

NATIONAL SANITATION POLICY

NATIONAL SANITATION
TASK TEAM

REPUBLIC OF SOUTH AFRICA

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FOREWORD

TO THE WHITE PAPER

This policy has been produced in recognition of the many people of our country, and in particular the children, that have endured illness and hardship as a result of not having access to basic information about sanitation or the use of adequate facilities.

The National Sanitation Task Team (NSTT) was established as a result of Government's commitment to improving this situation. The NSTT is a collaborative effort of six government departments and its main tasks are the development of a national policy and a corresponding implementation strategy.

The policy is the result of a broad consultative process that started with a Sanitation Think Tank in August 1995. This Think Tank determined the scope and content of the document. In November 1995 the six co-operating departments' ministers held a joint press conference and released the Draft White Paper on Sanitation. This marked the beginning of a series of provincial workshops which discussed and debated the proposed policy. Some 600 people from a wide range of backgrounds actively participated. The comments, criticisms and suggestions that were made were collated and have been integrated into this document.

Sanitation can encompass a wide range of activities, many of which require government policy guidance. In order to make an immediate contribution, this document concentrates on the most pressing of issues, namely the safe disposal of human waste and domestic waste water in conjunction with appropriate health and hygiene practices.

There are a number of related issues that require policy and direction, in particular the management and disposal of domestic and other solid waste. Recognising that there are constraints on the rate of progress that can be made, this document is intended as one more step on the long road of improving the quality of life of the people of our country.

PREFACE

This National Sanitation Policy paper addresses a subject that intimately affects every one of us. It is not simply a matter of providing toilets.

To deal with sanitation requires the co-operation of a number of agencies and government departments.

That is why we have taken the unusual step of coming together to issue this policy paper jointly.

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EXECUTIVE SUMMARY

This policy paper starts where the previous White Paper on Water Supply and Sanitation Policy ended.

It talks about the same important issues, that is the needs and wishes of ordinary people, particularly their desire for healthy living conditions. It is also concerned with those issues which can affect the delivery of services, especially the economy and the environment.

Sanitation for households means much more than building toilets. The most important requirement for safe sanitation is, of course, getting rid of human excreta, dirty water and household refuse. Also crucial are the way people think and behave, and whether they have hygienic and healthy habits. Sanitation improvement is a bigger process, aimed at the individual, the home and the community, which must include health and hygiene education as well as sustainable improved toilet facilities, water supply and methods of removal of dirty water and household refuse.

Providing, improving and maintaining satisfactory sanitation affects all members of society. This policy must apply in all situations: in rich and poor communities, in rural and urban areas, and whether sanitation is for individual households or provided as a system for an entire community.

As a policy document, the White Paper provides a foundation on which we can build future sanitation improvement programmes. It is not an implementation manual and only provides detailed information where this is necessary to help readers understand the reasoning behind the policies. It contains sufficient information to be a complete policy, but aims to be flexible enough to allow local structures to decide what approaches are best for them, within the national framework.

SANITATION IS ABOUT HEALTH

The major aim of national policy on community sanitation is to improve the health and quality of life of the whole population. Improved sanitation facilities will reduce the incidence of disease, but only if there is improved hygiene practice and behaviour as well. Health department personnel at local level will play an important part in the promotion and education activities that are essential for success. The sanitation programme should check that health is really being improved and modify health education approaches if necessary.

COMMUNITIES MUST BE INVOLVED

A sanitation improvement programme should help people to help themselves. government programmes must involve community members in local planning, organisation and implementation. The whole community should take part in some way, especially the women and children. With appropriate training, programmes should support the development of local government, especially in rural areas.

THE ENVIRONMENTAL IMPACT OF SANITATION

Sanitation systems should protect the environment and not harm it. Water is a scarce resource in South Africa, and it should be protected and used carefully. There are many threats of pollution where there are no sanitation systems or where they do not work properly. The worst risks are to water supplies in rivers, dams and underground. This in turn can cause serious health problems.

The proper operation of sanitation systems is essential to protect the environment, and must be paid for. A complicated, expensive system which is poorly maintained can be just as harmful to the environment as having no system at all.

HOW WILL SANITATION IMPROVEMENTS BE PAID FOR?

One important question is: “Can we afford expensive sanitation systems for everyone right now?”. The capital and running costs of improved sanitation, and particularly water-borne sewerage, are very high compared with what low income households can afford. To build, operate and maintain sewerage systems for all households would be very expensive indeed. Government (all levels) is asked to pay for many things out of what it collects in taxes and it cannot afford the full cost of sanitation improvements for everyone, and especially the cost of operating and maintaining expensive systems. As a result we must consider approaches which use less government funds.

Because of this, government has set realistic limits on the amount of grants and subsidies that it will provide for services. In summary, government may support local authorities, for municipal services such as sanitation, with the funds needed to build the basic minimum level of service.

For new housing in urban areas, this will mostly happen as part of the national housing subsidy scheme which is used to provide on-site and internal services. For existing urban households the sanitation subsidy will be available through the Municipal Infrastructure Programme or other funds. For rural households subsidies will be available through a similar programme and will be set according to clear rules.

For all existing households the subsidy will be an incentive with which to improve sanitation and will not cover the full costs. Each household will be expected to contribute something toward the provision of their toilet.

The basic level of service referred to is one which will be adequate to protect everyone’s health, since improved health helps people to work better and spend less on doctors and medicines. Where local communities desire a more convenient (and more expensive) level of

service, they are free to choose this provided that they are willing to pay the extra costs of building and running that system.

Government will not be increasing the grants used to help some local governments pay for running services. This means that local authorities must aim to receive enough money to pay for operations and maintenance, and for repaying loans used to build the services. Most of this money should come from service charges and local taxes.

Government plans to introduce a standard method to calculate the level of tariffs for services provided by local authorities. This will help service providers to set tariffs locally and at the same time to meet government’s social and economic goals. These goals include providing for the needs of the poor and protecting the environment in a way which makes sure that the services receive enough money to operate properly. It is well known that many low income households are enjoying a level of service where the full cost is unaffordable to them. The new way of setting tariffs will encourage local authorities to assist low income families through a low-cost “lifeline” tariff for those who use a small amount of the service.

WHICH SANITATION SYSTEM IS MOST SUITABLE?

Both sewerage and bucket systems are expensive and need well-run organisations to make sure they are safe for users and the environment. Because of this, other sanitation systems have been used in developing areas, and there is now a range of systems that can be used in different situations.

Choosing the most suitable sanitation system is not a simple decision to be made only by engineers. There are a number of important points to consider.

These include:

- Is the proposed system affordable to the user, the service supplier and the government?

- What kind of organisation will be needed? How complicated must it be?
- What will be the risks to the environment?
- Is it acceptable to people (bearing in mind the cost to them)?
- What is the water supply like? Is it adequate? Can it support the proposed sanitation system?
- Will the system be reliable in this situation?
- Can it be upgraded, when people can afford a more expensive system?
- How much of the system can be built and maintained by local people using materials locally available?
- Does the housing layout make some systems more difficult to build or run?

Improving household sanitation is not something which happens once in a lifetime. It is a continuous process in which a family should be able to obtain the type of sanitation for which it is willing to pay. Technical advice and financial help should be available to families wishing to improve or upgrade their sanitation facilities, where this is technically feasible.

WHO IS RESPONSIBLE?

The main responsibility for providing household sanitation rests with the family or household. The role of local government is to help make this possible, or to carry out those functions which can be done more efficiently at a community level. Both provincial and national government will support and assist local government to fulfil this responsibility.

The National Sanitation Task Team (NSTT) will be establishing an urgently needed national sanitation improvement programme. This will be led by the Department of Water Affairs and Forestry and the Department of Health. The goal of such a programme is to help all South Africans to obtain adequate sanitation.

WHAT NEXT?

The next steps for action after publication of this paper include:

- developing strategies, plans and projects for a sanitation improvement programme;
- making changes to the law and regulations where they are needed; and
- increasing capacity to implement a national sanitation improvement programme.

SECTION A: INTRODUCTION

The White Paper on Water Supply and Sanitation Policy, published in November 1994, indicated that more work had to be done to clarify many items of sanitation policy, and then to develop a national sanitation strategy. For the first time in this country, the Water Supply and Sanitation Policy addressed the needs of all South Africans, mindful of the aspirations of the people, and of the growing constraints on resources - both economic and environmental.

This policy paper is the next step in that process, and it addresses the same key issues: the needs and aspirations of ordinary people. In particular it focuses on the need for healthy living conditions, and the constraints imposed on service delivery, especially by economic and environmental issues. These issues are closely linked and require an integrated approach, which this paper attempts to convey.

The question of sanitation, perhaps more than most development issues, needs to be seen in the context of an integrated development strategy. Water supply and sanitation are unavoidably linked to the broader development process: sanitation affects, and is affected by, a wide range of issues.

For this reason it is not possible to assign sanitation to a single government department. A co-operative approach has therefore been taken with this policy paper: six government departments have worked in close collaboration in its formulation, representing the many facets of sanitation. They will continue to work together in planning, implementing and monitoring future programmes. Central government will work closely with provinces to assist local authorities where necessary to ensure that adequate services are developed and that water quality is not compromised through inadequate or ineffective waste management.

There are many unknowns in the business of improving sanitation for low income households. This policy paper is therefore not cast in concrete, and all developments

are to be structured in such a way that mistakes are easily spotted and corrected, and changes to the policy are made if necessary.

The sanitation problem and its impact

An estimated 21 million South Africans do not have access to adequate sanitation facilities¹. Those who have inadequate sanitation may be using the bucket system, unimproved pit toilets or the veld. In addition there is a disturbing increase in poorly designed or operated water-borne sewerage systems. When these fail, the impact on the health of the community and others downstream, and the pollution of the environment, are extremely serious.

The inadequate excreta² disposal facilities mentioned above, combined with unhygienic practices, represent South Africa's sanitation problem. Often the unhygienic practices are related to:

- a lack of access to health and hygiene education;
- inadequate water supplies;
- poor facilities for the safe disposal of water and other domestic waste; and
- inadequate toilet facilities.

The effects of the sanitation problem are threefold:

- **health impact** - the impact of inadequate sanitation on the health of the poor is significant in terms of the quality of life and the education and development potential of communities;

¹ Standing Committee on Water and Sanitation (SCOWSAS)

² *Excreta*: solid and liquid wastes expelled from body

- **economic impact** - poor health keeps families in a cycle of poverty and lost income. The national cost of lost productivity, reduced educational potential and curative health care is substantial; and
- **environmental effects** - inadequate sanitation leads to dispersed pollution of water sources. This in turn increases the cost of downstream water treatment, as well as the risk of disease for communities who use untreated water.

Purpose and scope of the document

Government seeks to fulfil its responsibility to ensure that all South Africans have access to adequate sanitation services. The publication of this White Paper is a first step in this process.

The purpose of this White Paper is to:

- articulate government policies on community³ sanitation, in order to provide a basis for the formulation of sanitation implementation strategies which will be appropriate to the wide range of situations found in South Africa;
- inform people on sanitation issues, to the extent that is necessary for them to understand the policies; and
- convey the outcome of the consultative process that led to the final version of the White Paper.

This White Paper provides a framework for the development of strategies to improve community sanitation services. However, it is a policy document, and not an implementation manual. As such, the White Paper does not aim to tell people how to go about improving sanitation. Specific implementation strategies should be formulated at the provincial and local level rather than at national level.

The White Paper addresses sanitation in both urban and rural areas. It focuses on community sanitation, and does **not** refer to waste and wastewater from industrial sources, as this is dealt with by the Water

³ The term *communities* in this document includes households, commercial premises, schools, clinics, churches and any other institution found in typical communities.

Act and other policy documents and legislation.

Structure of the document

Section B of the document explains the principles that underlie the policy. The main body of the document is contained in Section C, which presents the national sanitation policy and is divided into six sub-sections, each dealing with a particular aspect of sanitation.

In order to clearly distinguish between policy and explanation, in Section C policy statements are presented in a shaded box at the beginning of each sub-section.

It is important to note that these sub-sections have been chosen to make it easier to describe the different aspects of sanitation. However there are complex inter-relationships between each aspect, and no element can be dealt with in isolation⁴.

In the past, community sanitation has been seen primarily as a technical issue, whilst other aspects have been given secondary consideration. It is now recognised that other elements of sanitation, particularly social issues and health and hygiene education, are of central importance.

This document is intended to cover the wide range of circumstances found in South Africa, and so the bulk of the White Paper refers to the country as a whole. Sub-headings are used where discussion of specific circumstances is required, such as rural, urban and peri-urban areas.

⁴ For example, the technology chosen for a project is not dependent on environmental factors only but also on economic ones. These in turn influence the organisational and institutional arrangements required to maintain the chosen technology.

Clarification of terms used in this white paper

The following definitions of key terms have been adopted for the purposes of this White Paper. They are not the last word on the subject, and are the result of compromise.

What is meant by the term “sanitation”?

Sanitation can be defined in different ways depending on the circumstances. However, it is generally acknowledged that it includes a range of elements such as:

- physical infrastructure,
- hygiene-related behaviour,
- disposal of wastewater, excreta and other solid wastes, in the context of household and institutional activities.

Because these aspects are inter-related and of equal importance, the following broad definition has been adopted for the purpose of this policy document:

The term SANITATION refers to the principles and practices relating to the collection, removal or disposal of human excreta, refuse and waste water, as they impact upon users, operators and the environment.

What is “adequate sanitation”?

Opinions vary widely on this. In this document the following definition will be used which includes both physical facilities and practices:

The term ADEQUATE SANITATION means the provision and ongoing operation and maintenance of system of disposing of human excreta⁵, waste water and household refuse, which is acceptable and affordable to the users.

⁵The term system for disposing of human excreta refers to toilet facilities and the associated tanks, pipes, treatment works etc. which may be part of a private, public or communal arrangement.

The system must be structurally safe, hygienic and easily accessible. Each household should have access to its own facilities. Furthermore it should be accompanied by correct hygienic practices and does not have an unacceptable impact on the environment.

When the elements of adequate sanitation identified in this definition are brought together, they provide an effective barrier against diseases related to excreta.

What is a “Basic Level Of Service”?

For the purposes of this policy document:

The term BASIC LEVEL OF SERVICE for a household means a Ventilated Improved Pit (VIP) toilet in a variety of forms, or its equivalent, as long as it meets minimum requirements in terms of cost, sturdiness, health benefits and environmental impact.

In addition provision should be made for an ongoing programme of easy to understand information about correct hygiene practices.

SECTION B: POLICY PRINCIPLES

The eight policy principles stated in the White Paper on Water Supply and Sanitation Policy of 1994 form our initial point of departure, with the addition of two more. The policy principles apply in rich and poor communities, in rural and urban areas, and whether sanitation is for individual households or provided as a system for an entire community.

1. Development should be demand-driven and community based.

Household sanitation is first and foremost a household responsibility and is demand-driven⁶.

2. Basic services are a human right.

In fulfilment of its obligation, government must create an enabling environment through which all South Africans can **access** services and support in obtaining those services, but in the end it is individuals who are responsible.

3. “Some for All” rather than “All for Some”.

The use of scarce public funds must be confined to assisting those who are unable to attain a basic level of service.

Individual householders are ultimately responsible, although communities may require a degree of conformity to achieve the “healthy environment” envisaged in the Constitution. A careful balance needs to be achieved between what is affordable to households, communities and the national economy.

4. Equitable regional allocation of development resources.

The limited national resources available to support the provision of basic services should be equitably distributed throughout the country, according to population and level of development.

5. Water has an economic value.

The way in which sanitation services are provided must take into account the growing scarcity of good quality water in South Africa. The true value of these services must be reflected in such a way that it does not undermine long term sustainability and economic growth. The pollution of water resources also has an economic cost.

6. The user pays.

Sanitation systems must be sustainable. This means they must be affordable to the service provider, and payment by the user is essential to ensure this. Similarly, polluters must pay for the cost of cleaning up the impact of their pollution on the environment.

7. Integrated development.

Sanitation development is not possible in isolation from other sectors. There is a direct relationship between water supply and sanitation and their combined impact on health. Co-ordination is necessary between different departments, all tiers of government and other stakeholders.

⁶ The term *demand-driven* means that communities and households show their priorities by a willingness to pay, in cash or in kind, a significant portion of the costs involved in providing and running a sanitation system.

8. Environmental integrity.

The environment must be considered in all development activities. Appropriate protection of the environment must be applied, including if necessary prosecution under the law. Sanitation services which have unacceptable impacts on the environment cannot be considered to be adequate.

9. Sanitation is about health.

Sanitation is far more than the construction of toilets - it is a process of improvements which must be accompanied by promotional activities as well as health and hygiene education. The aim is to encourage and assist people to improve their health and quality of life.

10. Sanitation is a community responsibility.

Improvements in health through improved sanitation are most likely to be achieved when the majority of households in a community are involved. Sanitation is therefore a community responsibility, and this must be emphasised through sanitation awareness programmes.

The next section of the National Sanitation Policy is arranged in the following order:

1. Health and hygiene education
2. Community issues and human resources development
3. Environmental impact
4. Financial and economic approach
5. Technical considerations
6. Institutional and organisational frameworks.

These dimensions must be sufficiently detailed to provide a comprehensive policy but flexible enough to allow for locally determined approaches. At the same time, they must ensure that adequate attention is given to the key objective of achieving lasting health benefits within the resource constraints of the economy and the environment.

SECTION C: NATIONAL SANITATION POLICY

1 HEALTH AND HYGIENE EDUCATION AND PROMOTION

The aim of health and hygiene education and promotion policy is to:

- raise awareness of the diseases caused by unhealthy behaviour and practices;
- support and provide health and hygiene education that will enable people to improve their health through correct hygienic practices;
- lead to an increased demand and willingness to pay for appropriate sanitation facilities.

Health and Hygiene education and promotion:

- 1.1 must be an integral part of all community sanitation projects and community water supply improvement projects;
- 1.2 strategy will be drafted by various departments dealing in health, hygiene and infrastructure provision. A task team for this purpose will be chaired and co-ordinated by the Directorate of Environmental Health of the Department of Health, and operate under the auspices of the National Sanitation Task Team;
- 1.3 will be community-driven and lead to the empowerment of communities;
- 1.4 will be specifically targeted at high risk groups such as the mothers and carers of infants and small children, and at the beneficiaries of new water supplies;
- 1.5 strategy will be developed and based on operational research and a good understanding of the wide range of health problems, different communities and cultures in South Africa;
- 1.6 will enhance the training of health workers in effective hygiene education methods;
- 1.7 will be sensitive to specific local issues, such as rural and urban differences and cultural factors;
- 1.8 will be primarily implemented at the local level with support from provincial and national structures; and
- 1.9 programmes will be monitored and regularly evaluated for effectiveness.

Sanitation Is About Health

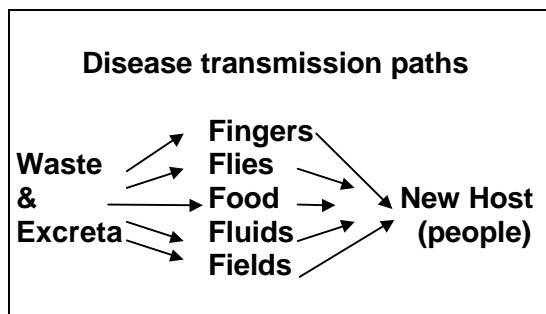
The major aim of national sanitation policy, and any consequent programme, is to contribute to improving the health and quality of life of the whole population. At present, significant investments are being made in the provision of safe water supplies for all. However, the health benefits that could result from this will be severely

limited if adequate attention is not paid to sanitation. Furthermore, experience from national and international water and sanitation programmes has shown how essential it is to link water supply and sanitation with health and hygiene education. Only when all these are in place will real and lasting health benefits follow.

Because healthy and hygienic practices are so important for achieving lasting health benefits, sanitation improvement programmes can never be confined to the provision of toilets by government agencies. People must be convinced of

the need for sanitation improvements; so much so, that they will invest their own resources into those improvements and adopt good hygiene practices.

Improved sanitation facilities will only achieve a parallel reduction in diarrhoeal diseases⁷ if they are developed alongside hygiene programmes. Hygiene contributes to the prevention of the transmission of excreta-related diseases. It seeks to promote ways to create barriers between the organisms that cause disease, the intermediate carrier and people.



Health & Hygiene Related Issues

Hygiene messages: Hygiene information, education and awareness programmes will be developed hand in hand with construction projects (water supplies, toilets etc), and will be targeted at all levels:

- **personal Hygiene:** such as washing hands after going to the toilet or changing the nappies of babies, and before the preparation of food;
- **household Hygiene:** this includes keeping the home and toilet clean, disposal of refuse and solid waste, cleanliness in areas where food is stored and prepared, and ensuring that food and drinking water is kept covered and uncontaminated; and
- **community Hygiene:** pests carrying diseases do not respect household boundaries or fences. To achieve improved public health the whole community must be mobilised to work together for better health and a cleaner environment. Community hygiene will include issues related to excreta and

sullage⁸ disposal, solid waste (refuse), hygiene education for food vendors, the keeping of animals and community stormwater drainage.

Raising awareness: Despite the strong links between sanitation and health, there is little public awareness of this, and sanitation is commonly low on peoples' priorities for improved services. The national sanitation improvement programme will redress this through information dissemination and education to promote awareness of the role of sanitation in health and to stimulate the willingness to pay for toilet facilities and services.

Health personnel will play a strong role in the promotion of health and hygiene, particularly at the local level, where a network of Environmental Health Officers already exists. Community sanitation will become a strong element of all primary health care programmes and will be linked to new water supply infrastructure. It is essential that all clinic staff set the highest standards for themselves in maintaining hygienic sanitation facilities. For example, clinics should have appropriate facilities for out-patients' use, of a type that could be affordably copied or modified for household use.

Dialogue: Hygiene promotion requires far more than giving out information and building demonstration toilets. The starting point is to understand current beliefs, perceptions and practices within a particular community. Based on this, relevant messages can be developed so that desirable behaviour change is brought about through dialogue, within the context of people's everyday lives.

⁷ *Diarrhoeal diseases* are caused by organisms carried in infected human excreta

⁸ *Sullage* is dirty water from dish-washing, cooking or laundry

The education programme will proceed on many different levels: national and provincial with strong media coverage and publicity, and most importantly at a local level, through existing structures such as Development Committees. The use of participatory training materials will be promoted and encouraged wherever appropriate. Traditional channels of communication will be used where possible, particularly communal forms such as drama and song.

It is important to ensure that the programme is very high profile and maintains its momentum - achieving mass behaviour change is a very slow process, and immediate results cannot be expected. It is anticipated that the programme will be phased over several years, depending on the initial capacity found in any given area. Sanitation-related educational material should be developed for use in pre-primary classes, non-formal education and for Adult Basic Education and Training (ABET) programmes.

Urban and rural communities may need different communication tools as the specific health and hygiene problems and risks found in rural and urban contexts will require different messages and advice to be conveyed. For example, the issue of hygiene and animals around water points may be important in some rural communities.

Links to other programmes: The improvement of water supplies in an area frequently stimulates communities to look at other improvements needed, such as sanitation. The implementation of new water supply systems should thus always be accompanied or even preceded by a sanitation and hygiene education programme. Such a programme should become an integral part of all community water supply projects.

Monitoring health impacts

To determine the success of the sanitation programme, progress will be monitored on a regional basis, and drawn together at a national level. The starting point for monitoring will be the "Basic Subsistence Facilities" programme of the Environmental Health Directorate of the Department of Health. By recording certain information it is intended to make the provision of sanitation a user-driven process which is continually being refined. It will also be used to assist infrastructure planning at local and provincial level.

Selective monitoring of hygienic practices and incidences of diarrhoea and other hygiene-related infections such as trachoma, conjunctivitis and parasites will take place. The education and information programme will be monitored for continual improvement. This will include 'child-friendliness' and the percentages of women being involved in decision making processes at all levels.⁹

Monitoring programme effectiveness: Communities participating in sanitation improvement programmes will be encouraged to report serious diarrhoeal incidences to clinics. These statistics can be compiled at regional and provincial level, and ultimately at national level.

⁹ For instance, the Water Supply and Sanitation Policy White Paper proposed that at least 30% of representatives on all forums should be women.

2 COMMUNITY ISSUES AND HUMAN RESOURCES DEVELOPMENT

- 2.1 Communities must be involved in decision making about levels of service, according to on what they are willing to pay for both capital and recurrent costs. Such decisions must be made in an informed and democratic manner.
- 2.2 Social and cultural factors will affect sanitation practices in some communities and must be taken into account.
- 2.3 Community involvement in the pre-planning, planning, decision making and implementation stages of sanitation projects is essential for increased commitment to and ownership of projects, which in turn are essential to achieving sustainability of projects.
- 2.4 Women are to be involved in the decision making processes at all levels.
- 2.5 Programmes should consider the full range of the communities sanitation needs(i.e. not just households but also institution and public places)
- 2.6 Improved sanitation will be marketed and promoted on the basis of social factors such as increased privacy, status and convenience.
- 2.7 Schools will be a major community focal point for sanitation promotion and health and hygiene education.
- 2.8 Water and sanitation will be included in the curricula of primary and secondary schools as well as Adult Basic Education and Training (ABET), teacher and other professional training courses.
- 2.9 Sanitation improvements should maximise the benefits to the local economy by making optimal use of local builders and businesses.
- 2.10 Environmental health technicians will be trained and deployed at the local level to assist with water and sanitation promotion programmes.

Sanitation is more than toilets

The policy principles in Section B stress the point that *sanitation is far more than the construction of toilets, it is a process of improvement. Toilet building will be supported by promotional activities as well as health and hygiene education to encourage and assist people to improve their health and quality of life.*

To undertake such a process of improvements within today's economic constraints **and** achieve lasting benefits to health and quality of life requires the commitment not only of government but of every individual household. However, not every household head is aware of the damaging effects of poor sanitation on his or her family and community. Because of this they are not yet prepared to commit their time, energy and money to sanitation improvements.

In fully developed areas, decisions on the initial level of service have already been made. In developing areas however,

community members will have a strong interest in choosing a level of service for which they are willing to pay, and in understanding the benefits of such a decision. Making an informed choice, and being committed to that choice, will only happen when ordinary people have become involved and at last discover what they can do to help themselves and their families break out of the cycle of disease and poverty.

Social context of sanitation

Helping people to help themselves requires a knowledge of and sensitivity to the social context of a sanitation improvement programme. Government programmes must adopt people-oriented strategies in which community members play an active role in planning and organisation so that local values are incorporated. This will ensure that the resulting programme is:

- relevant

- appropriate
- acceptable
- accessible
- affordable
- equitable
- empowering, and
- based on indigenous knowledge and local skills.

Community involvement

As emphasised above, community involvement is essential for long term success. Urban local governments need to develop the capacity to involve people in local decision making. In rural areas existing bodies such as local Development Committees or Water and Sanitation Committees, assisted by local government or water boards where possible, will be involved in promoting sanitation programmes.

A programme will not succeed unless the whole community is mobilised, particularly women and children. Sanitation programmes should look to the special requirements of the disabled, elderly and young children.

It is the responsibility of each community to safeguard public health, and to reach consensus as to the sanitation system that is affordable and acceptable. The improvements that can be made to existing systems will be promoted as part of the education process, and consideration should always be given to the potential for upgrading any option.

Promotion and marketing methods will include forms of social marketing, for instance highlighting privacy and status to enhance popularity. These have been shown in other countries to be stronger selling points than the health benefits. Peer pressure can be an effective motivating force for ensuring increased awareness.

At a local level, government and project personnel must ensure that all relevant technical options are explained and discussed, enabling informed decisions to be made. Where expectations may be

impossibly high, this will be an opportunity to explain the costs involved, and the range of other options available.

Community Sanitation Needs

Sanitation programmes should consider the full range of sanitation needs within the community. This means including not only households but also institutions (e.g. schools, churches, crèches etc) and the requirements of public places such as bus stops, markets, courts, sports grounds etc.

Schools are a natural focal point for sanitation and hygiene education, encouraging the adoption of good hygiene practice from an early age. For this reason it is important that theory and practice coincide: all schools should have hygienic, attractive, appropriate toilets and hand-washing facilities, and the use of these facilities should be linked to lessons on personal hygiene and health.

South Africa will promote child-friendly toilet facilities, with children's views on design being specifically sought and acted upon. This will start with school facilities, as they are often a rural child's first experience of toilets. All schools will be charged with ensuring that their toilets are easy for children to use and are kept clean (e.g. by employing a caretaker specially for this purpose).

Non-Governmental Organisations have considerable experience in various aspects of community-based sanitation and health improvement programmes. It is envisaged that NGOs will continue to play an important role and government will actively will seek their support.

The Private Sector can be involved in many aspects of sanitation such as training, hygiene education and promotion and building of sanitation facilities, particularly where this results in local business development and provides employment. Government will seek to forge working partnerships with the private sector to enhance local capacity and business opportunities.

Human resources development

Sanitation improvement programmes will depend largely on the quality and training of the people involved in implementation. This element cannot be sufficiently stressed. Training and/or retraining at every level is needed.

Training and capacity building at community level has already been highlighted as a universal need in South Africa. There is however a severe shortage of suitable individuals to undertake this work. Government has committed itself to addressing this situation.

Training curricula of health personnel will be reviewed to develop the required skills for the promotion of sanitation and hygiene. Support will be provided on a national as well as a regional level, and

the programme monitored closely to ensure good coverage. Teams of Environmental Health Technicians will be trained and deployed to work at the local level under the supervision of the Environmental Health Officers.

Training of small-scale builders in the construction of appropriate sanitation facilities will improve the quality of products and ensure the ongoing nature of programmes through private sector activity.

Retraining of professionals of many kinds - planners, engineers, administrators, communicators etc - will increase sanitation capacity and improve the status of a much neglected sector.

3 ENVIRONMENTAL IMPACT

- 3.1 Sanitation improvement programmes must be undertaken in an environmentally sustainable manner.
- 3.2 The environmental impact of all sanitation systems will be monitored on an on-going basis.
- 3.3 Any activity that would result in the deterioration of the quality of a water resource must be carefully assessed.
- 3.4 Large scale on-site sanitation¹⁰ projects must be subject to environmental impact assessment.
- 3.5 Promotion of recycling and waste minimisation must form an integral part of waste management strategies.
- 3.6 Environmental education must form an integral part of sanitation projects.
- 3.7 The provision of adequate sanitation as a prerequisite for sound environmental management will be recognised by legislation.

This section of the White Paper is not intended to provide an answer to every environmental issue facing South Africa and will cover only issues that relate directly to the environmental sustainability of sanitation systems.

In considering environmental issues it is important to note that most human activity changes the environment. Adequate sanitation is an important way to minimise or manage the negative impact of human settlement on the environment.

Lack of adequate sanitation and inadequately maintained or inappropriately designed systems constitute a range of pollution risks to the environment, especially to surface and ground water resources, which in turn pose a threat to health.

The environment should be addressed in a holistic manner and all natural resources, of which water is most important in the South African context, will be carefully considered. Although water systems are able to tolerate a certain degree of pollution there is a limit to the amount that can be handled without causing the water quality to deteriorate to such an extent that the water cannot be used.

Environmental sustainability

Environmental sustainability of sanitation systems must be considered in terms of both provision and on-going maintenance.

The potential for a negative environmental impact of any system must be considered during the selection process. In other words a sanitation system must be designed and constructed in such a way as to minimise potential pollution throughout its life cycle.

Every negative impact on the environment has a cost, even if it cannot be quantified. Where possible the cost must be calculated in order to evaluate alternative approaches to a problem by looking at total system costs. Water resources are often at risk of pollution from sanitation systems, but before a decision is made to invest heavily in changing the sanitation system, the extra costs of water treatment and other environmental impacts will be estimated. This can then be compared with the costs of the options for sanitation improvement, phased over time if necessary, to establish which is the best course of action, both now and in the future.

¹⁰ *On-site sanitation* is where treatment of excreta and wastewater takes place on the stand (site) of the household or institution.

Monitoring environmental impacts

The potential for pollution of water resources by sanitation systems requires that water quality monitoring programmes be instituted as an integral part of sanitation projects. Programmes need to be developed which take into account the specific conditions prevailing in an area. For example, in some rural areas groundwater might be the only source of drinking water. If an on-site sanitation system is used, pollution could concentrate in the area where the water is being pumped out. Faecal contamination should be monitored in such a situation.

Likewise, in an urban area where an existing water-borne system has failed (due to inadequate management, financing, design or construction) the environmental consequences could exceed those of any other system. Parameters should be monitored that would predict such failure.

Monitoring programmes need to be designed within the context of the prevailing regulatory framework. For example, effluent¹¹ from wastewater treatment plants is subject to specific monitoring requirements in order to determine compliance with relevant statutory standards.

Water quality management

The Department of Water Affairs and Forestry has developed a comprehensive water quality management policy which makes provision for the water quality objectives of any water resource to be determined by the users and DWAF. In evaluating the most appropriate type of sanitation systems for a particular situation, the relevant water quality objectives for local water resources must be taken into account.

The Department of Water Affairs and Forestry has released a number of publications to assist in evaluating the

¹¹ *Effluent* is the contaminated liquid flowing out of a sanitation system.

potential impact of sanitation systems on the water environment. These include:

- A Guideline for Ground Water Protection for the Community Water Supply and Sanitation Programme;
- Water Quality Management Policies and Strategies in the RSA;
- Procedures to Assess Effluent Discharge Impacts; and
- Minimum Requirements for Waste Disposal by Landfill.

The Department of Health, Water Research Commission (WRC) and Council for Scientific and Industrial Research (CSIR) have also undertaken research and published relevant guidelines concerning water quality.

Integrated Environmental Management

The design of sanitation improvement projects will ensure that the environmental consequences are adequately considered during the planning process. The risk of pollution through different sanitation approaches will be assessed in order to use the option which will minimise impacts on the environment in the most cost effective way. The Integrated Environmental Management (IEM¹²) Guidelines have been prepared on what level of impact assessment to use for different types of projects.

Where it is envisaged that a significant environmental change may result, public awareness and participation is essential. Information must be presented in an even-handed manner in order to convey the potential costs and trade-offs. For example, comparison of the costs of avoiding pollution with those of treating the pollution after it has happened should be accompanied by an explanation of the receiving water¹³ quality objectives.

Environmental Impact Assessment (EIA) procedures should be followed during the

¹² *Integrated Environmental Management* is a series of guidelines prepared by the Dept of Environmental Affairs and Tourism.

¹³ *Receiving waters* are rivers or dams into which effluent is discharged.

design and siting of waste water treatment works and waste disposal sites. As the degree of complexity may vary according to the anticipated risk, appropriate risk assessment procedures need to be developed.

Waste recycling and beneficiation

A holistic approach should be followed regarding the management of wastes from sanitation systems. Where economically viable and sustainable, both the liquid and solid constituents of the sewage disposal end products should be recycled for further use and for environmental beneficiation. The return of treated effluent to the water cycle is considered to be essential and deviations from this approach require special motivation.

Environmental education

Sound environmental principles and an environmental ethic should be created amongst all South African communities. To this end, emphasis must be placed on formal as well as informal environmental education activities. This education must form part of the information transfer that is to accompany or even precede all sanitation projects. In addition, service providers must encourage communities to become involved in monitoring the quality of their own water resources, in order to heighten awareness of pollution. This in turn will lead to the identifying and pressurising of those responsible for it.

Economic instruments

The principal of "the polluter pays" must be upheld, and full economic user charge systems should be developed to ensure full recognition of the costs of environmental protection.

This should be tied in with present deliberations on the treatment of water as an economic good which should be valued according to its scarcity and quality. Thus any reduction of receiving water quality should have a value assigned to it and the source of pollution charged accordingly.

Environmental legislation

The Integrated Pollution Control (IPC) programme of the Department of Environmental Affairs and Tourism will review existing environmental legislation, government structures and functions, in order to produce a more effective pollution control system. There will be changes to the Water Act which will affect issues such as groundwater quality, the recycling of sewage sludge and the marine disposal of effluent.

The provision of adequate sanitation as a prerequisite for sound environmental management must be recognised by legislation.

4 FINANCIAL AND ECONOMIC APPROACH

General financing policy

- 4.1 Grants for capital costs will be available where local authorities are unable to meet the national basic level of service for sanitation.
- 4.2 Where households and/or communities wish to have access to services which are more expensive than the basic level, the extra capital and running costs must be met within that local authority area.
- 4.3 Subsidies will be available to those who have agreed to contribute their own resources to sanitation improvement.
- 4.4 The amount of subsidy will be set according to a clear framework.
- 4.5 Mechanisms will be developed to avoid double subsidies.
- 4.6 Government would consider making capital grants to assist with alleviating a severe environmental problem, provided this was not the result of mismanagement or injudicious investments by the service provider.
- 4.7 Special attention will be given to ways of facilitating the improvement of sanitation for residents on land owned by others, for example farm workers, refugees and people in transit.
- 4.8 Government will provide a subsidy to schools on a formula to be developed by the Department of Education. Budgets for new schools will provide for appropriate and adequate sanitation facilities.

Financing urban sanitation

In addition to the above principles in *General Financing Policy* these additional points apply:

- 4.9 Capital expenditure should be financed by borrowing by service providers and some grant finance.
- 4.10 Recurrent expenditure (operations, maintenance, replacements, administration, loan repayments) should be financed by current income, comprising consumer charges, local taxes and inter-governmental transfers where they are available (see Tariff Policy below).
- 4.11 Sanitation for new housing will normally be funded through the national housing subsidy scheme. No separate subsidy for sanitation will be provided for households where sanitation is covered by the housing subsidy.
- 4.12 For existing communities sanitation grants will be available through the Municipal Infrastructure Programme or other sources.
- 4.13 Grants at national and provincial level for bulk and connector infrastructure¹⁴ and for rehabilitation and upgrading of sewerage systems will only be available under exceptional circumstances.

Financing rural sanitation

In addition to the above principles in *General Financing Policy* these additional points apply:

- 4.14 Subsidies would be available for projects where communities have organised themselves, possibly with the support of district authorities or private sector bodies, and have planned a sanitation project.
- 4.15 In addition to capital grants government is prepared to assist district authorities cover the cost of district "sanitation teams" in the early part of a national sanitation improvement programme.

¹⁴ For example, treatment works, reservoirs and pipes serving large areas

Tariff policy

- 4.16 **Affordability:** The setting of tariffs should take household affordability into account.
- 4.17 **Fairness:** Tariff policies should be fair and simple to understand.
- 4.18 **Separate tariff:** A separate tariff should be calculated for sanitation services, and will vary according to the level of service provided.
- 4.19 **Payment in proportion to the amount consumed:** For water-borne sanitation, the tariff should reflect the actual quantity as well as load quality of wastewater discharged to the sewer.
- 4.20 **Financial viability of the local service agencies:** It is essential that service agencies remain financially viable, since failure to ensure this will result in breakdown of the services.
- 4.21 **Sustainability:** Tariff structures that are reliant on unsustainable subsidies will mean that essential maintenance of infrastructure is not carried out, and that there will be inadequate services in the future.
- 4.22 **Payment of operation and maintenance costs:** All households should pay at least the full operation and maintenance costs of the services consumed.
- 4.23 **Lifeline tariff:** Provision will be made for a "lifeline" tariff for poorer people who use little of the service, but it should at least cover operating and maintenance costs. Tariffs should be progressively more expensive for large consumers.
- 4.24 **Transparent subsidies:** Any subsidies which exist, including cross-subsidies between different categories of consumers, must be transparent¹⁵.
- 4.25 **Efficient allocation and usage of resources:** Tariff structures should facilitate the efficient usage and allocation of scarce resources - both renewable and non-renewable.
- 4.26 **Economic development:** Tariffs applied to mining, industrial and commercial enterprises should take into account their impact on economic development.
- 4.27 **Local determination of tariff levels:** Tariff levels should be decided at local authority level within an agreed structure.
- 4.28 **Consistent tariff enforcement:** A consistent policy should be implemented whereby failure to pay (correctly) billed amounts for services results in the consumer's service being restricted or suspended.

Investments in infrastructure, including sanitation infrastructure, can deliver major benefits in terms of improved health, economic growth, enhancement of quality of life, poverty alleviation, and environmental sustainability - provided that the services are in response to genuine demand and that delivery is effective and efficient.

Sanitation improvements compete for resources in a variety of ways. Capital investment is needed for different types of infrastructure, government funds are needed for a wide range of services, and consumer payments are subject to many different demands. Trade-offs clearly exist between the various programmes of

government and within the spending patterns of consumers.

Financial trade-offs are particularly critical in choice of levels of service. For example, the costs of a system must be measured against the health benefits: from a public health point of view there is no difference between a well-built, properly maintained VIP toilet and water-borne sewerage, but financially they are very different.

The economic and health benefits of installing a more expensive system such as water-borne sewerage may be minor, and the only added benefit may be increased convenience and status. There is a real risk of incurring economic losses where low income households cannot afford the running costs of an expensive system and

¹⁵ *transparent:* visible, quantified, and understood by all those affected

extensive subsidies are then needed. Furthermore, where operational costs are not met for lack of consumer payments or ongoing subsidies, environmental problems and clean-up costs may follow.

Affordability

Recent estimates of infrastructure needs in South Africa have shown that very large capital investments would be needed to construct full water-borne sewerage systems for all unserved households. Even if the capital funds were available, there would still be a severe problem, as large numbers of households would be unable to afford the regular running costs of such a system. They would need an on-going subsidy on their use of the sewerage service. This raises the issue of affordability at other levels, that of each local authority area and of the national economy.

While there is an urgent imperative to correct the wrongs of apartheid and to redress the past unequal distribution of services, the speed at which this can be done must be in keeping with the capacity of local, regional and national economies to support it.

The enormous costs involved have forced government to formulate ways of stretching its limited resources as far as possible. The choice of level of service and of technology must be within the affordability constraints of households, local authorities and central government, and government must set short-term achievable goals in keeping with longer term objectives.

Capital expenditure programmes should include detailed long term affordability studies in order to establish the most appropriate programmes and projects for continued financial viability.

Communities have the responsibility to choose and implement the mix of service levels that they desire, taking into account government policies and socio-economic realities.

Prioritised investments and targeted subsidies

The Municipal Infrastructure Investment Framework, recently accepted by Cabinet, indicated that government cannot immediately embark on a programme to provide full services to all, but must devise ways of prioritising investments and targeting subsidies (e.g. to support only a basic level of service for all). Hence the derivation of certain policy principles such as “demand driven” and “the user pays”.

These are essentially economic instruments to enable households to set priorities for themselves, based on their **capacity and willingness to pay for a particular level of service**, and so inform the planners who serve them.

The Government of National Unity has, through its endorsement of the Municipal Infrastructure Investment Framework, established a clear framework to govern the way in which municipal infrastructure should be financed.

In essence, government financial support to local authorities for infrastructure and services will be limited to the amount of capital needed to achieve a basic minimum level of service. This will mostly be effected through the on-site infrastructure component of the national housing subsidy scheme, but may be supplemented with a grant toward bulk and connector services in cases where local authorities are unable to raise the capital required.

It is government’s standpoint that its responsibility is limited to providing citizens with a level of service sufficient to safeguard and promote public health, with its attendant economic benefits. Beyond that, improvements should be subject to consumer choice and full cost recovery.

Where local communities aspire to and are willing to pay the extra costs of a more convenient (and hence more expensive) level of service, they are free to raise the extra finance out of own sources or from the capital market, provided all the extra running costs are met from within that community.

Government will not increase the amounts of inter-governmental transfers currently used to subsidise running cost shortfalls in some parts of the country. It is the prerogative of provinces to decide on the distribution of these transfers, but the total amount available will not be increased, and may well decrease rapidly over the next few years. The implication for local authorities is that all costs of a recurrent nature for municipal services, such as operations, maintenance and loan repayments, must be met from user charges and local taxes. This must be done without further recourse to government running cost subsidies.

Many low income households are presently enjoying a level of service whose true cost, at average consumption levels, is beyond their ability to pay. In such cases government proposes to reformulate the tariff structures for municipal services to encourage local authorities to assist low income families through a low-cost "lifeline" tariff for modest levels of consumption. The details of such tariffs are still under preparation.

Service providers must plan to achieve full coverage as soon as practicable, at least to a basic level of service. The extension or upgrading of a service should not result in a request to central government for a larger recurrent cost subsidy.

Financing urban sanitation

In urban areas, sanitation services are the responsibility of local authorities. These services must be provided (financed and built), operated and maintained in a manner which is financially viable throughout the life of that service. This means that the authority (or a service provider on its behalf) needs to raise sufficient income to cover all expenditure.

Financing rural sanitation

The provision of sanitation services in rural areas is the responsibility of the local authority. Finance could be sourced through:

- consumer contributions;
- central and provincial government line departments;
- sector utilities;
- settlement grants administered by the Department of Land Affairs;
- limited local government borrowing; and
- RSC/JSB¹⁶ levies.

In the absence of a housing or general services subsidy for new or existing households, a capital subsidy will be introduced to enable individual householders to improve their domestic sanitation to a basic level of service. This will be an interim arrangement until sanitation can be integrated into future support programmes for rural households.

Other costs associated with a sanitation improvement programme (promotion, training, health education, administration), may be of a similar value to the direct capital subsidy. These may be regarded as an indirect subsidy from government.

Tariff policy

Government proposes to introduce a tariff structure framework which will enable service providers to set tariffs locally whilst, meeting government's socio-economic objectives. These objectives include the ongoing financial viability of services, providing for the needs of the poor and conserving the environment. Actual tariff levels could vary with local circumstances, but should comply with the policy principles.

Sanitation service providers are responsible for implementation of a national sanitation tariff structure, based on the national tariff policy.

¹⁶ Regional Services Councils/Joint Services Boards

5 TECHNICAL CONSIDERATIONS

Health Aspects

- 5.1 The sanitation systems must be designed and constructed provide an effective barrier against disease transmission.

Social and Educational Aspects

- 5.2 The sanitation systems must be acceptable to the users.
5.3 User education must be an integral part of sanitation projects.
5.4 The special needs of children, disabled people and the elderly should be considered in the design of facilities.

Environmental Impact Aspects

- 5.5 Sanitation systems should be designed to reduce the environmental impact of unmanaged human waste disposal.
5.6 The specific risks of system failure must be considered at the time of technology selection.
5.7 For all proposed extensive on-site sanitation programmes geo-hydrological tests must be carried out to establish potential environmental impacts.
5.8 The final disposal of effluent and sludge for both on-site and off-site systems must be considered at the time of technology selection.

Affordability

- 5.9 Users should be given choices of technology wherever possible, each with different costs.
5.10 Potential users must be supplied with full information on both capital and operation costs for the range of options in order to make an informed economic choice.
5.11 Government will not be able to provide subsidies for the operation and maintenance costs of sanitation systems. Such costs must be affordable at the local level.

Upgrading

- 5.12 For the household and community situation the potential for upgrading as affordability increases should be considered when selection the technology.

Institutional Needs

- 5.13 Any sanitation improvement programme should include resources to develop the necessary local institutional capacity to manage the ongoing programme and future operational needs.

Water Saving

- 5.14 Where water-borne sanitation is to be installed the use of low flush technology and appropriate reticulation systems will be actively encouraged.
5.15 In areas where water supplies are limited or unreliable, water-dependent systems will be discouraged.
5.16 Innovative technologies must be subjected to independent evaluation and testing prior to implementation.

Other facilities

- 5.17 Emphasis will be put on encouraging the construction of handwashing, domestic sullage disposal and laundry facilities.

A wide variety of sanitation systems is currently in use in South Africa, some more commonly than others,

and with varying degrees of success. They impact differently on the environment and

have widely differing costs and degrees of acceptability to the users.

Technology Types

The main types of sanitation systems include:

- traditional unimproved pits;
- bucket toilets;
- portable chemical toilets;
- ventilated improved pit toilets;
- low flow on-site sanitation (LOFLOS);
- septic tanks and soakaways;
- septic tank effluent drainage (solids-free sewerage) systems; and
- full water-borne sewerage.

Several of these technologies do **not** meet this policy's criteria for adequate sanitation:

- **traditional unimproved pits**, except in rare cases, do not provide a barrier against flies, besides their other defects which are usually related to quality of construction;
- **the bucket system, as commonly** operated in South Africa, does not provide adequate sanitation, as well as being socially unacceptable to most people;

Buckets are to be phased out and replaced by an appropriate and adequate system.

- **Portable chemical toilets** are not encouraged, except in emergency situations, and then only for short periods, due to the high running costs involved which frequently leads to over-utilisation;

The remainder of the options mentioned above can all provide an adequate level of sanitation, **if** they are properly designed, built and maintained. They comprise a hierarchy of options available to users (some of which are upgradable), depending on their economic means. There are a wide range of proprietary systems (none of which are mentioned) available that can under certain circumstances offer adequate sanitation options.

The "Basic level of service" is the first stage - the vital one of meeting basic functional, health and environmental requirements - in a process of gradual improvement of the health and standard of living of all South Africans.

Hierarchy of Adequate Sanitation Technologies

System	Degree of complexity	Approx water (l/flush)
VIP	Simple, but needs proper design and construction; periodic desludging or relocation	Nil
LOFLOS	Some types use mechanical flushing; soakaway or soakpit needs proper design; periodic desludging	0,5 to 1
Septic tank	Soakaway needs proper design and construction; periodic desludging	6 to 15
Solids-free sewerage	Needs reticulation and treatment works; periodic desludging	3 to 15
Conventional Sewerage	Needs reticulation and treatment works	6 to 15

The hierarchy of adequate sanitation options can be viewed in different ways. From the point of view of the user, it is generally associated with progressively higher costs (initial and ongoing), greater use of water for flushing and improved convenience and status. For the organisation responsible for managing the system, it is associated with both higher costs to be recovered from users, and increasing operations and maintenance complexity (see table above).

Factors influencing technology choice

Until very recently, the choice of sanitation technology has been regarded as the exclusive preserve of engineers who, naturally enough, concentrated purely on technical issues. However, in reality there are numerous factors that must be considered, in a transparent manner and in close contact with prospective consumers, when deciding on the most appropriate technology for a particular situation. The following list is not

exhaustive but should address most of the issues.

Affordability: By far the most important factor influencing the choice of technology is affordability - at household, local and national levels. This is dealt with at length in the section on the Financial and Economic Approach.

As far as it affects technology choice, it must be clear who is willing to pay what amounts for a particular level of service or quality of product. This is especially important when it comes to the need for regular payments for operations and maintenance. Various grants or subsidies may reduce the initial cost to a household, but there will not be any subsidy available to reduce the running costs.

Institutional needs: The more complex systems may require substantial community-level organisation and institutional support both for delivery and for operation and maintenance. Any sanitation improvement scheme should include resources to develop the necessary local institutional capacity to manage the ongoing programme and future operational needs. In some circumstances there may be considerable merit in engaging the private sector to carry out certain functions on behalf of a local authority. Government will encourage local authorities to consider the various options in this regard, using the guidelines presently under preparation.

Environmental impact: All sanitation systems should be designed to reduce the environmental impact of unmanaged human waste disposal. Nevertheless, most systems will cause some degree of environmental impact, particularly if they are not managed as well as the designer intended. The general risk of environmental problems and the specific risks resulting from system failure (and the likelihood of failure) must be considered at the time of technology selection (see Section 3 on Environmental Impact).

Social issues: Social and cultural practices and preferences vary

considerably from area to area. These will affect the range of options acceptable to consumers, and must be catered for, so that facilities are used effectively and health benefits are gained by users and the community as a whole.

Water supply service levels: Water is a scarce and costly resource in most parts of South Africa. Higher water supply service levels imply not only increased water usage and cost, but also the need for a sanitation system which must take care of waste water. This means some form of soakaway or even a piped system. Conversely, in areas where water supplies are limited or unreliable, water-dependent sanitation systems should be discouraged.

As the cost of water supply increases, it becomes increasingly uneconomic to treat, pump and store large quantities of water simply to flush down the toilet. In keeping with the National Water Conservation Campaign and international trends, government will promote the development and widespread use of water-saving toilets.

Reliability: It is extremely important that those households with least to spend on sanitation are not supplied with unreliable technology. Only proven designs should be used in large programmes. In particular, innovative and proprietary systems must be tested against performance criteria and independently evaluated in terms of operational requirements, value-for-money and customer acceptability and satisfaction. This must be done **before** they become part of an extensive programme. To this end, government will identify appropriately qualified and objective bodies to carry out such evaluations against agreed criteria.

Upgrading: As sanitation improvement is a process, it is desirable to consider household upgrading (e.g. VIP to septic tank) sequences, where this is likely in the foreseeable future. Designs should be done accordingly, within today's cost constraints. In some cases community upgrading (e.g. installing a sewer) should be considered at the planning stage.

Site-specific issues: The geology, hydrology and topography of an area may influence the choice of technology, insofar as they may affect ease of excavation, percolation rates and sewer gradients, amongst other factors. Geo-hydrological testing must be undertaken before extensive high density on-site sanitation systems are selected.

In a few cases site conditions may make the use of low-cost on-site technology questionable, but frequently the cost of installing and operating safe water-borne systems is prohibitive. These situations will require independent review and advice, and a wider range of technologies should be considered.

Use of local resources: The local availability of materials and skills has an important bearing on the choice of technology or construction method. The design of facilities should maximise the use of these resources, in order to stimulate local economic activity and create jobs in keeping with the aims of the Reconstruction and Development Programme (RDP). The use of pre-fabricated factory-made components generally works against this principle, although in rare cases these could still be useful.

Settlement patterns: The density and layout of a settlement are important factors in selecting technology. Sewered systems become more cost effective in denser areas, with more linear layouts, while on-site systems are generally more viable where plots are larger.

Issues affecting technology choice in urban areas

The above points apply to all areas but in urban areas the following additional points may have to be considered:

- Existing sewerage infrastructure, high density of housing and full water reticulation systems may in some cases, alter the economic ranking of the various options;

- With better water supplies and the possible existence of trunk sewers¹⁷, the call for higher levels of sanitation is often heard. While the construction costs may be met, it must always be asked whether the community is able and willing to pay the on-going operation and maintenance costs of such systems;

In some urban situations people already have sanitation infrastructure that they cannot afford to run and maintain. In these cases the local authorities will need to consider cross-subsidisation or other means of funding on-going costs; and

- The costs of emptying pits and tanks and disposing of the contents must be included in affordability calculations, alongside the costs of conventional sewage disposal.

Issues affecting technology choice in rural areas

In rural areas the following points also need consideration:

- due to the low density of housing in most rural areas, conventional water dependent sewerage will usually not be feasible, mainly for economic reasons. Individual households wishing to have water systems will normally be able to construct septic tanks and soakaways themselves; and
- The specific needs of farmworkers on private farms will need to be addressed with modified strategies.

Hand-washing, sullage disposal and laundry facilities

As previously mentioned, the full health benefits of improving sanitation facilities will only be realised through accompanying behavioural change, in particular through the regular washing of hands after using the toilet. In those areas without individual plot connections to a water supply, government will actively promote appropriate handwashing facilities to be included with toilet structures.

One disadvantage of many on-site systems of sanitation, including all types of

¹⁷ *trunk sewers* are the main sewer pipes used to convey sewage to the treatment works.

pit toilets and LOFLOS, is their inability to handle large quantities of water (except in cases where soil percolation rates are high). This may mean that sullage or “grey water” generated by the family has to be disposed of separately through a sullage soakaway. Government will encourage the increased use of sullage soakaways which should be designed on the same basis as that for septic tank systems.

Areas without house connections for water supply and sewerage commonly lack suitable places for householders to wash their laundry. This frequently leads to unsanitary conditions around sources of water. Government will encourage the inclusion of simple, purpose-made laundry facilities near to water supply points as part of a sanitation improvement programme.

Sanitation improvement is a process

Improvement of household sanitation is a process which keeps pace with a household’s aspirations and willingness to pay to fulfil those aspirations. Local Authorities or their agents should provide households with the technical, financial and other support needed to upgrade their sanitation facilities through a series of investments.

Technical support for sanitation provision and improvements

A vital element of the national sanitation improvement programme will be ensuring that sound sanitation systems are implemented. Considerable good work has already been done to prepare appropriate guidelines, with support from the Water Research Commission (WRC),

Council for Scientific and Industrial Research (CSIR) and the Department of Housing. These guidelines include:

- “Preliminary guidelines for private sector participation in water supply and sanitation services (WRC)
- “Planning and implementation of water and sanitation projects - Guidelines for developers and local authorities” (WRC)
- “Guidelines for the provision of engineering services and amenities in residential township development” (Dept. of Housing)
- “Guidelines for provision of low flow on-site sanitation systems (LOFLOS)” (WRC)
- “Septic tank systems” (CSIR)

in addition, other guidelines on VIP toilets and solids-free sewer systems are being prepared.

Where they do not yet exist, government will provide or promote the development of the following:

- guidelines for the planning and implementation of rural sanitation projects
- guidelines for the selection of appropriate sanitation systems
- guidelines for the design and construction of different sanitation technologies
- guidelines for the evaluation of innovative approaches
- capacity to monitor construction standards
- training and development of local entrepreneurs on sanitation programmes.

6 INSTITUTIONAL AND ORGANISATIONAL FRAMEWORKS

- 6.1 Sanitation policy principles apply equally to all communities but could vary in approach between rural and urban communities.
- 6.2 Primary responsibility for the provision of household sanitation rests with the household itself.
- 6.3 Local government is responsible for sanitation services.
- 6.4 Provincial government has the responsibility to ensure that local government functions effectively with respect to sanitation services.
- 6.5 Central government has the powers to intervene to ensure that minimum levels of services are maintained.
- 6.6 The Department of Water Affairs and Forestry will take the lead in the promotion of the sanitation programme, in close co-operation with the Department of Health and the other four departments represented on the National Sanitation Task Team.
- 6.7 Sanitation improvements cannot be effected in isolation. It is essential that there are substantial linkages with other government programmes.

The institutional arrangements for the promotion and provision of effective sanitation must be guided by the Constitution, which stipulates that:

- **Local government** is, in the first instance, responsible for the provision of services such as water supply and sanitation;
- **Provincial government** has the constitutional responsibility for the establishment and effective functioning of local government;
- **National government** has the powers and the duty to intervene in matters of provincial and local competence to ensure that minimum standards are maintained.

Given the different stages of development of local government it is clear that institutional arrangements will vary in several ways: approaches in developing areas will be different from those in well established areas, and rural areas will generally have different requirements from urban areas.

Effectively functioning institutional arrangements (typically relating to urban sewerage systems) should be retained. Greater emphasis should however be given to co-ordination between different tiers of government, the various government programmes and other statutory agencies. Where new

arrangements are needed, the factors which influence their design are noted below.

Factors determining institutional arrangements

Promotion and support requirements: Programmes in developing areas may require more attention to 'soft' issues such as community empowerment, promotion, health education and financial assistance to households. Other support may be needed to assist emerging entrepreneurs to participate.

Financial and economic constraints: Institutional arrangements will differ in those communities with a financially sound local government from those in which local government does not have adequate financial means.

Technical and environmental issues: The technologies used where sanitation systems serve an entire community¹⁸ will be different from those systems which serve only individual households. Environmentally vulnerable areas will need special care.

Management requirements: A communal sewerage system requires a dedicated management system to ensure its ongoing

¹⁸ For instance water-borne sewerage systems.

operation and maintenance. This is less so for household on-site systems¹⁹ which may only require emptying or replacement once every five years, but will still be needed if such systems are to be effective.

Linkages with other programmes

Certain other programmes have a direct impact on sanitation provision. These include:

- the national housing programme in urban areas, which provides a subsidy for internal and on-site sanitation infrastructure to serve house-holds in receipt of the subsidy;
- the land reform programme, which includes settlement grants to provide domestic infrastructure;
- the municipal infrastructure programme of the Department of Constitutional Development, which finances infrastructure (including sanitation) in areas where the local government needs financial support to provide it;
- the national public works programme, which aims to create employment, entrepreneurial opportunities and capacity building while providing infrastructure assets;
- the environmental health programmes of the Department of Health, which promote sanitation improvements as an essential contribution to improved health;
- the integrated pollution control initiative of the Department of Environmental Affairs and Tourism;
- water supply and water resource management programmes of the Department of Water Affairs and Forestry, which provide the water needed for sewerage systems, but also impose constraints by requiring that sanitation be provided in a manner which is not detrimental to the quality of the nation's water resources.

- the Department of Water Affairs and Forestry's community-based water supply programmes, which provide a platform for the implementation of sanitation activities through local water and sanitation committees supporting the development of local government structures.

The sanitation improvement programme

This White Paper indicates that in addition to existing conventional municipal arrangements, there is a need for a new programme with the goal of achieving a situation in which all South Africans have access to adequate sanitation. To this end, four specific objectives must be met:

- co-ordinating between the programmes of different departments and tiers of government with respect to technical, financial, communications and other dimensions;
- undertaking pilot activities in support of the promotion of adequate sanitation systems;
- providing technical, financial and communications support for the achievement of adequate sanitation for those communities which are not assisted by existing programmes (described above) and where conventional communal systems are unlikely (e.g. in rural areas, small towns, peri-urban areas and informal settlements); and
- training of personnel and building of capacity at local and provincial levels in order to extend the programme to all South Africans throughout the country.

The design of the programme will be guided by the objectives described above. The range of inputs needed will require the proposed programme to continue to be based on an inter-departmental approach. The management of the programme will be guided by the National Sanitation Task Team comprising of representatives from the collaborating departments. To be effective, it should fall under the guidance of a national department.

It has been agreed that the Department of Water Affairs and Forestry, through its

¹⁹ These systems could include aqua-prives, VIP toilets, septic tanks, etc.

Community Water Supply and Sanitation branch, will continue to take the lead in setting up the programme. This is due to the close links a sanitation programme should have with the department's water supply programme, and its commitment to promoting interventions designed to make basic services accessible to everyone. The Department of Health and health personnel at various levels of government will play a major role in the promotion and educational outreach aspects of the programme.

The programme should have a national identity in order to promote an integrated approach to improving health, sanitation facilities and the environment. It should stress that individual and community health (including a community's environment) are inextricably linked. This integrated approach must include co-operation between all levels of government and between agencies at each level of government.

Where financial interventions are required, these may be delivered through existing mechanisms, such as the basic water supply programmes²⁰ New programmes will be designed to support and assist embryo institutions of local government, both technically and financially, to deliver services in a community-based and sustainable manner.

The following sections begin to identify the many stakeholders and their roles in a sanitation improvement programme.

Roles and responsibilities of the private sector

While the sanitation improvement programme described above may require a high degree of support from government agencies, it is intended that such a programme will be a full partnership between public and private sector

organisations. Private sector inputs can include:

- preparation of guidelines;
- technical assistance;
- planning, design and contract supervision;
- construction by large and small contractors;
- construction, operation and maintenance of facilities such as sewage works, public toilets etc;
- preparation of communications materials;
- training and capacity building;
- supply of materials;
- financing; and
- monitoring and evaluation.

In addition to involvement in programme implementation, there is a growing appreciation of the potential role for private sector participation in the financing and operation of water supply and sewerage systems. Government has supported the preparation of guidelines to facilitate this process, and is considering the regulatory framework required.

Owners of land legally occupied by others for example farm owners, landlords of rental property etc., have a responsibility to ensure that adequate sanitation facilities are available.

Role of NGOs

NGOs can play an important role in sanitation programmes. Their existing experience and good contacts at community level will enable them to effectively carry out activities such as:

- training and capacity building;
- using their flexibility to assist communities with the planning and implementation of projects;
- providing health and hygiene education and sanitation promotion;
- preparing communications materials; and
- financing of projects.

Household responsibility

As mentioned before, primary responsibility for household sanitation provision rests with the household itself, and all levels of government are basically

²⁰ For example using local water committees and local government structures, in programmes prioritised at provincial level and managed by implementing agents such as local government agencies, water boards or NGOs.

in the role of facilitating this, or of carrying out those functions which are more efficiently executed at a community level (or even larger grouping).

Local government level responsibilities

Local government responsibilities in respect of sanitation include:

- provision of communal infrastructure (planning, programming, and financing);
- operation and maintenance of infrastructure;
- communication with consumers (agreeing standards, setting tariffs, collecting revenues);
- maintenance of public health (health education, pollution prevention and control);
- promotion of development (facilitating community involvement);
- provision of technical assistance for upgrading on-site systems;
- facilitating the establishment of and capacity building of local water and sanitation committees (in rural areas);
- co-operation with others to pool experience and generate consistent approaches; and
- reporting to provincial government.

Provincial government level responsibilities

In respect of sanitation, provincial government responsibilities include:

- provision of technical assistance to local authorities (engineering advice, capacity building, training);
- distribution of housing subsidies;
- environmental management;
- co-ordination of regional planning;
- mobilisation and co-ordination of regional training capacity;
- promotion of integrated development;
- inter-departmental co-ordination;
- allocation of provincial funding; and
- monitoring progress of the sanitation programme and the related activities of local government.

National government level responsibilities

National government responsibilities include:

- co-ordination of all activities;
- development of policy and strategy;
- setting basic minimum standards and levels of service;
- changes to regulatory framework;
- allocation of national funds (funding criteria);
- development of a framework for grants, loans and technical assistance;
- preparation of guidelines;
- promotion and advocacy of sanitation improvements (support programmes); and
- monitoring and evaluation.

Other stakeholders

As will be seen in the preceding sections of this White Paper, there is a wide range of other stakeholders, all of whom have a vital role to play. The improvement of sanitation is everybody's business and cannot be seen as a government-sponsored top-down programme. The many role players include:

- householders (first and foremost);
- local water and sanitation committees (or local equivalent);
- provincial housing boards;
- water boards (on behalf of local government);
- contractors (small and large);
- materials and equipment suppliers (stocking or making special items);
- non-government organisations (using existing networks);
- consultants (technical, social etc.);
- training organisations (technical training and capacity building);
- community workers (motivating community initiatives);
- health workers (promoting, education)
- financing institutions (micro-loans, big project funding);
- private sector utility management companies; and
- researchers (monitoring and improving equipment and approaches).

SECTION D: LOOKING AHEAD

This section describes the way forward and gives an outline for future implementation.

In order to make adequate sanitation a practical reality to the many people that this policy is intended to serve, the National Sanitation Task Team has already started to develop a framework for implementation which is outlined below.

Implementation approach

The absence of a coherent national programme to improve community sanitation has left an obvious legacy. Nearly half of South Africa's population does not have, within their own homes, the healthy environment promised to them by the Constitution. There is a glaring need for a structured programme to address this problem.

Given the limited practical experience in the field and the evolving institutional arrangements at local level, such a programme must be flexible enough to develop and change over time. It must build on the lessons of experience and reinforce the role of local government as the implementors of service provision.

It is therefore proposed that there be an initial two-year start-up phase. During this period, there should be an increase in funding to sanitation to start a limited number of projects in all of the provinces. Existing pilot projects and research will continue, as will the development of the health and hygiene and capacity building "software". The consultation process must also continue.

The experience gained from these activities will then be used to design and launch a full-scale national sanitation programme. This programme will aim to achieve the ambitious goal of meeting the basic sanitation needs of all South Africans within ten years, in accordance with the development principles set out in this document.

Development of strategies

The next step is to develop strategies for a national sanitation programme, these will include:

- recruitment and training of a number of key personnel at national and provincial levels;
- formation of appropriate institutional arrangements;
- advocacy at national and provincial levels;
- planning of promotional health and hygiene education and awareness programmes;
- development of systems to capture and learn from experiences; and
- preparation of guidelines.

Regulatory changes

Future actions will include assuming an active role in some of the processes currently revising legislation relevant to sanitation, such as the Water Law Review. Proposals on dealing with the legal changes required in the following areas will be made:

- environmental legislation;
- Public Health Orders and; and
- local government bye-laws

Institution building

Attention will be given to ensuring that sanitation concerns are adequately addressed in other approaches currently underway. These include the review of water and health legislation, environmental policy and financing arrangements for service provision.

The National Sanitation Task Team will be charged with developing an overall implementation strategy and the organisational arrangements needed to make it work. The six departments involved have taken the lead in co-operative action and this will be continued; the challenge is to repeat this inter-sectoral co-operation at provincial and local level to build the multi-disciplinary approach which is essential to the success of any sanitation programme.