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**Low-Cost Urban Sanitation
in Lesotho**

by Isabel C. Blackett



LOW-COST URBAN SANITATION IN LESOTHO

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UNDP-World Bank Water & Sanitation Program

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Isabel C. Blackett is an engineer who served as an advisor to the Urban Sanitation Improvement Team program.

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ABSTRACT

Lesotho's Low-cost Urban Sanitation Program started in 1980 as a pilot component of a much larger urban development project. This document details the development of the program from that pilot stage to what is now a national program.

The keys to the success of the low-cost sanitation program in general, and particularly in the urban areas of Lesotho, have been:

- (1) an affordable and acceptable latrine design;**
- (2) minimal direct grants or subsidies to householders;**
- (3) all latrine construction done by the private sector;**
- (4) a comprehensive program of VIP latrine promotion, health and hygiene education;**
- (5) integration of the project into existing government structures; and**
- (6) strong coordination in policy and planning between different departments promoting improved sanitation.**

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FOREWORD

Lesotho's low-cost sanitation programs are unusual for many reasons—their steady growth from small beginnings, their substantial quantitative accomplishments, the competence and commitment of key staff. But what is really striking is their promise of sustainability. Sustainability is a concept much talked about in development circles nowadays, but regrettably little in evidence in many development programs. It means making things better in such a way that they stay better, after the outside funds and technical support have gone. It means, almost everywhere in the developing world, cost-recovery and local capacity building.

Now, conventional wisdom holds that anything close to full cost-recovery is impossible for low-cost sanitation, and that in some cases it may not even be desirable. So the last thing one would expect to find is a sustainable low-cost sanitation program. And yet this is what Lesotho seems to have accomplished. How? Why? What are the lessons for other sectors of the economy, and for other countries?

These questions came immediately to mind when I first visited Lesotho in early 1990. The UNDP-World Bank Water and Sanitation Program (and its predecessors) had been involved in the early stages of both the rural and the urban sanitation programs in Lesotho. Subsequently, we concentrated our efforts on the rural program, but continued to provide technical advisory support on the urban side. We had a fair amount of documentation on the National Rural Sanitation Program (including Discussion Paper No. 3 in this series), and it seemed important to focus the same attention on the parallel work in urban areas by the Urban Sanitation Improvement Team (USIT). Its approach and its results were exciting, and deserved to be widely known.

At that time Isabel Blackett, a KfW-financed engineer, was advising and generally assisting with the management of USIT, and was due to complete her assignment in Lesotho a few months later. With the encouragement of Mamonaheng Ramonaheng, the Urban Sanitation Coordinator, she was persuaded to write a discussion paper during her final months in Lesotho, and revise it through successive drafts after her return to the UK. When the subject first came up, Ms. Blackett pointed out that she was part of USIT, and had worked with them for five and a half years, so could not make an objective evaluation. I insisted that such objectivity was not what we needed most—we needed the view of an insider, someone who had seen the program evolve and grow, and who had been through the process of reaching hard decisions.

It is not the whole story, of course. In part, that is because the story is not yet over, and it will be several more years before we know if the program is really sustainable. And in part, it is because there are other valid perspectives yet to be recounted—including perhaps an "objective evaluation" at some point. But at this juncture, the Urban Sanitation Improvement Team has much to be proud of, and the rest of us have much to learn from their experience.

JOHN BLAXALL
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ABBREVIATIONS AND ACRONYMS

BRE	Building Research Establishment Watford, U.K.
BREVAC-LA	BRE Vacuum Tanker - Limited Access
CIDA	Canadian International Development Agency
DBSA	Development Bank of Southern Africa
GKW	GKW Consultants, Mannheim, Germany
IDA	International Development Association (of The World Bank)
IDRC	International Development Research Centre
IDWSSD	International Drinking Water Supply and Sanitation Decade
IRCWD	International Reference Centre for Waste Disposal
KfW	Kreditanstalt für Wiederaufbau, Frankfurt, Germany
Lehco-op	Lower Income Housing Corporation
MCA	Manus Coffey Associates, Dublin, Ireland
MPEMD	Ministry of Planning, Economic and Manpower Development
MoI	Ministry of Interior
MoH	Ministry of Health
NRSP	National Rural Sanitation Program
NSC	National Steering Committee for Water and Sanitation in Lesotho
ODA	Overseas Development Administration, U.K.
PLS	Pit latrine sludge
RSP	Rural Sanitation Project
TAG	Technology Advisory Group (of the UNDP-World Bank Water Decade Program)
UNDP	United Nations Development Programme
USC	Urban Sanitation Coordinator
USIT	Urban Sanitation Improvement Team
VIP	Ventilated Improved Pit (Latrine)
VIDP	Ventilated Improved Double Pit (Latrine)
VWSS	Village Water Supply Section
WASH	Water and Sanitation for Health (USAID Program)
WEMIN	Ministry of Water, Energy and Mining
WSB	Water and Sewerage Branch

EXPLANATION OF TERMS

- Substructure** - The part of a VIP or VIDP below the pit cover slab.
- Superstructure** - The part of a latrine above the pit cover slab.
- On-site sanitation** - Any form of sanitation system that is contained within the boundaries of a householder's site.
- Unimproved pit latrine** - A pit latrine without a vent pipe or other means of preventing flies and smells from entering the superstructure.
- Bucket conversion** - The conversion of a bucket (night soil) latrine into a VIP by excavating a pit under the super structure, lining it, adding slabs, vent pipe, and flyscreen.
- Sector** - Generally used to mean the entire water and sanitation sector, encompassing both rural and urban areas.

ACKNOWLEDGMENTS

Many persons have contributed the success of USIT. From the beginning the staff have worked as a team and therefore the credit cannot be attributed to just a few leaders or senior members.

Even though the contribution of the whole team was paramount, a few individuals should be mentioned. USIT was started in 1980 by the inspiration, hard work, motivation and commitment of Barry Jackson. He moved in 1982 from the post of Urban Sanitation Coordinator to advisor, remaining until 1988. He slowly decreased his input to USIT as the team gathered local strength; he became the general advisor to the Lesotho government on all sanitation issues. He is now working for the Development Bank of Southern Africa.

Mr. Jackson handed over his duties as coordinator to Thabo Khaketla in 1982, who continued to lead the team until mid-1988. Seetella Makhetha worked in the key position of Public Health Engineer, then as Senior Public Health Engineer from 1982 to 1988. At the end of 1988, Mamonaheng Ramonaheng took over the duties of the Urban Sanitation Coordinator and was confirmed into the position in 1990. She had been with USIT since 1981, when she joined as a senior technical officer.

There are other team members, past and present, who also deserve a mention for their significant contributions: Nomsa Dlangamandla, Mosabala Lipholo, Chris Williams, Nicky Koma, Mpho Matebula, and Sello Mako.

USIT has received generous funding and assistance over the last thirteen years. Initially a World Bank-UNDP project, USIT later became a department in the Lesotho government. Kreditanstalt fur Wiederaufbau (KfW) and the Overseas Development Administration (ODA) have since provided significant funding, encouragement and continued interest in the work.

In addition to the contributions of the major donors, the program received funding from the Canadian International Development Agency (CIDA) and the International Development Research Centre (IDRC). The Save the Children Fund (SCF) gave additional assistance and scholarships have been provided by the British Council. Many other people in Lesotho and further afield also offered their practical help and advice. The regional and local managers of GKW consult, Mennheim have been helpful and supportive of USIT throughout the 13 towns sanitation project.

With respect to this paper, I wish to thank and acknowledge the help of Arun Banerjee, John Blaxall, and Andrew Macoun of the UNDP-World Bank Water and Sanitation Program. Mrs. Ramonaheng (USIT), Barry Jackson (DBSA), Rick Pollard (UNDP-World Bank), Alfred Winnikies (KfW), Ralf Weiner (KfW Consult) and Dr. Diebold (KfW) also graciously extended their comments and encouragement at various stages of its development.

ISABEL BLACKETT
MARCH 1994

I. INTRODUCTION

The advantages of Ventilated Improved Pit latrines (VIPs) have been demonstrated in several countries, and a good many national and regional sanitation programs have been started based on this technology. Regrettably, few of these programs become sustainable, in the sense that they continue without substantial outside support. In fact, many have staggered to a halt despite the continued availability of external support.

The low-cost sanitation program in Lesotho is a remarkable exception. It started with the pilot projects for urban sanitation in 1980 and rural sanitation in 1983, and has since evolved into a nationwide program, with very few expatriate personnel, and modest reliance on governmental or external financing. What accounts for this success? What lessons are to be learned?

This case study of Lesotho's urban sanitation project, named USIT (for Urban Sanitation Improvement Team), is an effort to provide some answers to those questions.¹

Some features of Lesotho's economy and social system are unusual; many men work as migrant workers in South Africa. Consequently, an unusually high number of females head households and maintain jobs in the civil service, private sector and other decision-making positions. However, other aspects of the society are common to many developing countries.

Lesotho: Basic Data
Area: 30,000 km ²
Population: 1.8 million; 21% urban, 79% rural
Population growth rate: 2.8% p.a.
Growth rate of urban population: 7.0% p.a.
GNP per capita: \$580
GNP growth: 4.7% p.a.
Infant Mortality Rate: 81/1,000 live births
Life Expectancy: 56 years

Box 1: Basic Data. Source: World Development Report 1993

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1. A report on the country's rural program was published jointly by the UNDP-World Bank Water & Sanitation Program and PROWESS in 1990, titled "Rural Sanitation in Lesotho: From Pilot Project to National Program" (Water and Sanitation Discussion Paper No. 3).

In summary, four widely applicable lessons emerged from Lesotho's urban and rural sanitation experience:

1. *Get the design right.*

Ensure that the system is technically adequate, affordable for most people and acceptable to the users; then, standardize it for economy and simplicity. In this particular case, the VIP was the most appropriate latrine. In other situations different types of latrines may be required.

2. *Don't subsidize.*

Whenever possible, the users should finance their latrines themselves, or through a credit mechanism. The users should directly employ private sector local builders, who are trained in latrine construction. If subsidies are required, calculate the real costs first; be very cautious and be aware of the implications and likely problems.

3. *Focus on promotion.*

To attract the users, the issues of health and status should be addressed through various media. Promotional materials need not be professionally produced, but must be thoroughly tested.

4. *Ensure proper institutional arrangements.*

Work within government structures if possible. Encourage collaboration with related programs, and keep running costs appropriate to government budgets, so that the local government can afford to take over the costs once donor financing is phased out. Select staff carefully, and create a team spirit. Hire a few expatriates who demonstrate a long-term commitment to the program, but localize the staff over time.

Setting up a successful sustainable sanitation program cannot be done in a hurry. Section II, immediately following, sets the stage by describing the history of the Urban Sanitation Improvement Team and by naming the main projects which supported it. Sections III to VI then present in turn the four main findings summarized above.

Although the Lesotho experience can be labeled a success, there are still problems to be overcome: Section VII lists some of the issues that must be addressed in the future.

II. HISTORY OF THE URBAN SANITATION IMPROVEMENT TEAM

The first significant change to urban sanitation in Lesotho came in the 1930s with the introduction of the bucket latrine system. The British protectorate authorities presented this system to prevent the water resources from becoming contaminated by the pit latrines which were being built in urban areas. At that time, water was still drawn from shallow wells and the dangers of water pollution were real.

By the 1970s, water pollution was no longer a major concern as most urban dwellers were using piped water supplies or deep boreholes. The VIP latrine was introduced to Lesotho via the first Maseru site-and-service housing schemes during the late 1970s. The implementation of the housing schemes and the latrines was a learning experience which led the way for future site-and-service projects and latrine developments.

When the International Drinking Water Supply and Sanitation Decade (IDWSSD) started in 1980, the need for improved urban and rural sanitation highlighted the lack of a suitable institutional infrastructure through which to implement improvements. In 1980, an urban on-site sanitation project was started on a pilot basis as part of an International Development Association (IDA) funded urban development project. To effect this pilot program, a sanitation team was established within the overall framework of the IDA project. The Technology Advisory Group (TAG) of the UNDP-World Bank Water and Sanitation Program assisted in the organization of this team. Initially called the Sanitation and Health Improvement Team, it was re-named in 1981 as the Urban Sanitation Improvement Team (USIT).

Based on experience with existing VIPs in Lesotho and their successful development and testing in Zimbabwe and Botswana, the VIP was adopted as the preferred sanitation system for the country. In 1981 the details of VIP design, promotion and delivery began to be worked out for the urban and rural communities in Lesotho.

USIT started pilot work in Maseru by constructing a number of demonstration latrines and assisting with the supervision of a site-and-service scheme in Khubetsoana. Cofinanced by CIDA and IDA, this scheme provided nearly 900 VIP latrines in one newly developed area of Maseru. The latrines were built by local builders, who were trained as part of the project.

USIT extended this important pilot work by assisting in the upgrading of Ha Thamae, an old area of Maseru. This IDA-funded project upgraded roads and water supplies, gave home improvement loans (including money for sanitation) and promoted improved sanitation. Ha Thamae was the first area in which bucket latrines were systematically upgraded to VIPs. Again, most of the work was completed by private builders and at full cost to the owner. Further, the pilot work was done with a view toward replication on a national scale, with the practicalities of implementation in mind.

In 1983, USIT undertook a nationwide training of all local carpenters who made the traditional zinc sheet superstructures for unimproved pit latrines. The artisans were taught how to upgrade their

simple corrugated zinc structures to VIPs (Photo 1). This project, funded by CIDA, lasted only 12 months but had a significant impact on the national awareness of VIPs. A USIT team went from town to town, holding workshops for the carpenters. Through a mobile tape-slide program as well as through hands-on practical training, the artisans learned how to build a proper VIP and appreciate the advantages and benefits of the improved design. A monitoring tour of the country in early 1985 showed that most of the carpenters were making and selling good VIPs, and very few of the old unimproved ones remained available on the market. It was also clear that many improved zinc VIP latrine superstructures were being bought and transported to rural areas.

By 1984 USIT no longer operated as a part of the Urban Development Project. It became an independent department directly responsible to the Ministry of Interior, with a small annual budget for extending its work in Maseru. By this time, sufficient pilot work had been done to indicate the manner in which a national program could be developed for all urban areas of Lesotho.



Photo 1: A zinc VIP latrine

13 Towns Sanitation Project

During the time USIT executed the pilot work, the Water and Sewerage Branch (in the Ministry of Water, Energy and Mining) negotiated with Kreditanstalt fur Wiederaufbau (KfW), West Germany, to fund a sanitation project covering 13 district towns.

Originally foreseen as a sewerage project, the preparation of the feasibility reports revealed that a significant on-site component was required to achieve the objective of improving overall sanitation in these towns. In 1984, it was further agreed that USIT (despite its assignment to a different ministry) was the most appropriate and effective body to handle this new aspect of the project. Thus, the "13 Towns Sanitation Project" became an integrated sewerage and on-site sanitation project, spanning two ministries and addressing the entire range of sanitation needs in all the district towns.

In line with USIT's pilot work, the 13 towns project sought to motivate individuals and institutions to effect improvements for their own sanitation. Therefore, the on-site work could not be carried out in the conventional "engineering project" manner (using a consultant, doing survey work, preparing designs, tendering and contracting). Instead, USIT trained local builders and provided householders

with a technical service and advice to ensure the use of the right technology. In addition to motivating people, USIT educated the people in basic hygiene as well as in the proper use, operation and maintenance of the latrines.

The project's organizational structure, budgets, staffing plan, and implementation strategy were based on the pilot work in Maseru. USIT wrote a full implementation strategy for the on-site component of the project in September 1986. The project consulting agreement with the German consultants, GKW Consult, was signed in February 1987, making GKW fully responsible for designing and supervising the conventional sewerage work. Further, they assumed oversight of the less conventional on-site sanitation work. Once the financing was made available, USIT began work in April 1987. At the same time, GKW Consult prepared an overall project inception report which incorporated USIT's plans for the on-site sanitation work. One of the main goals of the project was the eradication of bucket latrines from private and government property in all 13 towns.

The first year was spent in employing and training additional staff, holding builders training workshops and promotional weeks in all the towns and establishing and equipping the headquarters as well as regional and local offices. Between April 1988 and 1990, well over 1,000 domestic latrines (for private houses and rental properties) were built under the project. Slightly more than 10 percent had help from the loan scheme (to be described in Section III). In some towns more than 30 percent of the latrines were constructed with loan assistance.

By mid-1990, in two towns as many as 30 percent of the households had VIP's, where practically none existed before. During the third year of the project, latrine construction increased 100 percent over the second year. The number of loans increased slowly and steadily. Three hundred twenty new VIP latrines had been built in schools, and USIT provided assistance for the construction more than 1,000 latrines in the district towns under site-and-service housing schemes, on government property, etc. In all the district towns, an average of 24 percent of the population were using VIP latrines by mid-1990. VIP use has continued to increase, despite the impediments resulting from the major droughts in 1991 and 1992.

The complete eradication of all bucket latrines in the district towns was accomplished by 1993. Persuading the users to change to the VIP latrines involved: advertising the withdrawal of collection services long in advance; converting all government latrines (with the assistance of KfW); offering credit and other inducements to build a new latrine; and finally stopping the collection system.

Maseru Sanitation Improvement Project

During 1986 USIT negotiated with ODA for funding to expand its work in Maseru. Again, the implementation strategy was based on the pilot work of the early 1980s. This project was to be fully compatible with the strategy for the KfW "13 Towns Sanitation Project" and with work being undertaken by the National Rural Sanitation Program (NRSP).

There are well over 7,500 VIP latrines in the capital now, and it is estimated that more than 45 percent of the 130,000 inhabitants are using them. Many latrines have been constructed on rental properties by landlords, and the average number of users per latrine is around eight. About 1,500 VIPs are located on various low-income housing schemes and around 1,000 are on government-owned properties. The bucket system was stopped in Maseru in May 1993, as all the users had converted to VIP latrines or connected to the sewers.

Thus by 1987, USIT's pilot work had expanded into a national urban on-site sanitation program. Mistakes were made (as outlined in section III), experiments carried out, and lessons learned during the pilot phase which enabled USIT to plan and implement the larger projects with confidence.

III. DESIGN OF THE "PRODUCT"

Adequate, Acceptable, and Affordable

It was clear to USIT at an early stage that any low-cost sanitation project was likely to fail if it tried to promote a technically inadequate, socially unacceptable or generally unaffordable sanitation option. Further, arriving at the most suitable solution could not be expected to happen quickly and it could not be assumed that a design used in a neighboring country or region would necessarily be suitable.

The locally used anal cleansing material usually dictates certain aspects of technical design. In Lesotho people use paper if they can afford it, but traditionally and more usually corn cobs, leaves, grass, rags or stones are used. Therefore the options of a pour-flush or another simple water-trap design were excluded as frequent blockages would be inevitable. Also, the people saw no advantage in having a water-flush toilet (rather than a dry pit) outdoors.

Those using a water-flush toilet system would normally perceive it as part of a conventional indoor bathroom with a washbasin, shower or bath. Such a bathroom remains a luxury for most people, as the average house is a two-room building without water or electricity. The freezing temperatures in winter would pose another technical problem for an outdoor water toilet, and may partly explain why people are not eager to wash in an outdoor bathroom! For these reasons and the problems of disposing of wastewater on small sites and in clay soils, an alternative solution was required.

In Lesotho, the domestic VIP concept was adopted from the work carried out in Botswana and Zimbabwe; the model originally used for school latrines was based on VIPs designed in Kumasi, Ghana. The detailed designs had to be modified for the particular conditions in Lesotho. For example, consumer preferences dictated that squatting slabs in VIPs were totally unacceptable, and a seat had to be incorporated into the design. Squatting is associated with indiscriminate and open defecation behind trees, in erosion gullies or on waste land. Further, due to the influences of the South African way of life, everyone wants to use a pedestal and seat, like those in a flush toilet. Likewise, a substantial superstructure, with a door giving complete privacy, is expected. The idea of sharing a latrine between households is not socially acceptable, except in an emergency situation.

There are few short cuts in a pilot sanitation scheme. Planners must carefully conduct economic and social research, build and demonstration units, and monitor and evaluate the reactions of the potential users, before a truly appropriate latrine can be found. The VIP latrine was introduced in Lesotho in the late 1970s, and it was heavily promoted in Maseru and some rural areas during the early to mid-1980s. Acceptable to the population and technically adequate, the concept soon became popular and could be made affordable.

Acceptable to Local Taste

The technology of a particular latrine is just one aspect of design. If it is intended that the latrine be widely accepted and desired by people, then it must be liked. This means it should be attractive, odorless, comfortable, easy to use, simple to clean, suitable for children as well as adults and not offend any cultural or social norms.

The spiral Zimbabwe design, without a door, was not preferred, in part because people in Lesotho are often frightened that snakes or other small animals might lurk in the latrine. Likewise, the people wanted a seat, but one that was easy to clean and that an animal would not be able to hide behind. Hence, an acceptable bench seat was developed. Cheap plastic seat covers (costing about M 15.00, equivalent to \$5.00, 1993 prices) designed for flush toilets are readily available. By fixing a seatcover to the concrete seat slab over the seat hole, the comfort and acceptability of the latrine was further enhanced (Photo 2). This also had the additional advantage of ensuring that the pit was kept dark, while not stopping airflow through the latrine.

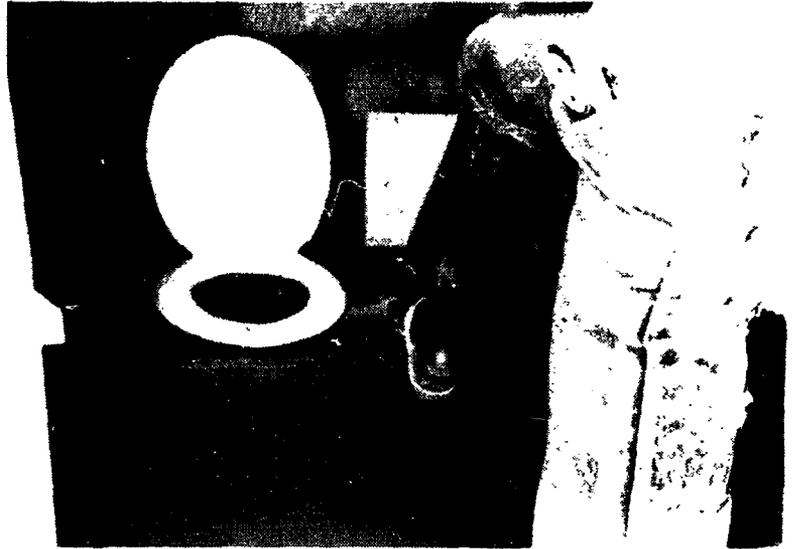


Photo 2: VIP with bench seat

From meetings, discussions, surveys and consumer feedback, it was clear that the preferred construction material for most people in urban areas was concrete blocks. Most middle and lower income people aspired to have a concrete block house with a latrine constructed of the same materials.

The Ventilated Double Pit Latrine (VIDP) with alternating pit system seemed a perfect, permanent sanitation solution for small urban plots. It meant that mechanical pit emptying equipment would not need to be considered. The VIDP was heavily encouraged in the early 1980s and was standard on some site-and-service housing schemes. However, from the beginning most Basotho said they would never empty the pits manually, irrespective of what the contents looked and smelled like. USIT assumed that with time this attitude could be changed, especially when people saw how innocuous the pit contents became.

After a while, however, it became clear that the attitude was not going to change. Also, people in urban areas said they would have no use for the decomposed contents; they would never put it onto their vegetable gardens. Further, some experiments (S.Makhetha, 1986) on how the closed pits were decomposing revealed that many closed pits were contaminated due to infiltration from the fresh excreta. Poor construction of the dividing wall and water flow around the outside and into the closed pit through the unmortared joints caused the contamination. From then on less emphasis was put on the VIDP and more on to the development of pit-emptying equipment as well as an economic and efficient emptying service.

Despite the above factors, some VIDPs were constructed anyway because certain users felt it was better to have storage capacity, in case the pit-emptying tankers would be unavailable when needed. Until USIT was confident about its ability to keep pit emptying service running, this seemed a sensible precaution. VIDPs were not actively encouraged after 1987.

In rural areas, the likelihood of using decomposed excreta was slightly higher and no pit-emptying service available. About 10 to 20 percent of all the rural latrines built are VIDPs.

Affordable By Whom?

In Lesotho, inadequate sanitation is found among all income groups—the rich, the poor, and all those in between—although the very poor are usually the most in need of improved sanitation services. Whatever their level of income, all users are vulnerable to sanitation related diseases and all contribute to an unhealthy environment for the community. Even those with good sanitation are not immune as they are still susceptible to the diseases resulting from the insanitary environment.

Most of the “rich” have conventional flush toilets, which may be connected to main sewerage, conservancy or septic tanks. But this sector of the population is small, under 20 percent in Maseru, less than 10 percent in the district towns and very few in rural areas. Before the introduction of the VIP few options were available for the rest of the population. In urban areas 40 percent were still using the nightsoil system, even in the early 1980s. The others mainly used old, unimproved pit latrines or squatted in the nearest erosion gully (donga) or piece of wasteland.

“Affordable” does not mean that the latrine must necessarily be obtainable immediately or that people must pay for it with ready cash. Realizing the type and value of consumer durables the Basotho had in their homes gave USIT the first clue about how to make the VIP affordable. Most major household goods, such as kitchen units, tables and chairs, beds or lounge suits were regarded as “status” items and bought on credit. They were often bought at high interest rates with substantial deposits required. Furniture and clothing stores heavily promoted the availability of credit.

USIT believed that the VIP must be made available first to the majority of people. This meant the 60-70 percent who were neither the rich (already possessing adequate facilities or desired and could afford a flush toilet) nor the very poor. To target or assist the very poor first would inevitably give the VIP low status and an unfavorable association with poverty. Also, to find a low-cost design or suitable credit system for the lowest 20 percent would be most difficult and time consuming. Section IV gives more details on the credit facilities that are currently available. Assisting the poorest with improved sanitation became a focus of the work in 1990, after eight years of general work and promotion.

A standard local concrete block VIP with a fully lined pit costs about M 1,300 or \$400, a zinc sheet VIP M 250 or \$75. There are several ways of reducing the cost by reusing old materials or converting an old brick pit or bucket latrine for approximate M 750 or \$230 (1993 prices).

In 1990 a primary school teacher, typist or clerk earned about M 250-350 per month; a high school teacher, technical or executive officer earned M500-600 per month; engineers, private sector accountants, managers, etc., earned more than M 1,000 per month. It is fairly common for a household to have a second income in urban areas. The informal sector provides important additional income from hawking goods, sewing, knitting, selling second-hand clothes, selling traditional beer, renting out rooms, keeping chickens or other animals, selling eggs, vegetables or washing clothes, etc. Household income can vary considerably from month to month.

The thrust of USIT's work was to get the VIP widely known, accepted and desired. Once that task was well under way, in 1990 a decision was made to start addressing the sanitation needs of the poorest people in more detail. This involved reducing the cost of the design, extending loan repayment periods, reducing the deposit required, use of cheaper (and less popular) construction materials and introducing very limited inducements and subsidies to targeted groups. Old people living alone were identified by a socioeconomist as a particularly poor social group in need of help. They became the first target group for USIT's help.

National Designs or "Standardization"

In 1985, four VIP designs were being promoted by different agencies in Lesotho. Each design used different sized slabs to cover the pit, and people began to buy slabs that sometimes did not fit the substructures they had built. One design was significantly more expensive than the others, some designs required parts or materials that were not readily available and another needed three sizes and types of slab for each latrine. This increasing confusion led to the agreement that a national design standard was needed.

Annex 1 gives the design criteria and plans of the National VIP and VIDP latrines. After considerable debate with the other main promoters of VIPs, i.e. the Rural Sanitation Project (RSP) and the Lower Income Housing Corporation (Lehco-op), a standard national design was established. The national design does not restrict the type of materials that are used for the superstructure. These can be altered according to taste, local availability of materials, financing, etc. It can be built as a ringbeam VIP, fully-lined VIP, VIDP or VIP bucket conversion (Photos 3-6).

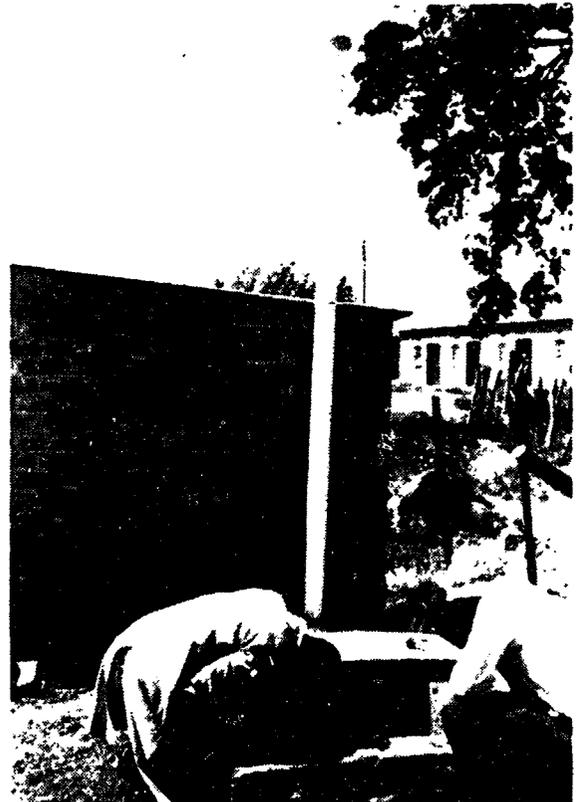


Photo 3: Brick VIP under construction

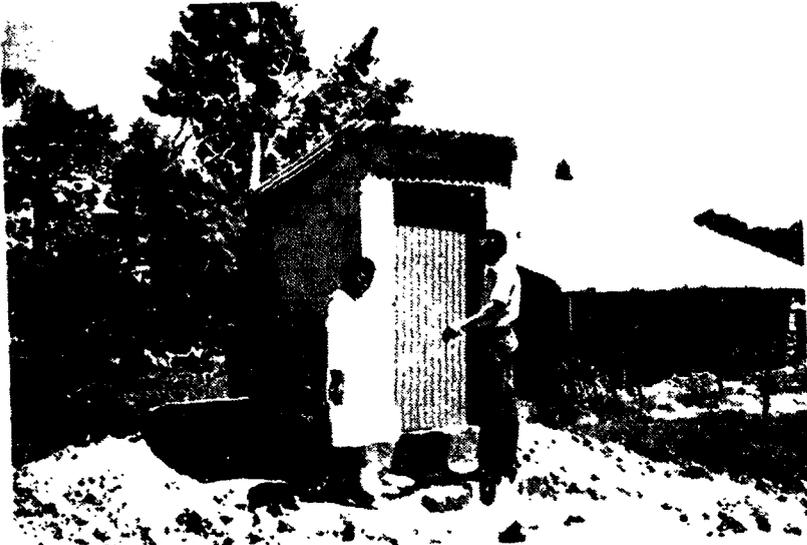


Photo 4: Block VIDP

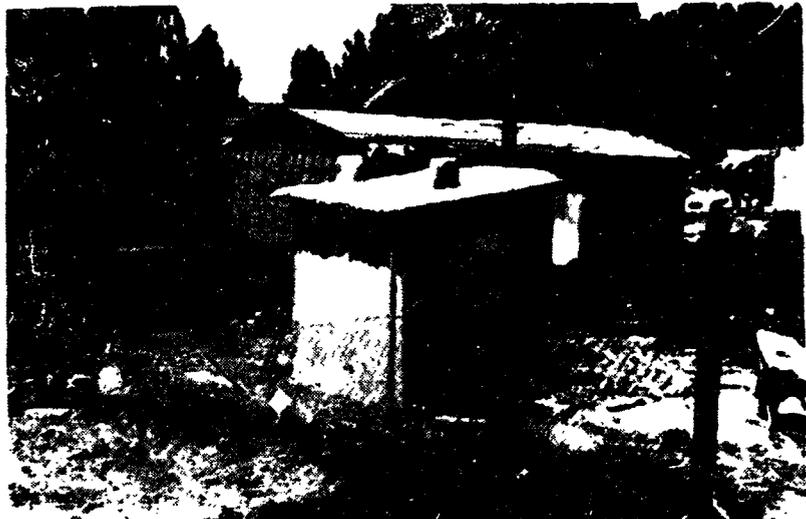


Photo 5: VIP with hessian-cement superstructure

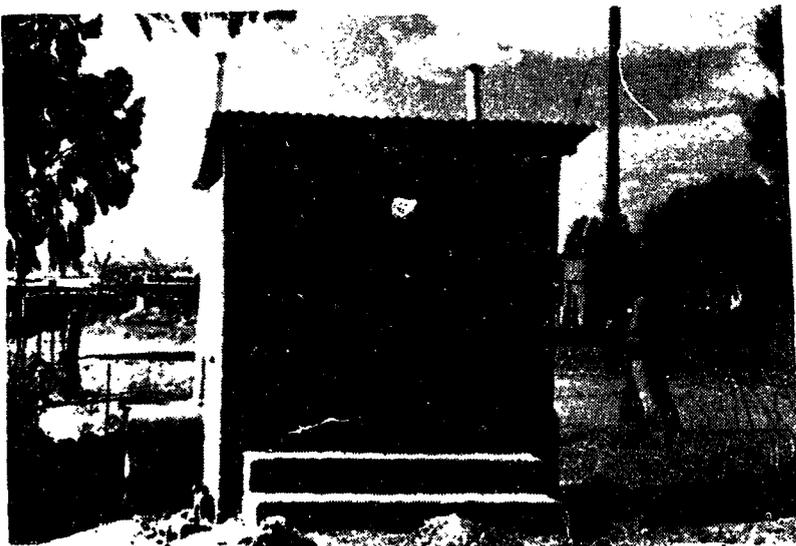


Photo 6: Double VIP unit (2 cubicles, 3 pits)

For a family of six, the VIP will require emptying or relocating after a period of about six to eight years. USIT has made a policy decision that a pit-emptying service will be operated in most urban areas for the reasons outlined above. Therefore, the most popular model is the fully-lined VIP. In rural areas, NRSP decided that pits will be abandoned and the superstructure relocated, hence the wide use of ringbeam VIPs or double pit latrines

The national standard allows for an emptying interval which is longer than theoretically needed. Often the pit will fill faster than expected, not slower. Ground conditions vary considerably in Lesotho, and, generally, more people will use a particular latrine than initially envisaged. As USIT was unsure of its ability to empty pits in 1986, the larger pit was encouraged. By 1990, however, when an efficient emptying service had been established, the standard depth and hence size of the pit was reduced. For individual cases, the depth is still increased or decreased as the specific situation necessitates.

Pit Emptying and Sludge Disposal

USIT has operated a pit-emptying service in Maseru since 1986. First a homemade tank mounted on a Toyota chassis with a sliding-vane pump was tried. This tanker is still working satisfactorily for wet pits, but it cannot empty dense or fairly dry sludges.

Then with ODA funding, and assistance from the UK Building Research Establishment (BRE), the BREVAC-LA system was tried and tested. It comprises a vacuum pump and a 0.7m³ tank unit, each mounted on a Landrover chassis. The pump unit proved very quick and efficient for emptying and could access almost any pit. However, the maintenance problems and running costs were greater than USIT could manage or the client afford. This was primarily due to the vehicles being on imported chassis and the system requiring two vehicles and rivers, and therefore double fuel, maintenance and labor bills.

Currently, the USIT is also using some Irish-made equipment for emptying pit latrines. It has been developed by Manus Coffey Associates (MCA) with international funding, specifically for the purpose of providing an affordable, lasting, and practical solution to emptying pit latrines in relatively crowded conditions. The pump is sufficiently powerful to be able to evacuate dense sludges. After two years of use the MCA Micra-Vacs looked promising, but more recent experience has revealed mechanical problems and high maintenance costs. Regular maintenance and checks, while simple have not been regularly conducted, and this neglect has contributed to the additional wear and tear on the vehicles.

In addition, USIT has also been using a 6m³ Mercedes tanker as a transfer tanker between the MCA vehicles and the disposal site. This vehicle has been in operation for six years and has proved sturdy and reliable. It has been fitted with a generator and pump and can also be used to empty wet pits.

The effort to find appropriate pit-emptying equipment then led to concerns about how to dispose of the pit-latrine sludge safely and economically. Experiments so far have indicated what will not

work, rather than what will.

For the past four years pit latrine sludge (PLS) has been disposed of at nightsoil farms in Lesotho. These sites are fenced areas, outside of the towns and away from habitation where nightsoil from the bucket system is dumped into large hand-dug ditches. Unfortunately, the ideal of regularly covering the waste does not work, as a soil covering splashes through the nightsoil and settles at the bottom of the ditch. The same problem applies to covering PLS. Attempts to cover with wood shavings, sawdust, etc., have also failed for a variety of reasons. In time, the ditch fills up and a dry crust forms on the surface that prevents any further drying underneath.

Clearly, this imperfect procedure requires improved practices and facilities. It has proved very difficult to obtain extra land for experiments inside Maseru city limits, as the land would be needed for several years and for what is regarded as a very unpleasant use. Areas far outside the city boundaries would involve long and costly haulage. In the district towns, there is insufficient PLS at present to obtain worthwhile results. However, USIT conducted some research in 1986 (Williams, WEDC paper 1987) and a detailed literature search more recently.

Land was allocated many years ago for sludge disposal at the Maseru sewage treatment works. In 1990, together with the consultants working on the sewage works extension, USIT agreed to try a series of four large shallow earth lagoons, with simple liquid draw-off for sludge disposal. The contents would dry and decompose over a period of months and then be removed by manual methods, dumper or tractor. Normally, Lesotho has more than 300 days of sunshine per year. It was assumed that if the lagoons were kept shallow (300mm), then as the sludge decomposed there was a good chance it would also dry sufficiently to become manageable. Within four to six months, under the dry climatic conditions, even the hardiest of viruses and helminths should have died off, rendering the sludge harmless. This option was chosen because keeping sludge in a liquid state would mean pumping and tanker costs at the end of the process. A semi-dried, gel-like substance poses considerable problems for handling and should be avoided if possible.

IV. "NO SUBSIDIES"

Financing by The User

Experience indicates that once subsidies are offered, it is often very difficult to discontinue them and persuade people to finance the entire cost of the latrine themselves. Sufficient funds to subsidize latrines for an entire nation are unlikely to become available. But even if they were, would subsidies be the best policy? USIT evaluated this subject closely in 1986 and concluded that subsidies, grants or free latrines were generally inappropriate for domestic sanitation in Lesotho because:

- * A significant percentage of urban people were buying fairly large household consumer items that they desired, with the assistance of credit;
- * In several countries, while creating short-term benefits subsidies have also created serious problems that affect the long-term sustainability of what might otherwise have been an effective program;
- * They intrinsically contradict the policy of sustainability;
- * Users have less than full responsibility for their sanitation, and, therefore, proper cleaning, upkeep and maintenance is less likely;
- * They place a permanent drain on government or donor resources;
- * They are very difficult to target and rarely assist those who have genuine need of help; and
- * If USIT offered subsidies, it would contradict the policy of the Rural Sanitation Program (serving people with generally lower incomes).

On the other hand, if a low-cost sanitation program is to be feasible, extended payment arrangements are needed. USIT was aware that to achieve substantial sanitation improvements, some people would have to spread their costs over a year or two. A revolving fund in the form of a loan scheme was designed which had the following advantages:

- * Financing was available for sanitation improvements on a long-term basis;
- * There is no limit to the number of people who could be assisted, and testing for eligibility would be unnecessary;
- * Repayment with interest means that full responsibility for sanitation remains with the householder, thereby increasing the probability of proper cleaning, upkeep and use;
- * Donor or government seed money is given a long-term value; and
- * Sustainability of the system is more likely.

Credit Arrangements

Many large household items that people owned were comparable in cost to a VIP latrine. As explained in section III, these larger consumer items were purchased through commercial credit schemes. Many people were also building houses—normally to live in and sometimes for an investment through credit schemes. Although the cost of a latrine appears to be an additional burden to the cost of building a house, it actually constitutes a very small amount in comparison to the total cost.

After two years of discussions, a loan scheme was set up in conjunction with the parastatal Lesotho Bank. It was a key point that the government should not be seen as the lender. In other credit schemes, poor repayment rates have been partly attributed to the borrowers' awareness of the government's inefficiency at collecting debts and prosecuting defaulters. Therefore, promotion of the scheme advertises USIT as giving the technical advice and assistance, but the actual loan comes from Lesotho Bank. Box 2 is a sample of a flyer that gives information on how one may apply for a sanitation loan.

Lesotho Bank bought the idea of managing the scheme as it helped them to increase their range of services and further utilize their newly acquired computer system. They have since started similar credit schemes in conjunction with low-cost housing projects and for extension of urban infrastructure services. In Lesotho, married women have the legal status of minors and are not able to sign legal documents, unless they have been given permission by their husbands. Hence, a woman could only sign the loan agreement if she had a letter of agreement from her husband or if she was separated or divorced. This posed quite a problem, and often time lagged, as some husbands were working in South Africa as miners. USIT, therefore, had to specifically target their promotions to men. For the scheme to be successful, it had to be as simple as possible to manage, acceptable to the accountant general and legally sound so that defaulters could be prosecuted.

The satisfactory levels of loan repayment are attributed to several factors:

- * The loan application is submitted to a Loan Approval Committee of two USIT officers and three or four local people such as the town clerk, chief, hospital matron or military officer. The LAC must interview the client before the loan can be approved. The LAC is also responsible, along with USIT, for following up on late repayments.
- * A substantial deposit (30-40 percent of total cost) is required. This involves not only money but organization, time and effort and helps to ensure the client is serious about wanting the latrine.
- * Lesotho Bank is regarded as an efficient institution that would certainly try to reclaim debts if they were owed.
- * Reminders are given or sent out automatically after 30, 60, and 90 days when a repayment has been missed. The 90-day reminder is copied and circulated to the local chief (or town clerk) who will also follow up the debt.
- * USIT strongly encourages people to visit the office to discuss repayment problems. Community staff follow up on clients who are defaulting on their loans.
- * No repayments are expected during December and January when everyone has the costs of Christmas as well as the school fees to pay. The loan is actually to be repaid in 20 installments over 24 months.

HOW TO GET CREDIT FOR YOUR VIP

If you do not have the funds to build a VIP now, then you can apply to USIT for a loan from Lesotho Bank. This is what you have to do:

1. Go to your nearest USIT office and ask for a full explanation of the Loan Scheme and the various options available.
2. With USIT assistance, complete the Loan Application Form. You can choose to repay your loan over any period of up to 20 months. Interest will be charged at the normal Lesotho Bank rates on the loan. In exceptional circumstances, repayment of the loan could be negotiated for a longer period.
3. You will then be called for an interview by the Loan Approval Committee (LAC). They need to check that you are over 18, that you can produce a site ownership certificate and that you are likely to meet your monthly repayments. Before you can receive for the loan, you will have to collect 120 blocks and sand for the substructure. You must also dig your own pit.
4. When you have collected the materials, you will have to sign an "Acknowledgement of Debt" agreement and commit your collateral against the loan amount. You should then pay the M 10.00 registration fee. This fee covers the cost of paperwork, flyscreen, roofscrews and a few small items. You will then be given a "loan number."
5. USIT will help you find a trained builder and give you a purchase order for the remaining materials and the builder's fee.
6. After you collect the materials yourself from the suppliers, the builder can start building. A USIT Technical Officer will check that it is built correctly. When it is finished, you will have to sign a completion certificate, stating that you are satisfied with the VIP - before the builder is paid.
7. When the invoices have all been paid, USIT will set up the loan with Lesotho Bank. You will be given a Loan Repayment Card to take with you to the Bank. The repayment should be made on or before the first day of every month.
8. If you have any financial problems and cannot make a repayment, talk to USIT community staff about it and USIT will try to help you. Remember, if you repay in less than 20 months, you will pay less money in interest.

Invariably, the bad debtors have been the wealthier people who think no one will follow up on the debt. Most poorer people are concerned about falling into debt and thus repay regularly. Many people have repaid more quickly than their chosen loan period, to reduce their interest payments. No one has been prosecuted yet, but legal proceedings have started against a few clients.

The default rate has risen slowly since the scheme started. This is mainly due to understaffing in the USIT Community Section, which makes it difficult to follow up on everyone who is behind on payments.

Schools and Other Institutions

For urban schools and other institutions, the program provides some financial assistance for improving sanitation—when the institutions are sufficiently motivated. This also provides positive demonstration for all the people who use these facilities. The subsidy takes the form of a 50 percent reimbursement after the work is done.



Photo 4: Multicubicle VIPs at Leribe Methodist Primary School

Box 3 outlines USIT's policies for communal and institutional sanitation. This scheme has helped finance VIP latrines built in schools, clinics, creches, communal workshops, churches, community buildings and nurseries. Although financial help is given, the emphasis remains on community participation and motivation. Latrines are only built when the school is sufficiently motivated to organize the work, raise the funds and purchase the materials. USIT has organized school poster competitions, held workshops for teachers and has a promotional tape-slide program for teachers and managers. All of these help to motivate schools and institutions and teach them about the value of good sanitation for students.

For institutions, the basic national VIP design has been adapted into multi-cubicle models with a protecting wall around the outside. The earlier school design (based on work in Ghana) was adapted in 1987 so that the school latrines would use the same slabs and similar dimensions to the domestic latrines. Urinals and hand-washing basins are often added. See Photo 4.

Within five years of starting the "13 Towns Sanitation Project", almost all the schools in the 13 towns had VIP latrines. In some towns 100 percent coverage was achieved in four years. In Maseru it took longer to achieve the desired coverage, but in 1993 all the schools had VIP latrines. In this case a policy of subsidies appears to have been effective in encouraging the schools.

DOES YOUR SCHOOL NEED PROPER TOILETS?

Are you concerned about the health of your students? Are you trying to teach them good hygiene and health habits? Do you tell them how important cleanliness is?

USIT WILL HELP YOU BUILD VIPs FOR YOUR SCHOOL.

THIS IS WHAT YOU NEED TO DO . . .

1. Get all the teachers and parents together, tell them what you plan to do and get their ideas and support. Ask them to help think of ways to raise funds.
2. Go to your local USIT office, tell them the number of people to be served in your school — number of boys, girls and staff. Discuss what your current facilities are the layout of the school, etc. A technical officer will come and look at your school and advise you on the best thing to do. You will then be given a rough quotation of the cost, material lists and plans.
3. Meet again with the teachers, parents and students and decide how best to raise 50 percent of the quoted price. USIT Community staff will come and talk at the meeting, if you ask them. They will explain the importance of good sanitation and how the VIP works. Look for a builder to do the construction.
4. When you are ready, and have bought some of the materials, go back to USIT. A Technical Officer will come out and decide where the pits should be dug. You then organize the digging of pits, and then call USIT to approve the work when you have finished.
5. When you have bought about half the materials, take your receipts to USIT. You will be re-funded with 50 percent of the cost; then buy the other materials.
6. When the builder has finished, USIT will refund you with 50 percent of the cost from remaining receipts. USIT community staff will come to give health and user education to all your teachers and students.

GIVE THE CHILDREN A GOOD START WITH GOOD SANITATION

Box 3: USIT's Policy on School Sanitation

Training Local Builders

A key question which arose early in USIT's work was, "Who will build the latrines?" Apart from the time taken to design and modify the VIP at the pilot stage, USIT staff have not built latrines themselves. In urban areas, people do not build their own houses, but employ a local builder to do it for them. Therefore, the latrines have been constructed by the same local private house builders. Training and supervising builders who had already built latrines were also seen as much more efficient than training householders with limited or no building skills who would build only one or two latrines each.

USIT is responsible for training, supervising and following up the builders. Labor costs are controlled and USIT endeavors to ensure that essential materials are available. Wherever possible, this is done through local shops and retailers. USIT also tries to maintain a good relationship with the builders, representing the builder's interests as well as those of the householder (although they sometimes appear to conflict). The "drop-out rate" after training is often related to the demand for latrines. If the builders can get latrine-building work soon after training, they are more likely to keep building than if they have to wait months for the first latrine. In many towns, three or four builders have emerged as the community's main latrine builders and work almost full time on latrines.

The latrine builders are trained during ten-day practical courses held in each town (Photo 5). Between 10 and 30 builders attend; usually every builder who wishes to attend can do so. Various USIT staff assist with different sections of the training timetable, with the Technical Section being the main organizers. A typical VIP builders' training course includes:

- * Teaching about the relationship between water, sanitation and disease.
- * Explaining what constitutes good sanitation.
- * The working principles of the VIP latrine.
- * How to read the VIP plans and the crucial dimensions of the VIP.
- * Theoretical and practical demonstration on the making of reinforced concrete latrine slabs.
- * The actual construction of two or three demonstration units, each illustrating a different model, e.g., a fully lined VIP, ringbeam VIP, VIDP, bucket conversion, etc.
- * Teaching the builder the basic user education as well as the maintenance requirements of the VIP; this information can then be passed on to the clients.
- * A discussion about the cost of labor for construction of a VIP.
- * Advising the builders on the best way to advertise their skills in the community.

The builders are already experienced in basic bricklaying and construction. A trade certificate and/or some building experience are prerequisites to training. USIT judged it would be too costly and take too long to train people in bricklaying. It would also be difficult to select who would be eligible to attend the course. In urban areas women rarely construct houses, and tend to pursue selling, sewing or other income generating activities. The building trade is perceived as being for men.

Each builder is given a set of plans, a poster to advertise his skills and a certificate. His certificate means he is qualified to build latrines for people who have taken a loan under the USIT Loan Scheme (see Annex 2). After a great deal of discussion, redrafting and revision the National Rural Sanitation

Program produced a VIP construction manual. USIT was involved in the process, and, seeing the amount of work involved, decided against attempting a similar exercise. They make use of NRSP's manual if necessary.

Training local builders to build latrines has the following advantages:

- * Latrine-building skills become part of the skills available in the community — an asset of the community. House-builders also become competent at building latrines and the two jobs become associated. In 1993, it is rare for a new house to be built anywhere in the country without a VIP latrine.
- * Should the government discontinue the sanitation program for any reason, VIP latrine building will continue.
- * USIT is able to concentrate more on promotion, health and user education, good administration, better designs and expanding the program to new areas. These are things which are unlikely to be done by the private sector.
- * Latrine building gains a momentum of its own and increasingly becomes independent of government assistance. By 1992, more and more VIP latrines were being built all over the country — without any input from USIT.
- * The government department is able to keep the number of staff down and limit operating costs. As the program has gained its own momentum in Maseru and the other towns, the number of USIT staff has decreased.
- * It encourages initiative, self-reliance and creates employment opportunities.



Photo 8: VIP Builders Training Workshop held in Maputsoe, June 1986

V. PROMOTING THE "PRODUCT"

Health Benefits or Status Value?

It is generally accepted that improved health starts with the basics of clean water, good sanitation and health education. But in any given developing country, how many people understand this? How many are prepared to divert their very limited resources to sanitation when they also have the priorities of food, shelter, clothing, transport, medical costs and school fees to pay for? Is it necessary for people to fully appreciate the health benefits? If they desire improved sanitation, does it matter what the motivation is?

Good sanitation can be viewed as a product which must be marketed to the public. It is likely to be quite low among their priorities, and it is the job of the community workers, public health workers, health assistants, sanitation teams, etc., to create a demand for improved sanitation.

At the start of any sanitation project, it cannot be assumed that people will automatically desire or prioritize the product that is being promoted. The primary requisites were mentioned earlier (the product must be adequate, acceptable and affordable). After that, a lot of hard work must go into convincing people that they need or want improved sanitation. An initial lack of willingness-to-pay for improved sanitation can be changed by education and promotion.

Two primary approaches were identified for advertising the VIP latrine. USIT has successfully used both of them, separately and together. The first is to publicize the health, hygiene and cleanliness benefits of improved sanitation, and the second approach heightens the status of a VIP latrine as a new, desirable, modern, and convenient product.

The health and cleanliness benefits are well documented. One has to be careful that they are translated into a language that is easily understood by ordinary people. Do people understand germ theory? If they don't, then one cannot start talking about the transfer of germs from faeces to food. Do people understand that diarrhea is caused by poor hygiene practices?

In Lesotho, people put a lot of emphasis on buying clothes and furniture. These things convey status, prestige, and position. Therefore USIT also works on promoting the VIP latrine as a desirable, modern and attractive product. It is marketed as affordable but not cheap, as this would reduce its status value. Pictures are shown of neatly constructed and painted VIPs which have attractive doors and plastering inside and outside. Mirrors, potted plants, a tiled floor, and toilet paper holders can be added to improve the appearance and status value. These extras add prestige to the basic affordable latrine.

Education Materials and Advertising

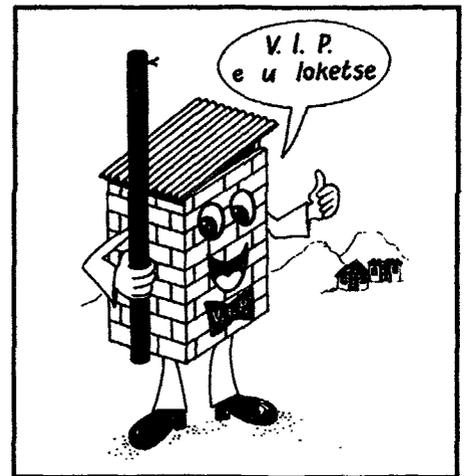
USIT has produced posters, leaflets, a calendar and handouts using a simple computer program (Newsmaster), photocopier, colored paper, a lot of glue, and a little imagination! In the early days, some

materials were produced by a commercial advertising company and professional printers. Somewhat expensive but very good-looking materials were thus produced. It is questionable, however, whether they achieved any more than the homemade designed materials. The vital issue is not the quality of production or sophistication of the materials, but the care taken to test the interpretations of messages and pictures and the way the materials are to be used.

Learning and using some of the tools of commercial advertising can help. For example, frequent spots on the radio with simple messages such as:

*Get a VIP—it's good for your family
Build a VIP—it's good for your health
A VIP is modern, clean and good for you*

are being used to achieve the desired effect. Another successful advertising method has been the adoption of a jingle tune based on a traditional mining song and familiar to the target audience. The song has become associated with good sanitation and the VIP; the USIT staff recorded it. An alternative would be to use a locally popular singer or music group. Likewise, an advertisement was placed repeatedly in widely read newspapers and magazines. Standard, inexpensive posters with big, clear pictures and simple messages were produced (Annex 2) and displayed in offices, clinics, schools, churches, shops and homes.



Box 4: The "Mr. VIP" logo

Testing Promotional Materials

The materials used for latrine promotion, health and user education must be carefully researched and produced. They must consider the needs of semiliterate or illiterate people, address all income groups, and be carefully targeted and economically produced. Ideas taken from other projects are useful, but must be carefully adapted to ensure they suit the particular sociocultural context at hand.

Misinterpretation is much more common than is normally realized. When program staff are all well educated and fairly sophisticated, it often proves difficult for them to perceive the materials in the same manner as someone who can hardly read. It is, therefore, very important to define the messages that are to be conveyed and to stage their delivery properly.

The messages should be divided into:

1. promotion,
2. user education, and
3. follow-up.

Some of USIT's earlier promotional materials and work could have been better. For example, it was learned that one should not give user education messages to people who have not yet constructed latrines. Prior to latrine construction, it is only appropriate to disseminate promotional information and hold discussions about the availability, cost, design, construction, etc., of the latrine.

Testing of promotional materials takes time but is essential. USIT occasionally failed to do this — and learned the cost. Thousands of commercially produced promotional leaflets were printed without thorough testing. Although not totally useless, they could have been better. In one case, for example, a promotional leaflet had a questionnaire about sanitation on the back which was to be filled in and returned. In an ensuing lottery, the first respondent to have all the correct answers was to be awarded cover slabs, a plastic seatcover, a ventpipe and flyscreen for a VIP. However, by filling in the answers and returning the leaflet, the client also lost the information on the inside of the leaflet that he or she should have kept. The leaflet was very attractive and nicely produced, and the USIT staff were more impressed by this than the practical aspects of using it. This raises another problem with the use of professional or commercial producers; every new draft, modification and change adds considerably to the overall cost of promotion. The time delays in conducting and evaluating the testing are not popular with commercial companies who wish to get the work finished and paid for.

Variety of Media

USIT makes use of printed matter (posters, pamphlets, leaflets, handouts, stickers, tee-shirts, flashcards and flip-charts) as well as radio, tape-slide programs and videos.

In district towns and peri-urban areas, audiovisual equipment powered by a generator can always be guaranteed to attract a crowd and hold people's attention. Unfortunately, although videos and tape-slide programs can be used in the open, they have a rather limited audience because of the small screen size. Effective use of a projector requires finding a hall that can be blacked out; such rooms are not commonly available except in schools.

USIT has developed a series of tape-slide programs; each targets a different audience. All programs are set in Lesotho and the slides are all of Lesotho. The different programs address primary school children, school managers and head teachers, local district government officials, primary health workers, and zincsheet latrine builders.

In 1986 the Community Section wrote and recorded a six-act serial radio play. USIT staff performed the play, which tried to realistically present the problems encountered with poor sanitation and bad hygiene practices. Further, the solutions available for improving the situation were also presented. It took a long time to record and edit the play, but it was an interesting exercise. Because of the time it took and the frustrations encountered when trying to work with the local radio station, the exercise has not been repeated. However, USIT would recommend this as an effective and far-reaching publicity device. Most people have radios, and even people who are not literate can benefit from listening to a radio program.

Community workers must learn how to use promotional materials to their best advantage. It is common for good equipment and materials to be of limited use because the community workers have not been well trained. However, training community workers in the proper use of education materials is an area of special expertise. If there are no trained people available to in turn train the implementing teams, a short-term consultant could be employed for an initial period. As USIT lacked this expertise at the beginning, it has not always been able to channel its efforts in the most efficient way.

Annex 2 provides examples of materials that have been produced.

Local Culture, Attitudes, and Aspirations

Cultural attitudes are unlikely to be the same in any two countries. In many countries, they will also differ from region to region. Sanitation work often touches on local traditions, beliefs, habits and customs. It is essential for the implementing agency to have a clear understanding of these factors. Such information must be researched thoroughly and treated with sensitivity. In some cases this knowledge can also be used to assist in the aims of promoting better sanitation.

It is wrong to assume that the better educated and partly westernized local staff automatically know what is appropriate for the general population. As in all societies, understanding, aspirations and attitudes vary according to families, income and educational background. In Lesotho, for instance, use of "local materials" for a latrine is unacceptable to most people living in Maseru and some of the other larger lowland towns. However, in the remote towns in the mountains where life is more traditional, people are quite happy to consider the use of stones or thatch for the latrine superstructure.

In Lesotho, spreading the news of proper sanitation has been made easier due to the local culture and its traditions of cleanliness around the home and in personal habits. However, special efforts had to be made to dispel the commonly held misconception that children's faeces are not dangerous. Aspirations are also being developed to include a nice looking latrine as part of having a good house. It is becoming increasingly embarrassing in urban areas to be unable to offer house guests the use of a latrine. Thus, as advertising, education, travel, films and visitors affect and slowly change a country's values and aspirations, a sanitation promotion program must aim to do the same.



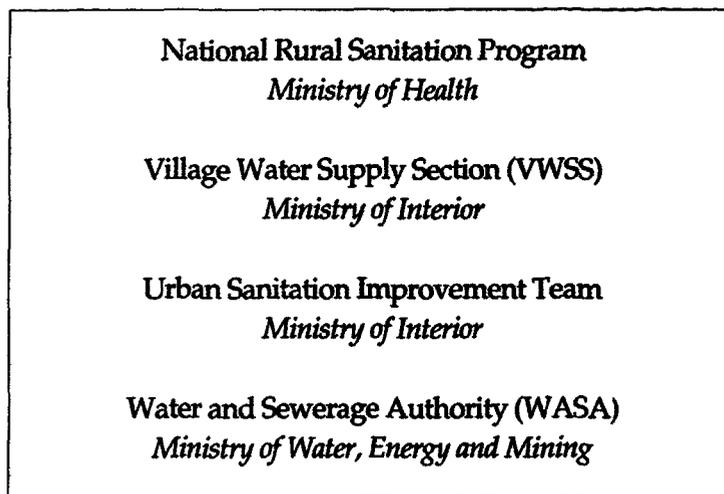
Photo 9: USIT Staff participating in a local carnival

VI. APPROPRIATE INSTITUTIONS

Intrasectoral Collaboration

USIT's work is only a part of the overall water and sanitation sector activities in Lesotho (Box 5 shows the main actors). This means that in order to be fully effective USIT simply cannot afford to ignore what the other agencies and departments involved in the sector are doing. Nor can it achieve its goal of improving health by working alone.

In particular, there is a need to work closely with the National Rural Sanitation Program and the Water and Sewerage Branch. Also, the low income housing site-and-service schemes invariably involve construction of VIPs, and, hence, USIT's involvement is required.



Box 5: The Water and Sanitation Sector in Lesotho

This cooperation was institutionalized in 1981 by the formation of the National Steering Committee for the IDWSSD. The committee included all the sector departments and major donors, and was chaired by the Ministry of Planning. During the Decade, practical coordination has been carried out by smaller working committees such as the On-site Sanitation Coordinating Committee (OSCC) and the School Sanitation Subcommittee. Within the sector there are several interdepartmental and joint projects, of which the "13 Towns Sanitation Project" is an example. On a more informal basis, health and hygiene education and training materials have been developed jointly; also the sections in the National Building Code regulations related to low-cost and other forms of on-site sanitation and the standardization of the national VIP/VIDP designs were agreed upon and implemented together.

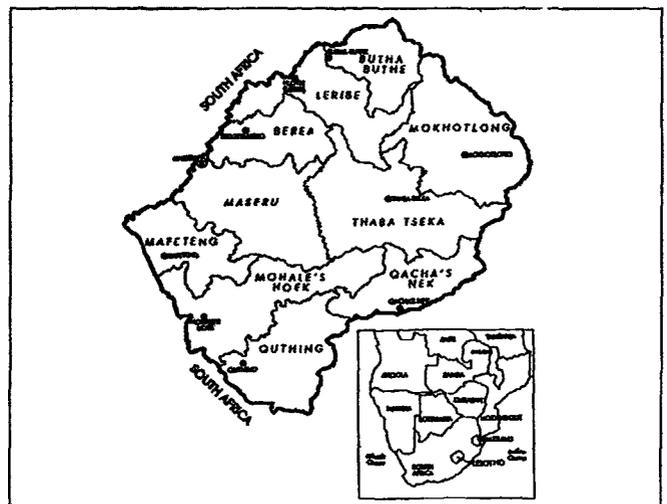
"The Team" and Decentralization

The nature of low-cost sanitation work often means dealing on a one-on-one basis with the poorer sections of the community. This includes working with people who've had little formal educa-

tion, many older people and those with lower incomes and status. Some builders have just tools, squares and spirit levels and are not registered contractors. Working with these people in a slow, highly bureaucratic way will not help achieve the aims of improving sanitation. USIT had to be easily approachable, with a structure that enabled people to get the help they required with a minimum of forms and waiting time.

With this in mind, teamwork evolved as the appropriate way of working. On the USIT team everyone has his or her own job but is expected to be able to assist others when necessary. A balance of technical and community staff is required. A seniority structure must exist (Annex 3), but all staff are encouraged to communicate regularly and freely with each other. Junior staff and their opinions, attitudes, problems, needs and training were considered as quite important to the team's success. Senior staff must be prepared to go out to the field, get dirty and tired and not expect others to do what they are not prepared to do for or by themselves. Monthly staff meetings are held to air views, problems and complaints, and discuss new ideas or educational materials and posters.

The geography of Lesotho has dictated the need for three "regional subteams" (see Box 6). Maseru has almost twice the population of all the other towns combined. It is also located approximately in the center of the country. Therefore, the Maseru team is the largest and covers the central region. The "13 Towns Project" has two regional offices—one based in Mochale's Hoek, the middle of the Southern region and one in Leribe, the middle of the Northern region. Each of these offices is staffed with a senior technical officer, a technical officer, and a driver with a vehicle. They are expected to supervise the work in all the towns within their region. Each town has one technical assistant, who does the routine work (helping inquirers, and clients fill in loan applications, chase up builders, etc).



Box 6: Map of Lesotho with USIT's HQ in Maseru, Regional offices in Leribe and Mochale's Hoek, and local offices in the other towns

Flexibility and Adaptability of Approach

USIT started with a set of ideas that were tested in a pilot phase. These ideas were continually tried, tested and evaluated, and refined when necessary. Successes, failures, ideas and proposals were collected from other sanitation projects and from anyone who had a suggestion. At staff meetings, such ideas were discussed to reach a consensus on whether and how a particular idea should be tried.

A "right way" to proceed should not be expected from year one. Progress will require changes and modifications to latrine designs, community work methods, promotion techniques, staffing struc-

tures as well as the ability to admit when something has not worked and the willingness to try something else. After thirteen years, USIT continually adjusts and changes the program, as new circumstances arise or a better way of doing things is found.

Localization of Skills

USIT began as a small government department run by an expatriate. As the staff increased, a Mosotho coordinator, Thabo Khaketla, who was a recent graduate in sociology, was appointed as counterpart to the expatriate. In time, after working with the expatriate and attending a postgraduate course in England, the Mosotho coordinator assumed responsibility for all activities and the expatriate became an adviser. During this period, two international volunteers, the author and Chris Williams came to assist with particular tasks, one to set up and manage the "13 Towns Project" and the other to work on pit-emptying equipment and to support the work in Maseru. The latter left USIT after his two-year contract expired, having achieved considerable progress with pit-emptying equipment and other tasks. The adviser left at the end of 1988, leaving just one KfW-funded expatriate to assist USIT in its work until the middle of 1990. At this stage, after almost 10 years, complete localization was achieved.

Training of local staff involved overseas and local courses and practical hands-on experience. Allowing the local staff to do their jobs with support and advice, and without continual interference from expatriates who thought they could do the job better, proved to be fundamental to localization. It is important that the local staff occupy their posts with full responsibilities for several years, while expatriates may or may not be around as advisors. It's impractical to have an expatriate run the program and then expect a local manager to take over after a short transitional period.

The organizational structure and staffing of USIT is presented in Annex 3. There are now three sections: the community section, the technical section, and a small administrative section. The staff are split between the "Maseru Sanitation Improvement Project" and the "13 Towns Project." The four senior positions were established by the government of Lesotho as civil service posts in 1987. In 1992 more posts were established by government, thus accepting permanent responsibility for the team and reducing the donor inputs.

Because of the many problems encountered when establishing new departments and recruiting staff in developing countries, an appropriate and practical staff structure has to be looked at very carefully. In many countries, during the first years, expatriate assistance will be needed. Ideally, this will be withdrawn progressively as the team gains experience and can be run completely by local staff. This is a slow process and is likely to require five years or longer.

Continuity

USIT's experience has been that the services of one or two committed expatriates who are prepared to stay for several years will be much more constructive than several people coming in for shorter durations. Several people working on two-year contracts could spend too much settling in,

exchanging many different opinions and promoting changes of direction. USIT had one expatriate stay seven years, one for five and a half and another stay for two.

However, short-term consultants (those on site for a few weeks up to a couple months) have provided valuable help and training for specific subjects, e.g., the production of health education materials, community section training and management, a socioeconomic review of the loan scheme, etc. Hiring such consultants allows the project work to continue during training and precludes an expatriate from assuming responsibility.

USIT needed years to establish localization before all external technical assistance could be withdrawn. This time frame appears to be realistic, since the nature of the work is such that it can never be done quickly and also requires long lead times for pilot phases, research and evaluation. Going from the initial stages of pilot work into a national program will also require consistent government commitment, aided by external support, staff training and builders' workshops. Further, material supplies and logistics regarding transport, offices and equipment must be arranged.

The commitment of team members (local and expatriate) to the aims, methods and ideas behind implementing a low-cost sanitation project is of the utmost importance. This type of work cannot be done effectively by someone who doubts its appropriateness or would prefer to be designing sewers or a water reticulation network. For an expatriate in an advisory role, a basic knowledge of community and public health issues, economics and accounting is important, in addition to a technical or engineering background.

Staff Selection and Motivation

USIT was fortunate that the 13 Towns Project could be set up with a newly selected team of people. This is definitely preferable to trying to change the habits and practices of an existing government department. However, the new team of people came from within and not outside of existing government structures. Most of the best staff arrived directly from school, college or university, or from another department which had a similar teamwork philosophy.

In Lesotho great emphasis is generally placed on paper qualifications. USIT's consistent experience, however, has been that the level of technical knowledge required in this kind of work is not very high. Instead, a confident manner and ability to express oneself politely and clearly when dealing with builders, local officials, suppliers and clients is essential.

Before conducting interviews for particular posts, USIT found it helpful to think about the type of personality that was needed to do the job well rather than to focus on particular academic or technical qualifications. It was found that students straight from college could often be trained quite easily and were open to the "teamwork" spirit of USIT. With a general technical background, the particular technical requirements of the project can be quickly taught.

Women in USIT

Many of the best USIT staff are women, and USIT gets fewer complaints and more compliments about the work that they do—whether it be in site supervision, community work, builder training or administration. Most of the clients who come to the office for assistance are women, as many of the men work in the mines of South Africa or are busy with other things during working hours. Women technical and community officers have the particular advantage of being able to understand, empathize and work better with the female clients. Most of the person-to-person community and education work is done with children in schools, teachers and women at clinics, clubs and in their homes. Female community workers have always been the most appropriate conveyors of promotion and education messages.

In the early days of USIT, until around 1988, men held most of the middle and senior positions on the team. This has since changed as most of them have moved to other jobs, and junior and mid-level females have been promoted. In 1989, only one senior staff member was male. Since then the proportions of male and female staff have changed, depending on who was available and most suited to the job. Women still hold the majority of senior positions and the USIT coordinator is a woman.

Low Administrative and Running Costs

If the ultimate intention is that the program will be taken over by the local government and external support withdrawn or limited, then it is important that running costs are kept low enough to be fitted into the government budgetary constraints.

To this end, USIT tries to have only the equipment that is really needed. Donors often urge projects to spend more of their budgets, and additional capital equipment is an easy way of doing this. Once a piece of equipment had been bought, however, USIT found that personnel did not like to be without it. If a machine broke down, work would come to a halt, whereas before it had been purchased everyone could have managed. All equipment brings with it service, maintenance and repair costs. Often these are higher than expected and can substantially affect monthly running costs. On-site sanitation is labor intensive. Hence, it is important to use labor-intensive methods in many cases, but for certain jobs modern technology is considered appropriate.

It was necessary to ensure that all equipment bought could be maintained and serviced locally and at minimum cost. This meant the very cheapest item was not always purchased — if the cheaper item would have meant more maintenance problems. Unfortunately, Maseru had no efficient outlet for repairing audiovisual equipment; in this case the nearest possible source was used.

Staff were usually employed according to the staffing plans in the project proposal, but alterations were made according to actual requirements. However, before any additional team member was taken on, careful consideration was given to whether this was really necessary. The all-too-common “civil service lethargy” has been largely avoided because USIT is unable to employ many people in established and permanent positions. Unfortunately, this has also had the adverse effect that good staff have left for more permanent employment in other places.

In 1990, the Government of Lesotho provided the salaries of the four established positions and an annual budget of about M 180,000, or \$72,000, as counterpart funding to the ODA budget of M 200,000 or \$75,000. Since 1990 eight more posts have been taken over by the government, although not all of them are currently filled. The budget covers wages, office and transport running costs; the ODA funds cover promotion, training, new vehicles, capital equipment and evaluation and monitoring, etc. These budgets support the work in Maseru and the headquarters team. The total annual running cost for the 13 Towns Sanitation Project (KfW-funded) is about M 200,000, or \$80,000.

VII. FUTURE ISSUES

Although USIT's activities have been generally successful, there remain areas of weakness. The difficulties of reaching the very poor, getting the government to take over more running costs, improving the rate of loan repayments, the problems of latrine emptying in smaller towns, and the treatment of pit-latrine sludge are of particular concern. If the program is to become truly sustainable, these issues must be resolved.

The program was designed quite deliberately around the notion that people can and will pay for improved sanitation. Although a lot of work went into making designs affordable, clearly there are some people who are too poor to benefit from the program. Efforts to address their needs are under way, but much more needs to be done, both to reduce costs further and to find efficient ways to target any subsidies that may be necessary. Helping the 20 percent of the population with the lowest income remains the greatest challenge.

The government of Lesotho has now assumed responsibility for more USIT staff salaries as well as for all the program costs in Maseru. However, there is still a need for government to take over the additional running costs for the 13 Towns work. The running costs are not high, but while the donor presence allows additional work to be carried out, there is little incentive for government to provide a budget. The scale of this and the Maseru future budget depends partly on how USIT plans its future operations.

It is important that the loan scheme continues to function well and allows the funds to revolve, thereby increasing the number of people who can benefit from a loan. USIT must concentrate more effort on ensuring consistent repayments, thus allowing all the funds to revolve.

Finding good equipment is only the beginning of the pit-emptying story. The logistics of working in small towns, where numbers do not require an emptying vehicle on a full-time basis, still have to be worked out. People are naturally reluctant to pay for their pit to be emptied before it is full, but once it is full they want prompt service. So, at any one time there are likely to be a few people in each town demanding that their pits be emptied. Sending the vehicles back and forth between towns is very expensive, especially if there are only a few pits to service in each town. Additionally, the supervisory and maintenance problems increase when vehicles are scattered over a wide area. A long-term plan for pit-emptying around the country is badly needed.

Related to pit emptying is the unresolved problem concerning the disposal of sludge. As noted earlier in Section III, USIT has some ideas, but these are not yet fully tested. Dedicating time and staff to monitoring the drying lagoons in Maseru will be necessary to obtain worthwhile results and progress on this issue.

Also, as the positive cumulative effects of ten years of health education and promotion are being felt, USIT must plan its future operations. There is much evidence to indicate that the whole attitude toward latrines has changed in urban Lesotho, very much along the lines that USIT intended. In newly

developing areas, people are now building VIP latrines when they build a house. Landlords must provide sanitation to get a reasonable rent on property, and it is becoming socially unacceptable and embarrassing not to have a clean latrine. USIT must soon decide if it will continue in the same role or if it can leave more of its activities to momentum and the private sector. In the future, operating the pit-emptying service and managing sludge treatment in the districts will be important, but it is still unclear whether USIT will continue to supervise and direct these operations.

The National VIP and VIDP Designs

1. INTRODUCTION

After much discussion between the officers of USIT and RSP, the criteria and ideas around which the USIT-RSP latrine design were established:

1.1 Slabs

- * Avoid the use of crushed stones.
- * Lower cost than the slabs then in use.
- * Simple formwork—one size of form for all the slabs.
- * Ease of quality control.
- * Made from materials available all over Lesotho.
- * The slabs should cover at least a 1-m span.

1.2 Latrine

- * Use of bench seat rather than a pedestal seat.
- * Any material could be used for the superstructure.
- * Can be built as fully-lined VIP, Ringbeam VIP or VIDP (double pit VIP).

2. SLABS

2.1 Size

The agreed slab size is 1.2 x 0.85m, and the thickness should be 50mm. This size of slab is practical for the purposes of the VIP & VIDP designs. Also it is suitable for cover, vent and seat slabs.

2.2 Bending Moment

To withstand 2 x 100kg “men” standing at center span.

$$\text{B.M.} = Pl/4 = 2 \times 100 \times 9.8 \times 1.2 / 4 = 2,352 \text{ Nm}$$

2.3 Area of Reinforcement Required

Using the Modular Ratio Method the balanced design is achieved when $A_s = 200 \text{ mm}^2$

Using the Limit State method a similar calculation would give $A_s = 180 \text{ mm}^2$

It is assumed that the stress concentration around a 110-mm diameter hole (vent pipe hole) will not significantly weaken the slabs. A weaker slab strength can be accepted for the seat slab, as it is supported on all four sides and will not need to carry more than one person at a time.

2.4 Reinforcement

Eight bars of 6mm diameter reinforcing bar gives $A_s = 226 \text{ mm}^2$, which is sufficient. It is also the cheapest and most widely available type of reinforcing bar. It is recommended that six bars be used to reinforce the short (0.85 m) span. Hence, the total reinforcement needed is $(8 \times 1.2) + (6 \times 0.85) = 14.7 \text{ m}$. The cost of the bar is 0.60 lisente/meter, and so the total reinforcement cost is M 9.00.

2.5 Cost of Sand/Cement

The slab volume is $1.2 \times 0.85 \times 0.05 = 0.05 \text{ m}^3$. With a mix of 1:2.5 cement/sand, 1 m^3 of mix requires:

	Approximate cost
1.0 m^3 sand	50.00
12 pks cement @ M 15.0	<u>150.00</u>
Total	M 200.00

Cost per slab is $200 \times 0.05 = \text{M } 10.00$ for cement/sand.

2.6 Specimen Costs for the USIT/RSP Slab

Item	Cost(M)
Sand/cement	10.00
Reinforcement	9.00
Labor (2 hrs @ M 1.50/hr)	<u>3.00</u>
Subtotal	22.00
Profit @ 15%	<u>3.00</u>
Total	25.00 (approx \$7.50 in 1993 prices)

3. VOLUMES AND LIFE OF PITS

3.1 Fully Lined VIP

The pit has a top area of $0.9 \times 2.2 \text{ m} = 1.98 \text{ m}^2$. At a depth of 1.85 m, the volume is 3.66 m^3 , $\times 80\% = 2.93 \text{ m}^3$ of which is usable.

With an accumulation rate of 0.06 m^3 per person per year, the pit life is 49 person-years or eight years for a family of six.

3.2 VIDP

Each pit has an area of $(0.385 \times 0.735) + (0.75 \times 0.985) = 1.02 \text{ m}^2$

At a depth of 1.5m, 80% usable volume = 1.22 m^3

Using the accumulation rate of 0.06 m^3 per person per year gives a life of 20 person-years or 3.4 years for a family of six.

**Promotion, Advertising, Health, and
User-Printed Education Materials**

All materials are in Sesotho. English translations are used for this report only.

<i>Item</i>	<i>Media & brief description</i>
The 10 Point Plan*	School Poster to reinforce messages from tape-slide program, A2 white.
Teach Children to use...*	General poster produced as a result of a teachers' workshop, A3 pink.
Builders' Certificates*	Certificate for builders who have attended a VIP builders' workshop, A4 white card.
"We build VIPs"	Poster for trained builders to advertise their skills, A1 green.
Latrine door sticker*	Self-adhesive poster for the back of the VIP door, to remind users of five user and hygiene messages, A4 white.
1990 Calendar*	Mr. VIP wishing everyone a Happy and Healthy 1990, A4 orange or green card.
"Mr VIP"*	General Information leaflet, including competition on the back.
Flipcharts	Series of 13 drawings to be used by health workers when teaching about sanitation, A3 white.
Flashcards	Series of 13 large photographs to be used with a verbal commentary by health workers.
T-shirts	Adults & Children's t-shirts with the Mr. VIP logo. These are sold and used as incentives.
Stopping the Bucket*	Poster telling the public that the bucket collection service will be stopped, A3 yellow.
"Mr. VIP" on Loans*	Simple leaflet illustrating how to apply for and get a loan to build a VIP.
Don't Put Rubbish in the Pit	User education reminder leaflet/poster, A4 orange.

* A copy of the material described is included in the following pages.

Now that we have new latrines

Remember: The Ten-Point Programme

VIP

1. Always use
the latrine

2. Help little ones
to use it



3. Close
the
door.

4. Wash your hands
when you are
finished



5. Keep the latrine
clean



6. Keep the school
surroundings
clean



Don't throw
7. rubbish
into the
latrine



8. Tell a teacher if
you see a fault

VIP

www
www
www
www
www

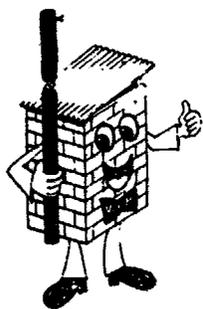


9. Learn about
good health

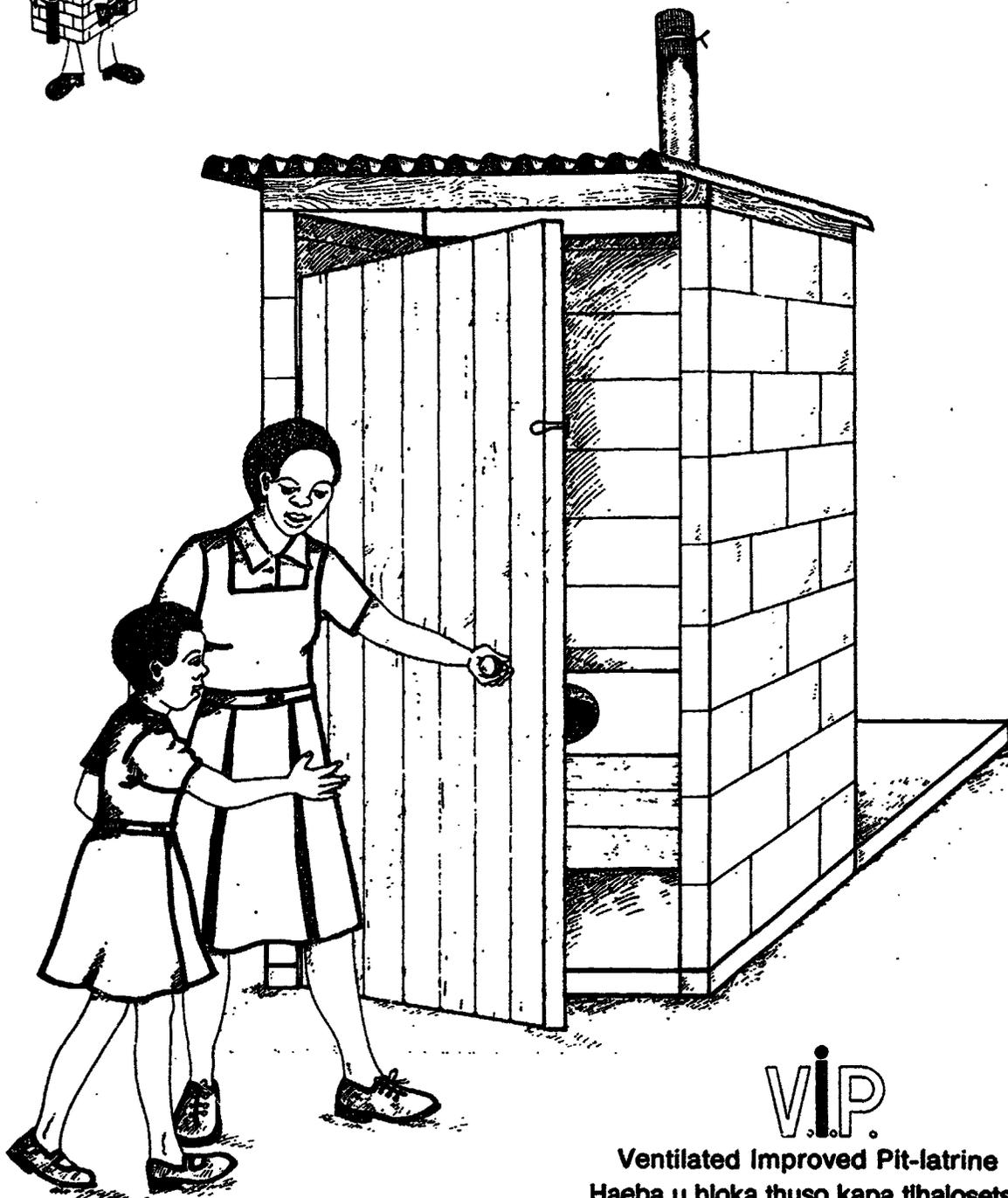


10. Tell your parents
about improved
latrines





Thusa bana ba banyenyane ho sebelisa ntloana



VIP.

Ventilated Improved Pit-latrine

Haeba u hloka thuso kapa tihlosetso
ka matloana ana, ikopanye le ba Moifo
oa Ntlatfats'o ea Matloana le Bohloeki
Litoropong

USIT

Lekaleng la Interior



Urban Sanitation Improvement Team

Ministry of the Interior

Lesotho

This is to certify that

attended a Latrine Builders Training Course held at

on

He is therefore entitled to Build and Improve pit latrines of the type recommended by USIT

Date:

Signed:

Urban Sanitation Co-ordinator

koala sekoahelo
sa setuloana
le lemati la
ntloana ka
linako tsohle



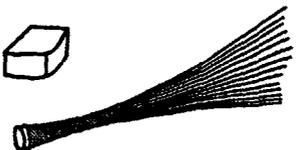
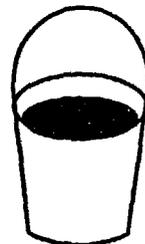
hlapa matsoho



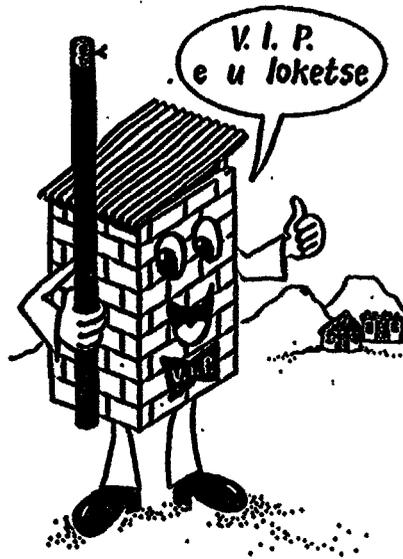
ruta bana
ho sebelisa
ntloana

hopola:

boloks
ntloana e
hloekile



Urban Sanitation Improvement Team



U.S.I.T. wishes everyone a Happy & Healthy

1990

January

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February

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25	26	27	28			

March

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25	26	27	28	29	30	31

April

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29	30					

May

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27	28	29	30	31		

June

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24	25	26	27	28	29	30

July

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August

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26	27	28	29	30	31	

September

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30						

October

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21	22	23	24	25	26	27
28	29	30	31			

November

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25	26	27	28	29	30	

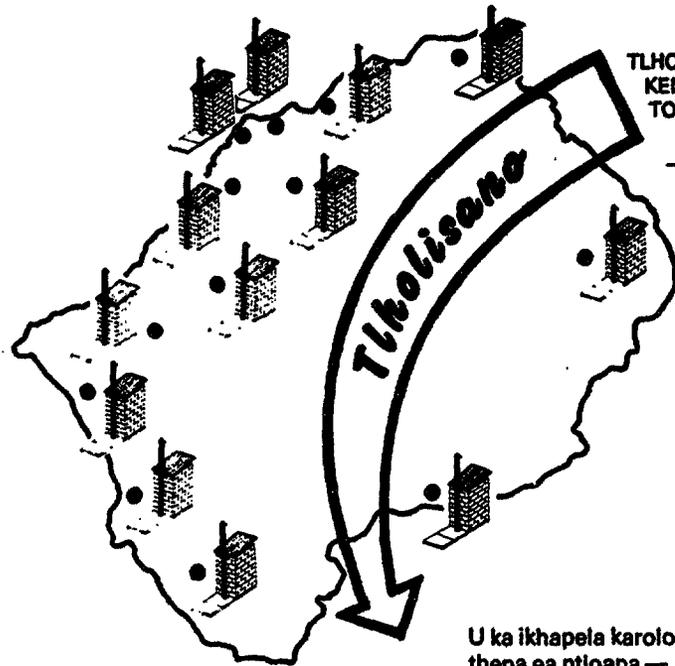
December

Su	Mo	Tu	We	Th	Fr	Sa
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

U.S.I.T., Private Bag A41, Maseru 100. Tel:- 326489

U.S.I.T., P.O. Box 558, Mofales Hoek. Tel:- 785290

U.S.I.T., Private Bag 007, Leribe. Tel:- 400520



TLHOLISANO ENA E KA
KENELOA KE BATHO BA
TOROPO EA

U ka ikhapela karolo ea
thepa ea ntloana —

chomela ea monko e nang le leraba la litšintši, matlapa a ntloana le
sekoahelo sa setuloana.

Araba lipotso tsena:

1. Ke ntloana e fe e loketseng bophelo ba hau?

2. Ke mang ea ka u ahelang V.I.P.?

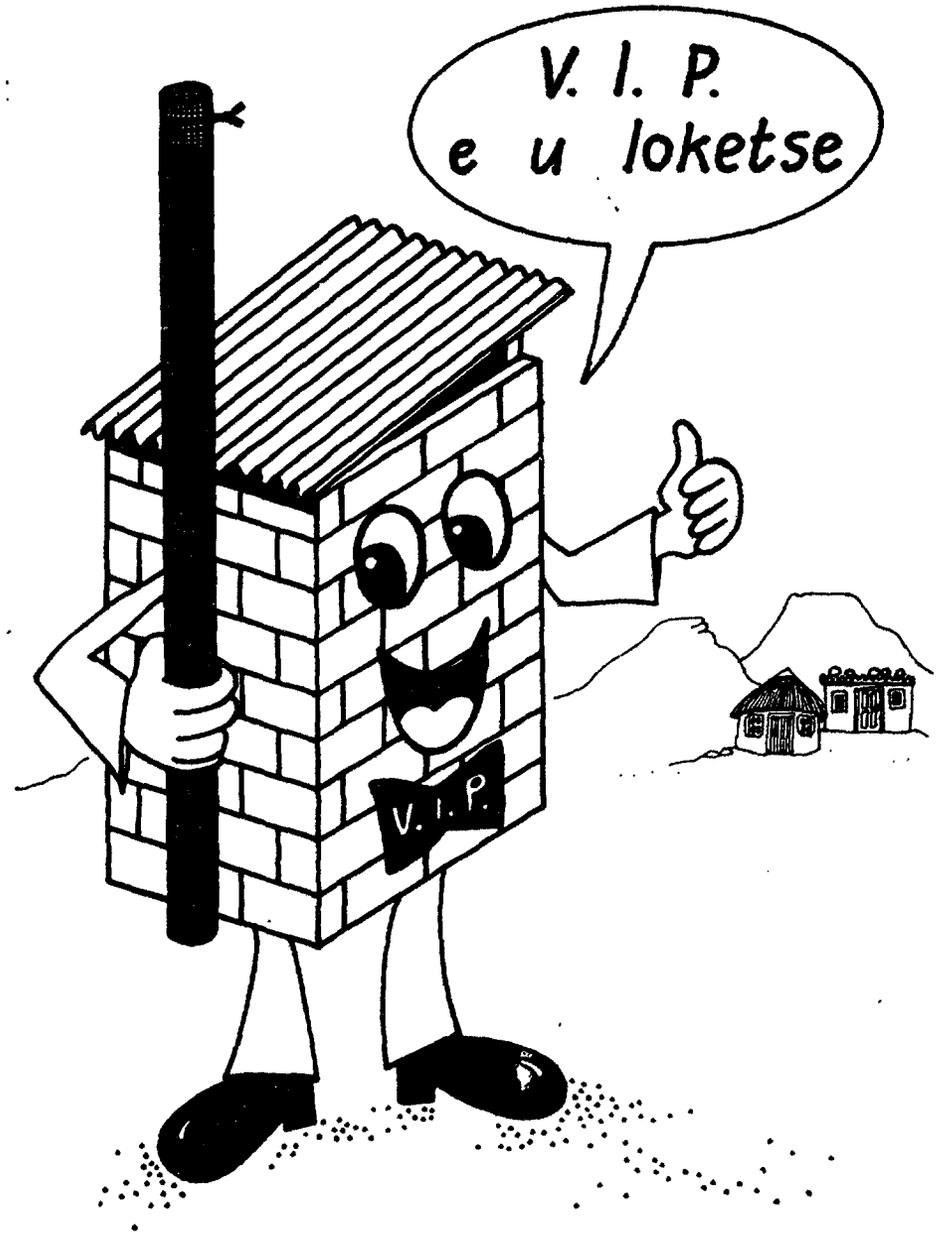
3. V.I.P. ke ntloana ea sekoti kapa ea metsi?

Lebitso la hao: _____

Aterese: _____

Mameela Se-ee-le-moea sa Lesotho lenaneong la Bophelo ba rona,
u tla utloa hore na likarabo tsa nepahetseng li tla huloa neng, le hore
na ea lehlhlonolo ke mang le lithaloso tse lino tse tlholisano ena.

Lesotho - Maseru

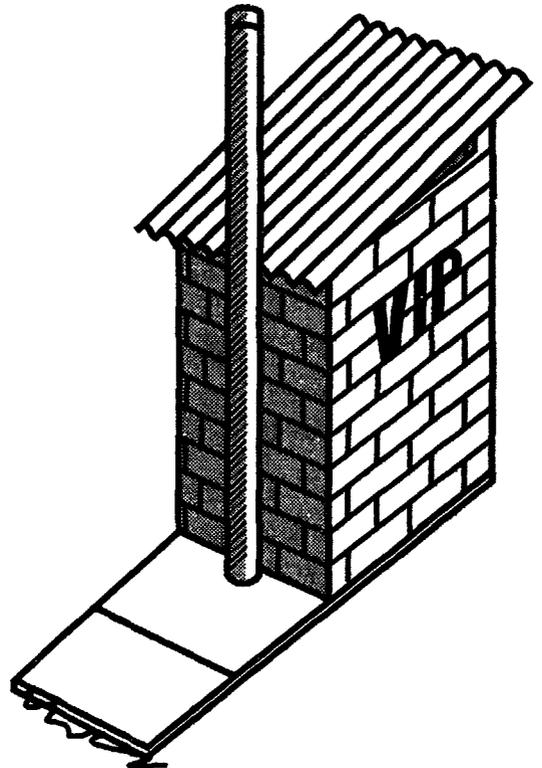
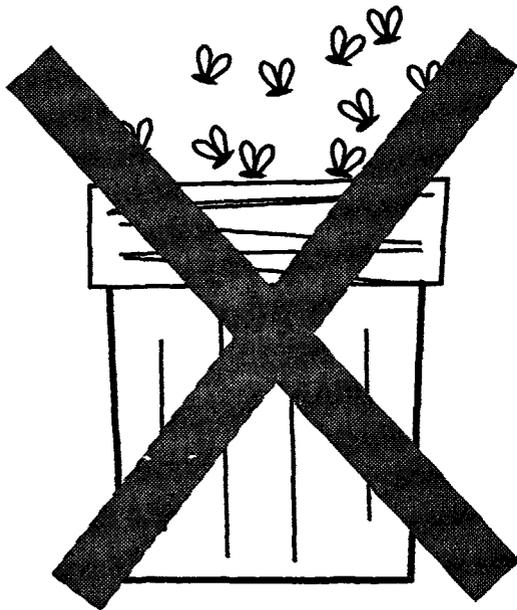


Tsebisō ea 'Musō

U tlameha ho aha ntloana ea V.I.P.

**kapa ea Metsi
Hobane**

**'Musō O felisa
litsebeletso tsa ho
ntsa Matloana a
Mapakete**



*Iteanye le ba ofisi ea USIT kapa Water & Sewerage Branch
bakeng la litl;halosetso le lithuso*



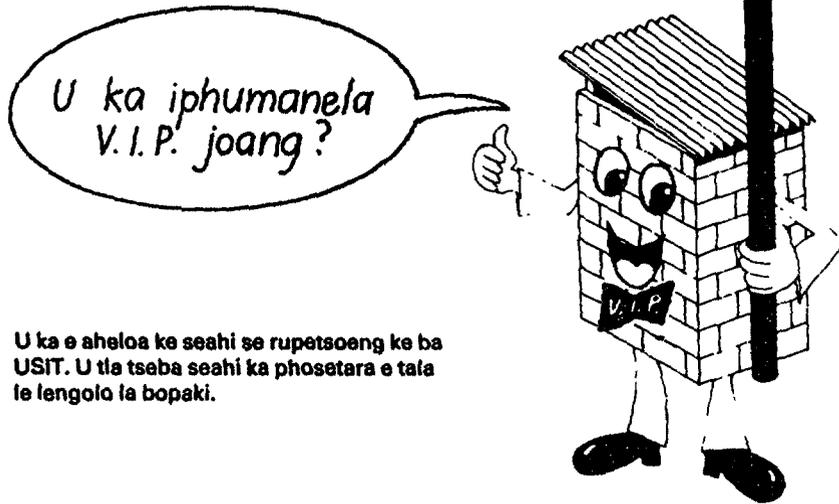
V.I.P.
e tsebahala k'ang?)

Ke ntloana ea sekoti e ntlafalitsong
E na le chomela e ntšang monko le leraba
la litšintši, setuloana se na le sekoahelo
masobana 'ohle a lebileng ka sekoting a
koalehile.



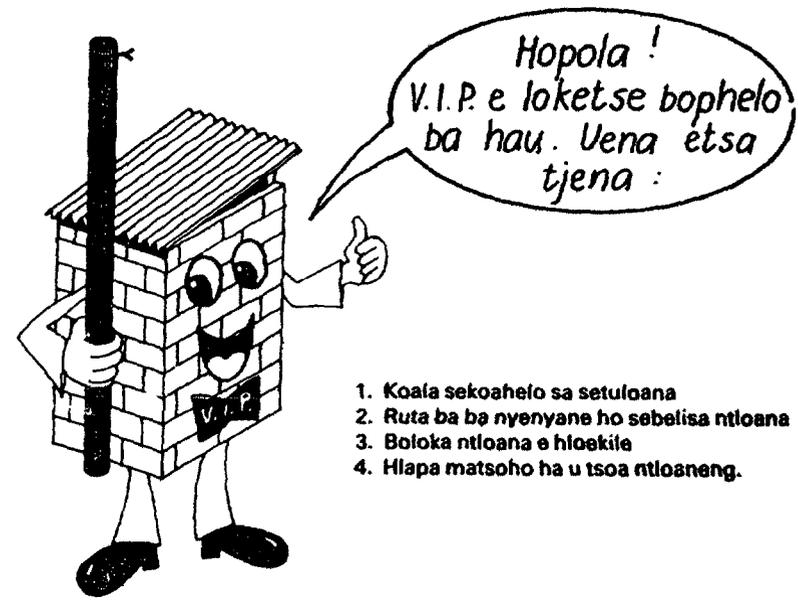
U ka etsa
joang ha u na le
khaello ea lichelete
empa u batla V.I.P.?

U ka ikopanya le ba USIT toropong ea heno
ba tla u hlaloseisa ka likalimo tsa chelete
ho u thusa.



U ka iphumanela
V.I.P. joang?

U ka e ahloa ke seahi se rupetsoeng ke ba
USIT. U tla tseba seahi ka phosetara e tala
le lengolo la bopaki.



Hopola!
V.I.P. e loketse bophelo
ba hau. Uena etsa
tjena:

1. Koala sekoahelo sa setuloana
2. Ruta ba ba nyenyane ho sebelisa ntloana
3. Boloka ntloana e hloekile
4. Hlapa matsoho ha u tsoa ntloaneng.

Urban Sanitation Improvement Team (USIT) Staffing and Organization Chart

