 1993)

B2 Recent Sector Developments

- A water & sanitation sector framework paper was drafted in 1992
- Sanitation Sector Action Plan updated in 1991
- The sanitation responsibilities were decentralized to the regions in 1993

C Other Information

Currency exchange: approx 6 Birr :US\$1 (March 1994)

Cost of Cement: Birr per bag (US\$, March 1994)

VIP Birr (US\$) Cement blocks for substructure & superstructure

Cement latrine slab: Birr (US\$)

KENYA - SANITATION NOTES

Prepared by: H.K. Changwony, L.W. Mwangi, J.G. Kariuki

Introduction

The main urban centers in order of their size in Kenya are Nairobi, Mombasa, Kisumu, Nakuru, Eldoret, Kitale and Thika. In total there are 39 urban centers.

The urban population in Kenya has increased from 2.3 million in 1979 to 3.8 million in 1989 (Central Bureau of Statistics, 1994). Nairobi City continues to have the largest share of the urban population which stands at 36 per cent of the total urban population. The annual growth rate being 4.86 % according to 1989 population census.

* Urban Development & Sanitation

The rapid population growth in the urban area has mainly been accelerated by people going to urban centers in search of job opportunities and the belief that urban centers have all the facilities necessary for a good standard of living. The consequence of this is the creation of "rural push and urban pull" phenomena resulting in unexpected increase in population growth that require safe water supplies and adequate sanitation. In Kenya, 47 % of the urban population live in slums (Republic of Kenya and UNICEF, 1992).

Lack of safe water supplies and adequate sanitation has contributed to pollution of the environment, as a result of the indiscriminate disposal of human excreta and waste water particularly in the informal settlements. Improper disposal of excreta and waste water coupled with lack of adequate water supply facilitate the transmission of waterborne, none-faecal water washed, water related and excreta related diseases. It is estimated that at least up to 20% of disease incidence in Nairobi City could be averted if adequate sanitation and water supply was easily available to all the residents (Schwarz, 1992).

In view of the foregoing, the government has put a lot of emphasis on water and sanitation in urban areas.

The Sanitation Situation

* Water and Sanitation Coverage

In planned areas in Nairobi, 100 % of the residents have access to safe and fairly constant water supplies. In the other areas, which includes the informal settlements, only 56 % benefit from an adequate and constant water supply. (Republic of Kenya and UNICEF, 1992). The coverage for Mombasa and Kisumu are 63 % for planned areas and 37 % for unplanned ones. Kisumu is worse off with 38 % coverage for planned areas.

Access to adequate sanitation in Nairobi and Kisumu for example, is available to 44 % of the population. The remaining 56 % of the population are not covered (Republic of Kenya and UNICEF, 1992). Similarly in Mombasa 36 % of the slum population have no access to adequate sanitation. Other urban centers have similar problems. In most cases the under-served areas are the residents of the informal settlements.

The coverage figures above show that the unplanned areas which include informal settlements are undeserved and even if funds were available, waterborne sanitation would be out of the question

because of inadequate water coverage. So alternatively technology options must be applied.

* **Technology**

In urban areas of Kenya the most common type of technologies for excreta disposal in urban areas are public sewers, septic tanks, cesspools, ventilated improved pit latrines, and simple pit latrine (Republic of Kenya & UNICEF, 1992).

Public sewers, septic tanks, cesspools are mainly found in planned areas where water supply is constantly available. While ventilated improved pit latrines and simple pit latrines are usually in informal settlements where water supply is not guaranteed. In some urban areas conservancy tank technology is still being used.

The choice of technology depends on soil conditions, affordability, acceptability by the users, availability of water supply and so on.

* **Policy of Water and Sanitation**

The Kenya Government's policy on water and sanitation is to provide, facilitate the provision, promote and assist communities to achieve satisfactory levels of service in respect of water and sanitation (Ministry of Health, 1987).

In order to speed up the process of providing water and sanitation services the government has placed the responsibility of planning, implementation, and evaluation on the district development committees where local authorities are members.

* **Policy Objectives**

- To provide waterborne sanitation in urban areas where piped water is available.
- To provide waterborne sanitation to all settlements with a population exceeding 2,000 people where adequate piped water exists.
- Provision of other means of human excreta disposal acceptable to the relevant authorities and communities.
- Provision of appropriate excreta disposal system appropriate to informal settlements.
- To convert the existing conservancy systems to waterborne sanitation where water is constantly available.
- Approved excreta disposal to be provided in all public places.
- Utilize cost effective appropriate technology that is affordable.

* **Sanitation Improvement Strategies**

The following strategies are applied in order to achieve the desired sanitation goals:-

a) **Intersectoral Collaboration**

Agencies involved in sanitation activities collaborate in order to achieve better coverage. The main implementing agencies are:

1. Ministry of Health
2. Ministry of Local Government
3. Ministry of Land Reclamation, Regional, and Water Development
4. Non-Governmental organizations

The government ministries are given a mandate to provide and facilitate the provision of adequate sanitation in the urban areas by various laws. -

Collaboration between various agencies involved in development process is important for enhanced sanitation coverage.

Some of the recent sanitation sector developments include the formulation of National Environment Action Plan, which is in progress. Also the involvement of UNICEF, WHO, UNDP, the private sector and non-governmental organization in the promotion and implementation of sanitation programs in some of the urban areas in Kenya.

b) Community Involvement

The government has decentralized planning, implementation and evaluation of development programs. This enables the communities to participate and ensures the mobilization of resources available within the communities. In addition to this local authorities are run by councils consisting of elected and nominated councilors. The elected councilors represent local communities.

The felt needs of the communities can easily be identified and acted upon jointly with all those concerned. The approach gives the communities a feeling of ownership of the facilities which will make maintenance work easy.

c) Affordability

In order to enhance sanitation coverage, the implementing agencies encourage utilization of local materials and labour. This would considerably reduce the cost. Since some sanitation technologies like waterborne sanitation are expensive, other cheaper, appropriate options must be used. In the urban areas for example, a VIP latrine costs KSh 8,000 to 24,000 depending on the town.

d) Health Education Promotion

The local authorities, the non-governmental organizations, and others involved in sanitation conduct education promotion on the need and proper usage of sanitation facilities. Blockages of drains, sewers, misuse of latrines etc are common and education can solve this problem.

e) Finance

The local (urban) authorities, when they are financially able normally provide the necessary infrastructure to increase sanitation coverage. The funding is usually from the following sources:

- * Local authorities themselves
- * Central Government
- * Donor Agencies e.g. World Bank, Opec etc.

Individuals and organizations that provide their own sanitation facilities meet the costs from their own sources of funds.

In order to ensure provision of sanitation in housing developments, the developers are required to provide sanitation facilities appropriate to the area in question.

Recurrent costs on services rendered by the local authorities are normally covered through:-

- a) Sale of Water
- b) Sewerage Charges
- c) Pit emptying (exhauster) service charges
- d) Other available sources (e.g. Government)

Although the users of sanitation services should pay for the services rendered to facilitate effective maintenance often many default.

f) Up-grading of Informal Settlements

There is commitment by the government, local authorities, NGOs and other agencies for the provision of sanitation but because of rapid population growth, adequate facilities cannot be provided due to lack of resources.

However, the government is trying to reverse the rural-urban migration to the main towns by improving the infrastructure and creation of job opportunities in the small market centers, rural area and small urban centers.

* Constraints

The following constraints have been identified:-

- Sometimes there is duplication of effort in the program areas especially in informal settlements
- In certain cases some agencies do not make consultation with other development partners.
- Communities sometimes do not feel part and parcel of the programs and this affects maintenance and sustainability.
- Inability by some consumers to pay for services because they are poor.
- Low income groups who benefit from low cost site and service schemes sell the property to high income groups and then move to slum areas.
- Political conflicts.
- Maintenance of sewers, public latrines because of misuse. Sewers are blocked deliberately or latrines not properly used.
- Unconcerned attitude of members of the public towards sanitation facilities.
- Informal settlements with the rapid population and access because buildings are overcrowded with limited space.
- Land Tenure
- Inadequate or lack of pit emptying (exhauster) service and maintenance. Pit emptying equipment is expensive to purchase and operate.
- Poor soil conditions and high water table that makes it difficult to use some of the sanitation technology options.
- Unmet housing needs encourage informal settlements.

- **Constructions of unplanned houses which overstretch the existing sewerage systems.**
- **Shortage of technical manpower.**
- **Inadequate transport and other necessary equipment.**
- **Inadequate transport and other necessary equipment.**

These constraints can be reduced by:-

- **Continuous strengthening of the intersectoral collaboration**
- **Enhancing community involvement**
- **Educating the members of the public on matters concerning water and sanitation effective utilization.**
- **Consumers paying for services rendered.**
- **Encouraging communities to start income generating activities so that they may be able to pay for the services.**
- **Local authorities should secure funding from its sources and authorities provide adequate exhauster service.**
- **Private individuals are encouraged to provide this service in some urban areas.**
- **Appropriate technology options are applied based on the needs of a particular area and soil characteristics.**
- **Continuous efforts by the government and other development agencies to reduce rapid population growth in the urban areas.**
- **Individuals and private sector are encouraged to provide housing units to reduce current shortfall.**
- **The local authorities should ensure that construction of additional houses have appropriate sanitary facilities.**

Conclusion

Urban sanitation and provision of safe water supply problems need to be constantly addressed and appropriate solutions applied in order to make the urban areas healthy places to live in. This cannot succeed without full participation by the communities and all the sectors involved in development.

Information and Background Sheet

KENYA

A Basic Data

Population:	25.0 million	Pop. Growth Rate:	3.5%
Size:	580,000sqkm	GNP per capita:	US\$ 340
Infant Mortality Rate:	67/1000		
Capital:	Nairobi	Pop. of Capital:	3.8m(1989)
Other Large Towns:	Mombassa (465,000), Kisumu (185,000), Nakuru, Eldoret, Kitale		
% Urban:	24%	Urban Growth Rate:	7.8%/a

(Source: WDR, World Bank, 1993, & C.B.S. 1994)

B1 The Water and Sanitation Sector

% of population with Water Supply

Urban 61%, Rural 21%

% of population with access to Sanitation (incl. water systems & all pits)

Urban 40% Rural 20% (World Bank estimates)

Government Institutions involved in the sector: Ministry of Water Development (MoWD), Water Conservation and Pipeline Corporation (WCPC), Ministry of Health (MoH), Ministry of Arid and Semi Arid Lands (ASAL), Ministry of Culture and Social Services (MoCSS), Ministry of Local Government (MoLG), River Development Authorities.

(Source: UNDP World Bank Water & Sanitation Program, Country Work Plans 1993)

B2 Recent Sector Developments

- a) Formulation of National Environment Action Plan
- b) Involvement of UNICEF, WHO, Private Sector, NGO etc
- c) Establishment of cooperation and development agencies to enhance water supply and sanitation coverage.
- d)

C Other Information

Currency exchange: Kenya Shillings 57: US\$1, May 1994

Cost of Cement: KSh 410 per bag (US\$ 7.3) May 1994

VIP approx KSh 8-24,000 (140-420 US\$) Cement blocks for substructure & superstructure

Cement Latrine slab: Ksh 2000 (US\$ 35)

MALAWI - SANITATION NOTES

Prepared by: Mr J. D. Kasonje

The Delivery System (How sanitation Services are promoted, paid for and constructed).

The Waterborne Sewerage

The public water borne sewerage is only provided for in four towns (Lilongwe, Blantyre, Zomba and Liwonde).

- The systems typically cater for 15-30% of the urban population in these towns
- The sewerage is treated in sewerage treatment plants of different technical complexity.
- The schemes are managed, operated and maintained by Local Authorities

Septic Tank Systems

- Exist in all locations where water is supplied through individual connections
- Provision of septic tank is private responsibility of the house owners
- Emptying facilities principle are considered the responsibility of Local Authorities.
- The council of the three largest cities provide emptying services.
- Most emptying in these cities and elsewhere is done by the private sector (i.e. the Malawi Housing Corporation).

Pit Latrine Systems

- Are the most common type of sanitation
- Various types of latrines exist. The construction of improved pit latrines is operated by Local Authorities - organizing latrine slab production and distribution, and hygiene education campaigning with The Ministry of Health as being responsible agency.
- Construction of the pit latrine is the responsibility of the household owner

Sanitation in the Informal Settlements and Plans

- Land tenure is predominantly customary ownership.
- Houses are predominantly traditional type.
- Necessary sanitary facilities are lacking.
- About 89% of the household share pit latrines with another household 7% as they have no latrine.
- Some of the settlements have already been put within the municipalities jurisdiction and council services like pipe water supply and mother and child health services extended.
- Town Planning and Housing departments have been created in the councils and plans are underway to upgrade them to traditional housing areas.

(Source: Centre for Social Research - Survey Reports - University of Malawi 1993)

New Housing Developments

- The new housing development plans are underway
- In some urban places like the Lilongwe City Council. A Socio Economic Survey was carried out in order to have an understanding of the socio economic conditions of the beneficiaries.
- Areas of study were as follows: Overall picture, household size, income distribution, House ownership, rentals, sanitation, water supply, transport, migration characteristics, service and facilities - essential services and family entertainment.

- The goals were to assess the feasibility, effectiveness and affordability of the planning and implementation of the traditional housing areas.

Partnership (Local Institutional Arrangements)

The Local Authorities are the main implementing agencies for improved sanitation in Malawi

Reasons for Choosing the Local Authorities

They had already available technical staff trained in environmental sanitation (for example Health Inspectors, Health Assistants, Nurses and Builders)

The Local Authority took over the responsibility of running the Traditional Housing Areas from the Malawi Housing Corporation which dealt in matters of land tenure lease agreement. It was, therefore felt that administratively the Local Authority were the right agencies.

There was already a structural organization in position which suited the proposed strategy. The strategy required the service of the Engineering, Health, Treasury, Housing and Town Clerks Department.

- * The Project has been run on cost recovery basis.
- * San centers were established in the traditional Housing Areas to cast and distribute the latrine slabs.
- * City Council markets as well as the production centers act as sales/distribution points to household owners
- * The Engineering department upon requisition provides transport for handling materials, river sand, quarry stone, cement and reinforcement bars.
- * Six San Centre laborers under a Building Foreman collect the required materials, make the slabs and distribute them. A Health Inspector manages the centers.
- * Push carts were put in the distribution centers to help with the transport of the slabs to the homes.
- * Funds recovered through sales are accounted for by the Treasury Department, kept in a separate Bank Account and is taken as San Centre Revolving Fund.
- * Nurses, Health Inspectors and Health Assistants carry out promotive health education and demonstrations. Posters, leaflets and meetings, counselling have all been used.
- * The San Centre team advises on the building techniques of the latrine.
- * The housing department makes sure that land allocated will be able to cater for sanitary facilities for the present and future developments.
- * The Town Clerk coordinates the activities of all departments i.e. authorizes the Treasury to release funds from the Revolving for San Centre use.

Future Sustainability

The San Centre are looked upon as a section of the Health Departments in the Local Authorities which is fully established and this makes the arrangement look sustainable.

Weakness of the System

- The cost price has to be revised every time that the cost price for production materials has risen. The big rises sometimes discourage the people who have resorted into other alternatives. This affects the cost recovery exercise.
- Slabs get broken in the course of transportation from the central making places to sales centers when they are carried in trucks. A push cart has been provided instead.
- People have to meet a transportation cost on top of the slab cost. This makes the whole cost price look expensive and as a result limits the number of the beneficiaries of the service.
- It has been difficult to organize follow up trips of the slab and advise on the building of the latrine on site. As a result the quality of the latrines required has not been achieved.
- Concentration is put more on the making of the slabs than the actual provision of the latrines. Other departments and sections look at the centers as being commercial and have not played their expected roles. They have actually left the whole work to be done by the San Centre team.
- Staff cooperation has been difficult sometimes. Those who control transport have preferred to allocate transport for other services.

Actors Involved in Urban Sanitation

The Ministry of Local Government
Ministry of Health
Ministry of Community Development and Children Affairs
The Water Board
Malawi Housing Corporation
Ministry of Agriculture
Ministry of Works
Ministry of Information, Industry and Tourism

Peri-Urban Sanitation

Where the settlement is within the City Council boundaries Urban Councils have been responsible and where not it is the Rural Councils.

The Enabling and Hindering Factors

In the past emphasis was put more in water supply services than Environmental sanitation

Few people Health Assistants and Health Inspectors have been trained in the field of sanitation and have been working mainly on management level.

Lack of financial resources by the government resulted in little allocation of funds in the sanitation sector.

Only the Ministry of Health has been promoting sanitation but now several ministries and organizations are being involved.

Latrine building has been looked at as purely an individuals responsibility rather than the community's and so involvement of the community has been very little.

Recommendations

More people should be deployed at grassroot level than at mid-level management.

Cooperation amongst involved agencies and staff should be strengthened.

There should be a strong promotive Health Education campaign

There should be a greater understanding of the project goals by all sectors involved.

Policy Towards Low Cost Sanitation in Urban Areas

* Cost Recovery

The Traditional Housing Areas, improvement slabs are sold at a production cost to a household owner. The owner also provides the other needed materials and build the latrine by himself.

* Cost Sharing

When incomes are very low as in the squatter settlements, cement and reinforcement bars are provided. The household owner provides the rest and does the building.

* Current Key Policy on Sanitation

The improvement of pit latrines are to be in line and directed towards the water services systems and service levels, i.e. where there is a piped water system the pit latrine should be upgraded to waterborne sanitation.

Information and Background Sheet

MALAWI

A Basic Data

Population:	9.0 million	Pop. Growth Rate:	3.2%
Size:	118,000sqkm	GNP per capita:	US\$ 240
Infant Mortality Rate:	134/1000		
Capital:	Lilongwe	Pop. of Capital:	250,000
Other Large Towns:	Blantyre, Zomba		
% Urban:	11%	Urban Growth Rate:	5-15%

(Source: WDR, World Bank, 1993 and Situation Analysts, 1993 and DHS 1992)

B1 The Water and Sanitation Sector

% of population with Water Supply

Urban 66%, Rural 52%

% of population with access to Sanitation (incl. water systems & all pits)

Urban 90% Rural 60%

Sanitation Types

Water borne sewerage	1%
Septic tanks	2%
Pits latrines	64%
No sanitation system	33%

Government Institutions involved with urban sanitation: The Water Board, Ministry of Health (MoH), Ministry of Community Development and Childrens Affairs, Malawi Housing Corporation, Ministry of Local Government, Ministry of Agriculture, Ministry of Information and Tourism, Ministry of Works.

(Source: Sanitation Note author)

C Other Information

Currency exchange:	Malawi Kwacha (MK) 7: US\$1 (May 1994)
Cost of Cement:	MK 37 per bag (US\$ 5, March 1994)
Sanplat latrine:	MK 700 (100 US\$)
Sanplat latrine slab:	MK 75 (large) MK 10 (Small) (10.7 or 1.42 US\$)

UGANDA - SANITATION NOTES

Prepared by: Mr J.M.R. Kiiza

KATWE URBAN PILOT PROJECT

The Katwe Urban Low Cost Water, Sanitation and waste disposal pilot project is funded by United Nations Development Program (UNDP), executed by the World Bank through the Regional Water and Sanitation Group-East Africa (RWSG-EA) and implemented by Kampala City Council (KCC). The project which started in May 1993 was designed to address environmental health problems faced by low income communities living in the peri-urban areas surrounding Kampala.

* Urban Development in Kampala

It is noteworthy that 80% of Kampala's population belong to low income households and of these, 60% reside in slums of the peri-urban areas of the city and generally lack basic facilities. The above situation is further aggravated by the current high urban growth of Kampala at 8%. Kampala City now has a population of 733,000 over an area of 185 km² and in comparison with Katwe project area occupying 0.5 km² and with a population of 12,000 people.

The Kampala Urban Pilot Project (KUPP) has the broad objective of creating sustainable community-based solutions to the existing water, sanitation and waste disposal problem. Katwe is characteristically representative of the Ugandan urban slum areas where neglect of infrastructure and services reflect the past 3 decades of social and political strife; informal developments have largely occurred outside formal development channels.

KUPP designed the Katwe project with a number of interrelated components that together represent a holistic program of environmental sanitation improvements. These include:-

* Drainage Improvement

Tackling rehabilitation of the existing main drain, construction of locally produced secondary and tertiary drainage networks, by use of ferrocement slabs, small bore concrete sewers, half channels and fabricated pipes and culverts.

* Latrine Improvement

This consists of development of latrine models to improve leachate and disposal problems which seriously and largely affect Katwe environment. This, therefore, includes different models of latrines including VIP, pour flush, and compost options.

* Solid Waste Disposal

This also entails rubbish sorting to accelerate reduction of organic disposal problems on a number of fronts:-

Metals	Plastics
Organic Matter	Combustible materials

turning each component into a usable and income generating enterprise.

* **Water Improvement**

Water supply system will be improved by provision of piped water and water storage tanks to improve on water quality and quantity. Some of the existing protected springs will be rehabilitated to improve on water quality and quantity.

* **Other Issues**

Since women are the key actors in waste and sanitation they play a leading role in planning, implementing and manning the project. They are actively involved, along side men, in mobilization activities, health education and demonstrating locally developed facilities and appropriate technologies.

The project was designed to demonstrate what can be done when communities are empowered to manage their own facilities and services for attainment of a healthier environment. To ensure that project inputs are sustainable, income generation activities focussing on environmental improvement have been established. For example, a community group established a small scale industry of converting matoke (banana) peelings, the staple food, into charcoal and is now diverting a high percentage of the organic waste generated into a product that can be sold. Another group is constructing low cost drains using ferrocement technology. Other activities being considered are, latrine construction, water kiosks and urban agriculture using organic waste as compost.

The Katwe Urban Pilot project, therefore is holistic in its approach to solving environmental problems of low income informal settlements and will document its experience for Kampala City authority and others, to replicate. The approach which is novel is that it is the communities themselves that will build and operate the systems and services put in place. The project acts only as a facilitator providing sensitization training; technical training and advice and supervising the installation of the demonstration facilities, which the communities themselves will have constructed on a volunteer basis. We hope that the interventions can be sustainable by relating income generation activities with the environmental improvement thus promoting a healthy environment as a profitable exercise.

The complexity of the technology of the management systems and the required corresponding affordability and willingness to pay among the consumers should be considered.

REGIONAL URBAN SANITATION WORKSHOP, MUKONO, UGANDA

Information and Background Sheet

UGANDA

A Basic Data

Population:	16.9 million	Pop. Growth Rate:	3.3%
Size:	236,000sqkm	GNP per capita:	US\$ 170
Infant Mortality Rate:	118/1000		
Capital:	Kampala	Pop. of Capital	733,000
Other Large Towns:	Jinja(45,000), Masaka,(29,000) Mbale (28,000) (1980 figures)		
% Urban:	11%	Urban Growth Rate:	4.5%

(Source: WDR, World Bank, 1993, City pop.s from Third World Guide 1993/4)

B1 The Water and Sanitation Sector

% of population with Water Supply

Urban 37%, Rural 18%

% of population with access to Sanitation (incl. water systems & all pits)

Urban 32% Rural 30%

Government Institutions involved in the sector: Ministry of Natural Resources, oversees the Water Development Department (WDD) and the National Water and Sewerage Corporation (NWSC), Ministry of Health (MoH), Ministry of Local Government

(Source: UNDP World Bank Water & Sanitation Program, Country Work Plans 1993)

B2 Recent Sector Developments

- a) Five year Plan (1990-1995)
- b)
- c)
- d)

C Other Information

Currency exchange:	Uganda Shillings (USh) 1,000: US\$1
Cost of Cement:	approx USh per bag (US\$, March 1994)
VIP	approx USh (US\$) Cement blocks for substructure & superstructure
Sanplat latrine:	approx USh (US\$) Cement blocks for substructure/local materials for superstructure.
Cement latrine slab:	USh (US\$)

TANZANIA - SANITATION NOTES

Prepared by: K. Ambroce and M. Kinekejo

The Delivery System (How sanitation services are paid for and constructed)

The Urban Low cost Sanitation Project (ULCSP) is designed to develop a community based system for disseminating low-cost sanitation improvements in peri-urban areas. The project has addressed the community at different levels, especially in latrine promotion. Hence latrine promotion in the project is mainly done by the community, with the help of professionals from the Tanga Municipal Council working with the project staff.

The following people, departments and activities participate in the latrine promotion program:-

Task Forces

The task force comprises of: Selected ten-cell leaders; Extension workers and Project staff

The project has followed a system which was already being formulated by the ruling party of using the ten-cell leaders to reach the community. (Ten-cell leader is a person who has been selected by people of ten-houses to be their leader).

The main roles of the selected ten-cell leader are:-

- To mobilize the community, to act as a link between the project and target groups and monitor and evaluate the on-going project activities.

Extension Staff

The project has involved staff who are working at ward level. The professionals involved are Health Assistants and Community Development Assistants, their main tasks is to:

- conduct health education
- conduct training
- attend different meetings in the project area and at the project office.

Project Staff

Project staff are also members of the Task-force with the responsibility of monitoring all the project activities, conducting training, health education and evaluating the activities. Ten-cell leaders, extension workers and project staff formulate the Task Force and work as a team doing latrine promotion activities.

Womens Groups

Women being the responsible people to care for the health of their family were mobilized to participate in the project. Two womens group were formed and the groups get training in production of latrine components. Now they are working independently. They are selling the components to the customers who are in need and thus are promoting the latrines.

Private Fundis

The project has mobilized the masons in the project areas to participate in the construction of latrines. The fundis who were willing to work with the project were trained in construction of different latrine technologies and components production. Having a big number of fundis (42) they have now to look for business. They go to the potential customers to mobilize them and in a way they are promoting latrines.

Demonstration Latrines

The project has constructed demonstration latrines showing different technologies for the project areas and for the customers to see and select the type which they want and is affordable to them. Hence the demonstration site plays an important role in latrine promotion.

Beneficiaries

Those who have benefitted from the project promotes the latrines by informing other potential customers on how to get a new latrine.

Health Department

The health department of the Municipal Council plays an important part in latrine promotion: All health officers and assistants know where to get the component and prices. They also educated people in project areas.

Local Leaders

Local leaders are working with the task-force especially on issue which need decisions on behalf of the community. Its in this respect that they become part and parcel of latrine promoters.

Training

Training was conducted at different levels in the project. There was training of the fundis in construction and latrine components production, which was carried out by the project technician and TMC fundis. The training took a maximum of 3 weeks.

- Womens groups were trained in latrine components making for 1 month. The trainers were municipal council fundis with the help of a technician from the project.
- Project staff, extension workers mainly were trained in Training of Trainers course for two weeks, communication skills for one week. The course trainer is a consultant in community participation.
- Ten-cell leaders were also trained in different fields according to the health problem identified by them. The training was conducted by project staff and extension staff. A group of twenty people was trained at once for two days. The major subjects were community participation, environmental sanitation (dangers of indiscriminate disposal of faeces) and leadership qualities.

Problems Faced by Latrine Promoters

- From the beginning of community mobilization some community members had/have problems in accepting instructions from ten-cell leaders as Task Force members (problem of authority establishment)

- Ten-cell leaders know that they can not take legal action against anybody who does not obey the instructions given, despite frequent visits, so they tend to become demoralized.
- Task Force members are not willing to work for the project without some form of payment/incentive.

* Policy Control

The policies in Tanga project are controlled mainly by the donor agency. The operation plan is normally done by personnel of the donor, implementing agent (TMC & MWEM), and other related bodies, (e.g. RWSG-EA).

A budget revised through an operation plan has to be approved by the donor before it is implemented. During the implementation process any major change in the operation plan should get consent from the donor. Other things which are also influenced by the donor are:

- Measurement of success i.e. 900 VIPLs or 80% coverage with VIP latrine to be constructed in Tanga during the project period of two and half years, while developing an implementation model as main objective.
- Use of private sector
- Extent of subsidy (short project time means high subsidies are needed)
- Project duration without considering how much the time required to mobilize the community
- Selection of a consultant for the project
- They are the fund holders

* Improvements to the "Latrine Delivery System"

The system could be improved, in view of the funding constraints as follows:

a) More funding and time for community mobilization activities:

Before the community is asked to contribute awareness creation, and health education is necessary. These activities takes a lot of time and they need a lot of patience. If much funding and time are spend for community mobilization, the acceptance of the project will be higher and hence easy to contribute.

b) Encourage More Community Participation:

The community should be encouraged to use as much as possible their own labour to reduce their cash contributions. This can be done by training individual community members on how to make the components and construction of latrines with simple technologies. To attain the above, awareness creation is needed to make them feel that the project is of benefit to them. Where hard cash is inevitable, the community has to be encouraged to contribute.

c) Use of Simple Technologies:

Simple technologies with the following characteristics can be used to minimize the cost of latrines:

- Easy to adopt
- Using of locally available materials for latrine construction
- Using the local fundis/households instead of contractor to construct latrines

d) Use of loan schemes with small interest rates to improve instant affordability and safeguard against inflation.

e) Formation of self-help groups to contribute to each member for latrine construction.

"The Partnership" (Local Institutional Arrangement)

The main implementing agencies for sanitation improvements in Urban areas of Tanzania are mainly involved in two areas, which are software and hardware. They are:

- The Ministry of Water Energy and Minerals for all urban areas of Tanzania (8 towns covered out of 52 towns). They are mainly involved in giving examples of sanitation technologies.
- Ministry of Health is responsible for training health personnel
- The Ministry of Local Governments is responsible for law enforcement.

Why: More emphasis is mainly put in urban infrastructure by both the donors and government and these are mainly large scale project e.g. water supply sewerage rehabilitation or construction. Not much emphasis is put on low-cost sanitation projects, which are mainly for people who are the most under privileged. The German Technical Cooperation (GTZ) is involved in both software and hardware areas but only for the model development in Tanga. No other donor is including urban low-cost sanitation in their programs.

How did these institutions Get Involved:

After the outbreak of cholera in Tanzania in 1978, and because of increased efforts during the Water and Sanitation Decade, the Tanzanian Government approached various donors to finance sanitation improvements in urban areas. KfW from German financed the Low-Cost Sanitation project under the Sewerage and Drainage Department. Experimental latrines were constructed in Dar-es-Salaam. Later it was found to be good to construct a plant to be used (a) to produce latrine components; (b) as a research center (c) to provide training for other urban areas. This plant was established in Dar-es-Salaam and is called Buguruni VIP Kit Manufacturing Plant. To disseminate sanitation technologies, BMZ through GTZ decided to finance four urban areas in Tanzania which are Tanga, Morogoro, Moshi and Arusha.

*** Key Actors Involved in Sanitation Projects**

- Ministry of Health - By training personnel who will be involved in sanitation activities
- Municipal Councils - By providing personnel
 - Health Officers
 - Health Assistants
- Ministry of Development, Women and Children - Provision of training and personnel
 - Community Development Officers and Assistants
- Health Committee
 - Regional Health Committee
 - District Health Committee
 - Ward Health Committee
- Beneficiaries
- Ministry of Water, Energy and Minerals (Urban Sanitation) i.e. Sewerage Systems and Urban Low-cost Sanitation

B. The Enabling and Hindering Factors

1. Hindering Factors

Problems facing environmental sanitation improvements in the project (ULCSP) and national level (CLCSU) are:

* Financial Constraints

The experience has clearly shown that the government funds allocation for LCS activities has been very low from budgetary year to another (see Table below). This has reduced the planned activities. Coupled with this are lack of equipment and transport for implementation of projects.

Development: Funds requested, approved and actual expenditure (in TSh)

YEAR	REQUESTED	APPROVED	ACTUAL EXPENDITURE
1989/90	10 million	2 million	2 million
1990/91	11 million	2 million	2 million
1991/92	10.5 million	2.5 million	2.5 million
1993/94	15.0 million	5.0 million	up to April 1 mil. only released

* Institutional Constraints

The current institutional set up is not conducive to improve environmental sanitation conditions. Three ministries are involved in sanitation activities. These are Ministry of Water, which deals with urban sanitation at national level, Ministry of Health deals with rural areas and the executing agency for urban sanitation are urban councils, Ministry of Local Governments. These institutions lack proper coordination and consequently sanitation remain unimproved.

* Legislative Constraints

There are already legislation and by-laws. Most of them were enacted a long time ago and are now out of touch with the current Tanzanian situation. The existing laws are not enforced by the responsible authorities. e.g. if they are, then only very small fines are taken against defaulters i.e. 500/= TShs.

* The Low Priority of Sanitation Issues

Lack of awareness of decision makers about the importance of improved sanitation lead to low funds being located for sanitation activities and the none enforcement of the existing by-laws. Part of the community use their neighbors' latrines as an alternative to sanitation improvements and find it difficult to invest into sanitation, which doesn't generate income.

* How Does the Project Deal with These Problems

Both ULCSP and CLCSU are trying to deal with these problems by conducting seminars and workshops to rise awareness of decision makers. This will enable them to give higher priority on sanitation and hence raise the funds on sanitation activities. Also CLCSU is trying to influence the policy makers to revise and enforce the existing policies, legislation and by-laws which are not yet applicable. On financial aspects the MWEM is liaising with donor agencies to solicit funds for sanitation.

2. Enabling Factors

For the project to be successful the following factors should be considered:

- The community should be involved in projects e.g. planning, implementation and evaluation
- The beneficiaries should be assisted with what they can afford e.g. upgradable latrines and not insisting on the existing VIP latrines
- Beneficiaries should be provided with health education and be mobilized to raise their awareness for improved sanitation. This will enable them to give high priority for sanitation improvements.
- There is a need to educate and raise the awareness towards the importance of improved sanitation among decision makers through organized seminars and workshops. This will hopefully influence them to give high priority to sanitation issues.

The decision makers can influence the following:

- * To review the existing institutional set-up and set clear demarcation lines and responsibilities between the responsible institutions.
 - * To up-date the legislation and to response to the present day situation. Enforcement of legislation by responsible institutions is necessary.
 - * Raise the fund and provide adequate working tools and equipment through increased government awareness.
 - * Review the current development policy to ensure provision of improved sanitation.
 - * The project donors must allow enough time for mobilization of community participation instead of insisting on instant implementation to attain sustainability e.g. Tanga Urban Low-Cost Sanitation Project: The life span of the project implementation is limited to two and a half years which is not enough time for commodity mobilization and testing other essential elements which form a sustainable model.
- Women should be encouraged to play influential roles in both sanitation management and hygiene education. Capacity building is necessary to make community management effective and enable women to play leading roles.

3. Low-Cost Sanitation Policy in Urban Areas

Low cost sanitation policy for urban areas is existing in Tanzania. This policy has been formulated after a ministerial conference held in March 1982 to couple with Health for All by the Year 2000 and the thrust of the International Drinking Water Supply and Sanitation Decade. The key contents of the policy with regard to urban low-cost sanitation are that:

- * Every household should have an excreta disposal facility that meets the minimum health standards the VIP latrine by the year 2000.
- * Land developers in unsewered areas should construct a soakaway pit with approved plans for accommodating wastewater. In areas with high water table it is supposed to construct a cesspit which will be regularly emptied.

Additional Policy Regarding Sanitation

The key policy for low-cost sanitation has been mentioned above. Policy for other sanitation areas include the following.

- * The sanitation technology selection will depend on the level of service of sanitation affordable and the nature of settlement in a given area.
- * Priority for wastewater treatment methodology should be given to those methods which do not employ mechanical equipment.
- * The Ministry of Water must always be involved in the policy formulation of urban wastewater and stormwater drainage systems.
- * All Town Councils, Municipalities and the City Council should form departments of public health engineering, which will deal with matters related to cleanliness of the environment.

Some of the aforementioned policy points will be changed. The Ministry of Water is currently working on it.

Information and Background Sheet

TANZANIA

A Basic Data

Population:	25.2 million	Pop. Growth Rate:	3.0%
Size:	945,000sqkm	GNP per capita:	US\$ 100
Infant Mortality Rate:	115/1000		
Capital:	Dar es Salaam/Dodoma	Pop. of Capital:	1.5 million
Other Towns:	Arusha (152,000), Mbeya (149,000), Tanga (161,000), Mwanza (190,00), (Source: COWIconsult, 1992)		
% Urban:	34%	Urban Growth Rate:	10.1%/a

(Source: WDR, World Bank, 1993)

B1 The Water and Sanitation Sector

% of population with Water Supply

Urban 54%, Rural 43%

% of population with access to Sanitation (incl. water systems & all pit latrines)

Urban 79% Rural n/a

7 of 62 urban areas have a sewerage network.

(Source: Start up Workshop on Sector Review, MWEM, Jan 1993)

Government Institutions involved in the sector: Ministry of Water, Energy / Minerals (MWEM), Dar es Salaam City Council, Other Municipal Councils, Ministry of Health (MoH), National Urban Water Authority (NUWA), Ministry of Local Government (MoLG), Ministry of Community Development, Women, Children.

(Source: UNDP World Bank Water & Sanitation Program, Country Work Plans 1993)

B2 Recent Sector Developments

- a) Water & Sanitation Sector plan currently being prepared.
- b) Moves towards increasing cost recovery in the sector.
- c) Sanitation Project 'model' nearing completion in Tanga.
- d)

C Other Information

Currency exchange:	506Tanzanian Shillings: US\$1 (March 1994)
Cost of Cement:	approx TSh 2,800 per bag (US\$5.5, March 1994)
VIP	approx TSh 80,000 (US\$160) Cement blocks for substructure & superstructure
ULCSP latrine:	approx TSh 50,000 (US\$100) Cement blocks for substructure/local materials for superstructure.
Cement latrine slab:	TSh 8000 (US\$16)

MOZAMBIQUE - SANITATION NOTES

(Could not attend the workshop)

Prepared by: P.O. Mandero

Demographic Change in the Urban Areas

In 1950 Mozambique was essentially a rural country. From the time of independence onwards there has been a migration from the countryside and by 1980 13% of the population lived in urban areas. By 1990 the urban population had reached 27%, as result of the increased hostilities in rural areas caused by the civil war. It is expected (UN) that by the year 2000 the level of urbanization will have reached 41% - a comparable figure to other African countries.

At present the proportion of people living in the peri-urban areas is relatively high compared for a country with a low level of economic development. 80% of the population live in precarious housing conditions. The provision of public services in the peri-urban areas, the water supply, health services, electricity and education is insignificant. The Government cannot keep up with the urban population increase.

Introduction to Sanitation Activities

In 1976 the Ministry of Health of the newly independent country launched a nationwide campaign for the self-help construction of latrines. During one day for example, all other activities in the country were stopped, each and every person had to participate in building of latrines for themselves, for schools, for health centers etc. In the population and housing census 1980, 43% of the rural population and 47% of the urban population had access to some form of sanitation facility (i.e. a traditional latrine).

However, due to difficult soil conditions, lack of technical guidelines and serious shortages of building materials, the latrines generally have become vulnerable to heavy rains, difficult or even impossible to keep clean, and sometimes even dangerous to use.

To overcome these difficulties, the National Directorate of Housing (later INDF) and today the national Institute for Rural Development (INDEX) together with the National Directorate of Water (DNA) and the National Directorate of Preventive Medicine (today National Directorate of Health - DDS) embarked in 1979 on a research project supported by UNDP/HABITAT, Swedish SID and Canadian IDRC, in order to identify and develop a suitable latrine technology and method for large scale implementation in peri-urban areas.

Service delivery - National Low Cost Sanitation Program (NLCSP)

The local authorities through the Mobilization Groups continue the sanitation campaign started in 1976 and today for example more than 80% of the families in Maputo have got their own sanitation facility.

The implementation strategy in the urban areas has been based on the creation of a relatively small number of self supporting construction units. They have the initial and major task of undertaking the construction of technically and hygienically improved pit latrines in the neighborhood.

In the creation of latrine construction units, the initial members have been selected by the Dynamizing Group among unemployed members of the communities. The members normally had no previous experience of building activities, but have been trained by the INPF/INDEX and by the local authorities involved. Women are encouraged to seek employment with the units and they are working under the same conditions as men. Today 45 women are working with the units, of whom two are head of production units, and two are medium level technicians.

At this time, the National Program has established workshop units in eleven Mozambican cities: Maputo, Beira, Chimoio, Quelimane, Nacala, Pemba, Nampula, Montepuez, Xai-Xai, Maxixe and Inhambane.

Logistical and technical support has been given to all 23 production units that are currently operating in the country with 239 workers. The overall management and coordination of the National Program has also been handled by the Coordination Unit established at INDEX in Maputo.

In total the Program has since 1979 to December 1993 produced more than 115,000 improved latrines, benefitting approximately 700,000 people in the low income peri-urban areas of Mozambique which correspond to about 28% coverage (see Information & Background Sheet).

Institutional Framework of the Sanitation Sector

The National Low-Cost Sanitation Program was established in 1985 and based at the National Institute for Physical Planning. This Program was closely linked to both the Department of Hygiene and Environment of the Ministry of Health and the Department of Water and Sanitation of National Directorate of Water (DNA).

In 1990 is created the National Institute for Rural Development (INDEX) since then the NLCSP as being implemented by the Institute for Rural Development (INDEX). The decision to locate the programs within INDEX was taken for practical reasons, in order to avoid an unnecessary interruption of the Program's activities since this institution undertakes part of the tasks of N.I.P.P.

The link to both the Ministry of Health and the Department of Water and Sanitation are unaffected by this change.

As previously, the division of responsibilities between the institutions is clearly defined: The Ministry of Health provides, through the Department of Hygiene and Environment as well as through the Provincial Directorates of Health, sanitary education which accompanies the production of latrines. The Department of Water and Sanitation (DWS) of DNA is responsible for water supply and sanitation on national level with its main-focus on water born systems within the urban centers. The Low-Cost Sanitation Program and DWS have to closely coordinate their efforts both with regard to the promotion of International Cooperation Projects, planning of Government Investments, monitoring and supervision of the implementation activities in the provincial projects, definition of which areas are to be provided by which sanitation system and to coordinate the drilling of wells in areas with a high density of pit latrines.

On provincial level LCSP is represented by the Provincial Physical Planning Services, which now are subordinated to INDEX. Their responsibility is the implementation and supervision of the production units as well as to create the linkage to the Provincial Planning and Financial Directorate, through which the local funds for program implementation are disbursed.

For optimal implementation, the program will seek to strengthen its links to the National Directorate for Civil Construction within the Ministry of Construction and Water Affairs as well as to the City Councils through the Ministry of State Administration. Thus an attempt will be made to include low-cost sanitation in future self-help housing programs.

Financial Framework

The LCSP is funding through three sources: namely: Government, Donors, and community.

- Government funding mainly a direct subsidy to the production costs, some staffing and some running costs.
- Donors funding mainly Technical assistance, equipment and recurrent cost.
- Community contribution pay a proportion of production costs but also they pay for the entire cost of superstructure. This costs is not normally included in estimations.

- Funds from donors and Government allocated directly to LCSP through INDEX and inform National Planning Commission (CNP) about the agreement (case of the external funds).
- Financial management of all program is made at the Coordination and Management Unit (Finance Department) and at provincial level by each Improved Latrine Project (PLM) by Administrative Personnel which must send monthly reports to CMU.
- Revenue generated by production units consists of cost sharing through sales and other revenues through truck hire to cover their own running costs (recurrent costs and construction materials).
- Reporting of all expenditure of Government funds is made monthly to Ministry of Planning through INDEX's Finance and Management Department.
- Separate reports are made to donors according to a specific project agreement. All donors have their own reporting requirements.
- The Government subsidy for latrines is annually budgeted for according to projected sales target estimated by CMU Provincial Directorate of Finance received a global amount each year to cover the subsidies. Money is reimbursed to PLM's on monthly presentation of sales receipts.

Sustainability Issues

- There is a significant contribution by donors on all budget items, but even higher in personnel. 35% of the professional staff are funded by donors and 35% are expatriates.
- The largest contribution made by the Government (40%) is towards the subsidy costs of the improved latrines.
- The Government makes a significant contribution to the cost of operation and maintenance.

Main Hindering Factors to Urban Sanitation Improvements and issues of sustainability

In spite of the progress achieved, the some of the difficulties the program is facing are as follows:

- Repeatedly devaluation of national currency (Metical/mt) as part of the Economic Recovery Program (PRE), caused a negative impact on the affordability of the latrines, due to the reduced purchasing power of the low income population. The PRE has also affected the production capacity of the construction units, as the prices of necessary inputs have risen.
- An extremely high dependency on external funding for development activities, both for investment and recurrent expenditures, and prospects of these resources diminishing over time.
- Partly due to the level of aid dependency, as well as other factors related to local capacity, donor preferences tending to influence and/or distort national priorities.
- A rapid rate of urbanization, particularly due to the war and displacement of millions of rural civilians, has had serious implications in terms of expanded demand for already over-stretched urban services.
- The overall high level of poverty in Mozambique, demanding correspondingly high levels of subsidization for basic services.
- The generally low levels of education and training of personnel, and hence limited capacity within local institutions, place great strain on what professional capacity exists.

REGIONAL URBAN SANITATION WORKSHOP, MUKONO, UGANDA

Information and Background Sheet

MOZAMBIQUE

A Basic Data

Population:	16.1 million	Pop. Growth Rate:	3.03%
Size:	802,000 sqkm	GNP per capita:	80 US\$
Infant Mortality Rate:	140-173/1000		
Capital:	Maputo	Pop. of Capital:	1.7 million
Other Large Towns:	Beira, Nampula, Quelimane		
% Urban:	28%	Urban Growth Rate:	2.5%

(Source: WDR, World Bank, 1993, CNP, GOV/UNICEF 1993)

B The Water and Sanitation Sector

% of population with Water Supply

Urban 30%, Rural 35%

% of population with access to Sanitation (incl. water systems & all pits)

Urban: 20% Water systems, 22% traditional latrines, 28% improved latrines

Rural: Less than 10% - a pilot project started in 1990 in 4 provinces

Government Institutions involved in the sector:

Ministry of Construction and water (M.C.A.)

Ministry of Health

National Directorate of Water (D.N.A.)

National Institute for Physical Planning (INPF)

National Institute of Rural Development

(Source: Sanitation Note Author)

C Other Information

Currency exchange:	Metical (Mt) 5,764: US\$1 (May 1994)
Cost of Cement:	Mt40,000 per bag (US\$7, May 1994)
Latrine:	50 US\$
Cement latrine slab:	Mt 40,348 (US\$)

ZIMBABWE - SANITATION NOTES

Prepared by: S Musingarabwe and T S Mahachi,

Introduction

It is a legal requirement in Zimbabwe that all urban sanitation shall be water borne. The structured water borne sanitation provides for individual and communal units which drain into a central drainage sewage system for treatment and safe disposal overland on natural water ways. In less built up small towns, the lagooning system of sewerage treatment is the often practiced means of disposal. Where the above is not practiced, the septic tank soakaway system is used. The technology requires abundant water supply and high capital investment in sanitary engineering.

Planned Development

Harare has got a "Master Plan" whereby all housing development is planned in advance and is developed according to prescribed standards. This has been done to achieve a relatively high standard of living for the people. Even the high density housing areas are preplanned and developed in a systematic and controlled manner. As all the housing development is planned, all the water supply, sewage disposal and road infrastructure is also preplanned in a controlled manner. Every house in Harare has its own potable water connection. Every house in the high density areas has its own sewerage connection. There are no recorded pit latrines in all the developed areas.

Existing Sewage Disposal System

Except for some stands in the low density areas which have septic tanks with psyches, the whole of Harare is on a reticulated sewage disposal system and the sewage is purified at two main purification stations which both use the modified activated sludge system and the conventional biological filter system. There are also three stations where there are oxidation ponds.

Policy

Through the three major Ministries which formulate policy guidelines, e.g. Ministry of Health and Child Welfare, Ministry of Local Government, Rural and Urban Development and Ministry of Public Construction and National Housing, local authorities put to tender housing development which include provision of sanitation along policy guidelines.

Recurrent Costs

The funds for developing such infrastructure come from the Central Government or private sector in the form of loans. The local authority levy to the tenant, on a monthly basis, a fixed amount which is subject to review from time to time when necessary. This is intended to pay back the loans and facilitate a revolving fund for similar future development projects.

The recurrent costs are shared between the tenants and the local authority for the individual units. Before independent, strict control of urban migration was instituted. The attainment of our independence brought about influx of rural to urban migration. Most facilities could not cope with the sudden increase of

population. This resulted in constant break down of sewerage systems and the introduction of informal settlements around the towns.

Urban - Rural Boundaries

Apparently these unplanned settlements lay on the boundaries of most towns and the land is often part of rural areas with no defined local authority to determine sanitation guidelines. This is still a grey area in Zimbabwe and attempts are being made to address sanitation and other social problems in such areas.

Technology

Local Government and Ministry of Health are the main actors in the provision of sanitation in the peri-urban setting. The current technology options is dependable on continuous water supply. During the recent drought, this was found to be a major constraint. Therefore we are recommending dry privy latrines (Blair toilets). No programme has been set up to upgrade this technology. Unfortunately these are of communal type and often difficult to keep clean at all times.

The present arrangement is far from satisfactory. In Zimbabwe, the problem is how to cope with urban ??? and high birth rate in order to keep pace with sanitary facility requirements.

Needs

Unplanned settlements or peri-urban settlements have become a notable problem during the past 5 years and this is expected to continue unabated. We definitively have been caught unaware and we urgently need some form kind of policy guidelines which would address the issue of sustainability, upgrading of poorer sanitation systems, cost recovery and sustainability.

ANNEX 1 (Zimbabwe)

The Partnership (Local Institutional Arrangements)

- i) The Local Authority (i.e. the Municipality, City or Town) is the implementing agency. They can do this through own resources (funds, manpower, equipment, etc.) or through consultants and contractors. Local Authorities are the institutions who operate sewage treatment works and in fact are the "Landlords" as they supply and charge for water, collect refuse and, where the house is owned by the town, also collect rent in addition to rates. This has been the practice since towns were established +/- 1890's.
- ii) The future sustainability will depend on the availability of funds to set up a revolving fund since the local authorities will need up-front finance in order to allow the beneficiaries to pay for the service through a tariff over 20 - 30 years. The will to own a home in an urban area is great, so is the willingness to pay.
- iii) In general every location, hence every settlement location, falls under a Local Authority who would ordinarily provide or facilitate and control the manner of settlement. The local authority would be responsible for the sanitation. Informal peri-urban settlements are prohibited, precisely for sanitary reasons. Government take a serious view of this and any such settlements (i.e. illegal, with no proper sanitation) will be removed by Government.
- iv) It should be pointed out that Zimbabwe is rather dry country and any surface water is very precious; either for potable use or for irrigation purposes. Hence any fouling up of this 'precious' commodity through settlements with no proper sanitary facilities will have disastrous consequences through eutrophication of the water bodies, which in turn will make it less suitable for treatment for domestic use. Recreation and other human uses would also be negatively affected.

Information and Background Sheet

ZIMBABWE

A Basic Data

Population:	10.1 million	Pop. Growth Rate:	2.3%
Size:	391,000sqkm	GNP per capita:	US\$ 650
Infant Mortality Rate:	48/1000		
Capital:	Harare	Pop. of Capital:	??
Other Large Towns:	Bulawayo, Masvingo, Mtare		
% Urban population:	17%	Urban growth rate:	5.8%/annum

(Source: WDR, World Bank, 1993)

B1 The Water and Sanitation Sector

% of population with Water Supply

Urban 100%, Rural 55%

% of population with access to Sanitation (incl. water systems)

Urban 100% Rural 21%

Government Institutions involved in the sector: Ministry of Energy and Water Resources / Development (MEWRD), Ministry of Health (MoH), Ministry of Local Government, Rural and Urban Development (MLGRUD), District Development Fund (DDF), Ministry of Community and Cooperative Development, The Government has formed an interministerial National Action Committee (NAC) with a secretariat called the National Coordination Unit (NCU)

(Source: UNDP World Bank Water & Sanitation Program, Country Work Plans 1993), + NAC 1990)

B2 Recent Sector Developments

- a) Sector Plan completed in 1995
- b)
- c)
- d)

C Other Information

Currency exchange:	Zimbabwean Dollar (Z\$) 8 : US\$1 (Feb, 1994)
Cost of Cement:	Z\$ per bag (US\$, 1994)
VIP (Urban)	Z\$ (US\$) Cement blocks for substructure & superstructure
Sanplat latrine:	Z\$ (US\$) Cement blocks for substructure/local materials for superstructure.
Cement latrine slab:	Z\$