South Africa – Free Basic Sanitation Implementation Strategy (2008)

DEPARTMENT OF WATER AFFAIRS AND FORESTRY

FREE BASIC SANITATION IMPLEMENTATION STRATEGY

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Preface

It is the firm belief of the South African government that sustainable development can only be achieved through a focus on poverty eradication and economic development. Water, sanitation and hygiene are regarded as key issues for the achievement of these objectives. To this end, the government's sanitation programme is targeted towards the poorest of the poor thus ensuring that the benefits of the programme are delivered to those persons that are most in need. All South Africans should have access to a Free Basic Sanitation by 2014.

Great strides have been made to provide basic services to South Africans however more can be done in the sanitation field. It is with this in mind that DWAF has developed the Free Basic Sanitation Implementation Strategy which is aimed at assisting municipalities in developing a Free Basic Sanitation approach that meets the needs and requirements of the municipality and its residents.

Better sanitation can be achieved through acknowledging the range of factors which promote sound management and improved hygiene awareness, and which enable end-users to make informed choices around their options for optimising good household sanitation. Local authorities share the responsibility with individual households for achieving better sanitation.

It is readily acknowledged that there are many challenges in providing Free Basic Sanitation to however if all parties are committed to achieving the goals set by Government these challenges will be overcome. While National Government will strive to support were necessary, householders and municipalities have an obligation to ensure that sanitation solutions meet all legislative requires. There should be flexibility in the choice of facilities without compromising the environment, the dignity and cultural views of people and the long-term sustainability of the service. We need to endeavor to provide a Free Basic Sanitation service that brings relief to all vulnerable groups including women.

Unlocking and addressing the sanitation backlog will help householders to move closer to breaking the cycle of poverty.

It should never be forgotten that "Sanitation is Dignity" and dignity is a basic human right.

MRS LINDIWE B. HENDRICKS, MP

MINISTER OF WATER AFFAIRS AND FORESTRY

Executive Summary

The right of access to a basic level of sanitation service is enshrined in the Constitution of South Africa (Act 108 of 1996). Municipalities have an obligation to ensure that poor households are not denied access to basic services due to their inability to pay. However, Municipalities are faced with a challenge of balancing financial resource allocation to the eradication of basic sanitation infrastructure backlog by 2010 and provision of free basic sanitation services to the poor. It is with this in mind that DWAF has developed the Free Basic Sanitation Implementation Strategy. DWAF has acknowledged that given the challenges facing WSA's the household sanitation targets of the Strategic Framework for Water Services may not be met by 2010. In lieu of this, a revised target has been set for 2014 whereby all people in SA must have access to a functioning basic sanitation facility. The 2014 target is inline with the Department of Housing target that all South African's should have access to a house by 2014. The aim of the Free Basic Sanitation Implementation Strategy is to guide Water Service Authorities in providing all citizens with free basic sanitation by 2014.

The strategy is informed by the vision of sanitation for all. For the purposes of the strategy a basic sanitation service is defined as the provision of a basic sanitation facility which is easily accessible to a household, the sustainable operation of the facility, including the safe removal of human waste and wastewater from the premises where this is appropriate and necessary, and the communication of good sanitation, hygiene and related practices. Although there is a broader policy commitment by government to extend the free basic services to *all* households the policy is largely aimed at poor households for whom free basic services represent a significant poverty alleviation measure.

The strategy adopts the principles that national guidelines should be implemented with local choice. This is aimed at encouraging municipalities to be flexible in the implementation of the strategy locally, to ensure its long-term success. It is also acknowledged that community participation is a key foundation for the sustainable choice of sanitation facilities.

The concept of 'free basic sanitation' is a controversial issue as international experience generally confirms that sanitation is a service, which, more than any other, requires the engagement of the consumer. This engagement, and the associated benefit to health which improved sanitation brings, is best achieved if the consumer makes a contribution to the service. However, free basic sanitation means that consumers get the service without making contributions in cash or in kind with the exclusion of certain 'on site' components of the facility.

While it remains national policy to provide basic sanitation free to the poor, this is constrained by the financial viability of the water services authorities that are responsible for implementing this policy. In such cases the authority may place a cap on its free basic sanitation grant and require the beneficiaries to contribute in cash or kind however people should not receive sanitation below the minimum basic level. This should be clearly stipulated in the Free Basic Sanitation Policy of the water services authority.

Following the principles expressed in the Basic Household Sanitation White Paper it is essential for households to be key participants in the decision making process, both to

ensure that service level decisions are made properly and to ensure that the broader health benefits associated with the provision of sanitation are realised. Water Service Authorities must ensure that a demand responsive approach in that consumers are given service level choices with the knowledge of what the service levels cost; all tariff structures must take cognisance of free basic services and consumers must be informed of the health related aspects of sanitation which will require intensive communication processes.

The strategy includes comparative costing of the various sanitation facility options. The technology choice must ensure consumer demand, which implies acceptance of the service level and willingness to pay the tariff, associated with that service level; viability from the point of view of the water services authority and provider, understanding of the environmental impacts of the sanitation choice and the technical feasibility of the facility

Establishing a tariff policy, which provides for free basic sanitation, is central to the success of arrangements to provide a free service effectively. It allows income to be raised from those who are not eligible to get the service free which is often the main source of income into the sanitation account. In circumstances where the cost of providing the service free to the poor is greater than the subsidy amount received from the water services authority, part of the income received from consumers who are not poor is applied as a *cross-subsidy*. Eight of the most common Free Basic Sanitation subsidy targeting options are discussed in detail in the strategy.

The strategy provides the necessary information for municipalities to develop and implement their own Free Basic Sanitation policy in line with National Policy.

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1. Purpose of this document

The South African government adopted a policy for free basic services in 2001. Cabinet approved the Strategic Framework for Water Services in 2003 which forms the basis for the development and implementation of a Free Basic Sanitation Strategy. The Free Basic Sanitation Strategy has been widely consulted with relevant stakeholders including Water Services Authorities who remain responsible for the implementation of the strategy. The primary aim of the strategy is to guide Water Service Authorities in the implementation of the National Free Basic Sanitation Policy.
While note is taken on the importance of providing sanitation services to institutions, particularly schools and clinics, this strategy places emphasis on household sanitation.

2. The vision: basic sanitation for all

The overall vision for the provision of water services in South Africa is encapsulated in Box 1.
In order to achieve this vision it is acknowledged that many cannot afford to pay for even a basic level of service. Levels of poverty in South Africa remain relatively high and it is the poor who are most in need of improved services. Therefore, as part of the vision, the principle of free basic services is also encapsulated in the statement in Box 1.

Water is life, sanitation is dignity

All people living in South Africa have access to adequate, safe, appropriate and affordable water and sanitation services use water wisely and practise safe sanitation.

Water supply and sanitation services are sustainable and are provided by effective and efficient institutions that are accountable and responsive to those whom they serve.

Water is used effectively, efficiently and sustainably in order to reduce poverty, improve human health and promote economic development. Water and wastewater are managed in an environmentally responsible and sustainable manner.

Box 1: Vision for water services

2.1 Scale of the problem

The White Paper on Basic Household Sanitation (2001), estimated that 18 million people in SA lacked access to adequate sanitation facilities and health and hygiene knowledge. According to the Municipal Infrastructure Investment Framework (MIIF) of 2000, about 7% of schools and 15% of clinics in rural areas were without sanitation facilities.
Most of the 18 million households who did not have access to the basic level of sanitation were mainly in rural areas. Of these, approximately two-thirds had access to some kind of sanitation below the basic level, leaving approximately 6 million people with no sanitation service at all. This strategy is aimed at closing this gap and serving these households.

2.2 Targets

The Strategic Framework for Water Services set 19 targets associated with the provision of water supply and sanitation services. Those that relate to free basic sanitation are given below:

	TARGET	MEANS OF VERIFICATION	RESPONSIBILITY (to achieve target)
	Access to services		
2	All people in South Africa have access to a functioning basic sanitation facility by 2010.	Census; sample surveys undertaken by DWAF.	Water services authorities supported by the DWAF and the National Sanitation Task Team.
5	All bucket toilets are eradicated by 2006.	Census.	Water services authorities supported by DWAF.
	Education and health		
7	Hygiene education and the wise use of water are taught in all schools by 2005.	Curriculum includes hygiene education and wise use of water.	National Department of Education.
8	All of households with access to at least a basic sanitation facility know how to practise safe sanitation by 2010.	Random household sample surveys undertaken by DWAF every three years, starting in 2004.	Water services authorities, supported by DWAF.
	Free basic services		
9	Free basic water policy implemented in all water services authorities by 2008.	Annual reporting by water services authorities; random audits by DWAF.	Water services authorities.
10	Free basic sanitation policy implemented in all water services authorities by 2010.	Annual reporting by water services authorities; random audits by DWAF.	Water services authorities.

DWAF has acknowledged that given the challenges facing WSA's the household sanitation targets of the SFWS may not be met by 2010. In lieu of this, a revised target has been set for 2014. By 2014 all people in SA must have access to a functioning basic sanitation facility. The 2014 target is inline with the Department of Housing target that all SA should have access to a house by 2014.

3. The starting point: existing policy

3.1 The Strategic Framework for Water Services

The Strategic Framework for Water Services, which was developed by DWAF in consultation with the Water Sector, was approved by Cabinet in 2003. The Free Basic Sanitation Implementation Strategy is informed by the Strategic Framework for Water Services.

3.2 The Basic Household Sanitation White Paper

The approaches provided in this document are consistent with, and reinforce, the principles outlined in the White Paper on Basic Household Sanitation, which was approved by cabinet in 2001.

A free basic sanitation strategy needs to be consistent with the principles adopted in the paper. These principles, with the exception of one related to a demand driven approach, remain in place. They are summarised below, with comment on demand responsiveness:

- **Demand driven** – The original principle stated that: sanitation improvement must be demand responsive, supported by an intensive health and hygiene programme. It is noted that, with the adoption of free basic services, this principle of demand responsiveness is less stringent. This is due to the fact that demand responsiveness is usually related to willingness to pay for the service. If no payment is required this is no longer applicable. Nevertheless, the other key element of a demand responsive approach remains in place: the views of communities as to what sanitation service they require must be taken into account.

- **Community participation** - Communities must be fully involved in projects that relate to their health and well being and also in decisions relating to community facilities.

- **Integrated planning and development** – The health, social and environmental benefits of improved sanitation is maximised when sanitation is planned for and provided in an integrated way with water supply and other municipal services.

- **Sanitation is about environment and health** – Sanitation improvement must be accompanied by environmental, health and hygiene promotional activities.

- **Basic sanitation is a human right** – Government has an obligation to create an enabling environment through which all South Africans can gain access to basic sanitation services.

- **Local government responsibility** – Local government has the constitutional responsibility to provide sanitation services.

- **Health for all rather than all for some** – Those faced with the greatest health risks need to be prioritised.

- **Equitable regional allocation** – The limited national resources available to support the incremental improvement of sanitation services should be equitably distributed throughout the country, according to population, level of development, and the risk to health of not supporting sanitation improvement.

- **The economic value of water** – The way in which sanitation services are provided must take into account the growing scarcity of good quality water in South Africa.

- **Polluter pays** – Polluters must pay for the cost of repairing the impact of their pollution on the environment.

- **Financial sustainability** – Sanitation services must be sustainable both in terms of capital costs and recurrent costs.

- **Environmental integrity** – The environment must be protected from the potentially negative impacts of developing and operating sanitation systems

3.3 National strategy for providing sanitation to all

The Department of Water Affairs and Forestry, working with other departments involved with sanitation, has developed a national strategy for providing sanitation to all.

The relationship between policies, strategy and local level planning is shown as Figure 1.

3.4 Sanitation in the lives of women

It is essential that the role of women in society in South Africa gets much greater emphasis. The impact of free basic sanitation is notable in this regard: improved family health relieves women of the burden of caring for those who are sick and allows them greater freedom to live satisfying and productive lives. Improved sanitation service also reduces risks of criminal attacks especially against women in rural areas where mostly open defecation is practiced at night.

3.5 Sanitation in water services development plans

Referring to Figure 1 it is important to note that the end result of a free basic sanitation policy is that this is built into Water Services Development Plans (WSDPs) developed locally by Water Services Authorities. These plans, in turn, inform the business plans developed for individual projects.

Currently there is some concern about the lack of attention in WSDPs to sound sanitation planning. Often matters of technology choice, management of sludge from pits, and the organisational arrangements in rural areas are neglected. Further, the financial sustainability of providing sanitation services is seldom addressed. This means that municipal sanitation programmes are often not sustainable.

It is strongly recommended that WSDPs must include a *municipal sanitation strategy* which, in turn, includes a sanitation maintenance plan. Further, no WSDP can be considered complete if it does not include a financial analysis which looks at the sustainability of the water and sanitation programme in the long term.

3.6 The Free Basic Water Strategy document

This document is also preceded and supported by a similar document aimed at supporting the free basic water initiative entitled *'FREE BASIC WATER Implementation Strategy 2007:*
Consolidating and maintaining" prepared by the Department of Water Affair's Directorate: Water Services Policy and Strategy.

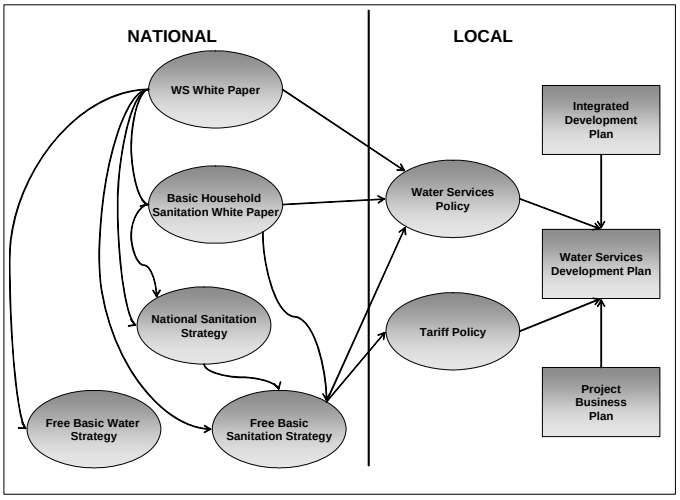

Figure 1: Relationship between Policies

3.7 Political support for this strategy

In a media statement in 2004 by the Minister of Water Affairs and Forestry, the government committed itself to adddressing the sanitation backlogs. In achieving this, the following basic principles were to be among those that would underpin the roll-out programme,:

- A developmental approach would be followed which would be community based, create construction jobs for local community members and emerging businesses and enable communities to sustain the services with support from local government.

- Integrated planning would take place within the Integrated Development Planning/strategy processes. The process would demonstrate the sustainability and acceptability of the various sanitation technological options. This approach would encourage local government to target the resources available so that everybody would have access to at least a basic level of service that would be appropriate to the settlement conditions and not leave some with high levels of service and others without any services at all.

3.8 Starting point for a free basic sanitation strategy

The requirement for a free basic sanitation policy to be applied in South Africa is accepted as a starting point for this strategy. However, the merits of this have been investigated, using international experience as a basis. This is covered in Annexure A of the document.

4. Specific policy provisions from the Strategic Framework for Water Services

The SFWS, which was approved by Cabinet, makes specific provision for free basic sanitation. The relevant text from this Framework is extracted below:

Providing free basic sanitation

Purpose*. The primary purpose of the free basic sanitation policy is to assist in promoting affordable access by poor households to at least a basic level of sanitation service.*

The challenges *of providing free basic sanitation are threefold:*

1. ***Infrastructure provision:*** *The key challenge with respect to the provision of free basic sanitation is the provision of the sanitation facility itself to poor households (together with the necessary supporting infrastructure). Therefore the free basic sanitation policy is directly linked to the policies for infrastructure provision.*
2. ***Health and hygiene promotion*** *must be provided in a co-ordinated manner, be properly managed and adequately funded if free basic sanitation is to become a reality. This requires close collaboration between district municipalities who are responsible for environmental health, the water services authority and the water services provider.*
3. ***Subsidising the operating and maintenance costs:*** *If the basic service is to be provided free to the poor then the water services authority must ensure that the costs of providing the service are covered by the local government equitable share and/or through cross-subsidies within the water services authority area. These funds must reach the water services provider who operates the service or must directly reach households.*

Choice of technology: *The definition of a basic sanitation service does not stipulate the technology to be used in providing such a service. This decision, which should be made by the water services authority, is the key to success in providing free basic sanitation services in a sustainable manner. The selection of technology is strongly dependent on settlement conditions. Water services authorities must typically address the following situations:*

- *In the core of urban areas, where many businesses are located and where residential densities are high, waterborne sanitation is generally the most appropriate technological solution and may be regarded as a basic level of service for the purposes of the free basic sanitation policy.*
- *In rural areas, where housing densities are low and few businesses are located, on-site technological solutions (for example, ventilated improved pit latrines) are an appropriate basic level of service.*
- *In intermediate areas (for example, peri-urban areas or rural areas where settlement densities are high), a water services authority must decide on an appropriate technology which is financially viable and sustainable. In most instances, on-site sanitation systems are likely to be the most appropriate solution. Care must be exercised when choosing waterborne sanitation systems in this context. The water services authority must ensure that the water*

services provider and users will be able to maintain and operate this system sustainably over time.

Operating the service: *The arrangements for operating the sanitation service must be properly understood before the financial arrangements for subsidising the operating costs of free basic sanitation can be addressed. In many rural areas it is unlikely in the foreseeable future that water services providers operating in these areas will have the capacity to empty or relocate VIPs and hence it will often be necessary for households to manage the sanitation facilities themselves. The subsidy arrangements need to take these factors into account.*

Subsidy arrangements: *Subsidies for free basic sanitation should cover the hygiene promotion costs and the operating costs of providing a basic sanitation service to households. Ideally, the subsidy for operating costs should be calculated as a subsidy per household per month for each settlement type and technology used. This subsidy is then paid to the water services provider or directly to the household (preferably in the form of a voucher). These subsidies should be applied in an equitable and fair manner, both in the present context and over time.*

The decision process: *Water services authorities must first assess what level of subsidy (overall) they are able to provide on an ongoing and sustainable basis for sanitation. This is based on the allocation of money for free basic sanitation from the equitable share and an assessment of the feasible and sustainable cross-subsidy from other consumers. Water services authorities must then decide on the appropriate technological solutions, allocate subsidies between households based on settlement type and technology (see subsidy arrangements above) and work out what consumer charges will be necessary to sustain the service over time. If these charges are not sustainable or not acceptable, then the decision-making process must be revisited.*

Flexibility in application: *Local circumstances will vary greatly between water services authority areas. Therefore it is appropriate that the application of the free basic sanitation policy be flexible and able to take into account the factors identified above as well as any other relevant considerations.*

Guidelines: *DWAF will develop a free basic sanitation strategy (this document) together with a set of guidelines to assist water services authorities to implement the free basic sanitation policy".*

5. Definitions: What is basic sanitation?

The Strategic Framework for Water Services includes the following definitions of basic sanitation:

A *basic sanitation facility* is defined as a sanitation facility which is safe, reliable, private, protected from the weather, ventilated, keeps smells to the minimum, is easy to keep clean and minimises the risk of the spread of sanitation related diseases by facilitating the appropriate control of disease carrying flies and pests, and enables safe and appropriate treatment and/or removal of human waste and black or grey water in an environmentally sound manner.

A *basic sanitation service* is the provision of a basic sanitation facility which is easily accessible to members of a household, has the necessary operational support for the safe removal of human waste and black and/or grey water from the premises where this is appropriate and necessary, and promotes the communication of good sanitation, hygiene and related practices.

In summary a basic sanitation service is the provision of the least cost:

- ***sanitation facility that is appropriate to the settlement conditions;***
- ***operational support necessary and appropriate for the safe removal of human waste and black and/or grey water from the premises; and***
- ***communication of good sanitation, hygiene and related practices.***

In practice the meaning of a 'basic sanitation service' needs to be translated into a specific level of service which is based on a specific type of sanitation facility. This is dealt with in Section 10 of the strategy.

6. What is free basic sanitation and who gets it?

There are five key questions that determines what is free basic sanitation and who qualifies for such a service:

- What is basic sanitation?
- What does it mean to provide a free service?
- Will it always be possible to provide a free service?
- Who gets the free service?
- What are the limitations to providing the service free, in relation to capital and operating expenditure?

The first question is answered in Section 6.1. However, it does need to be interpreted into a level of service, dealing with both the 'hard' element (the technology to be applied) and the 'soft' elements (communication and health and hygiene promotion) which is addressed in detail in the implementation strategy.

6.1 What does it mean to provide sanitation 'free'?

Getting something free clearly means not paying for it yourself. Typically this would apply to both capital payments relating to the installation of the facility, rehabilitation costs (also a capital item) and ongoing payments of tariffs relating to the provision of the service. However, it is notable that there are some 'on site' components of the facility which will remain the responsibility of the household, as discussed later in this document, and the household will remain responsible for these components.

The concept of 'free basic sanitation' is a controversial issue as international experience generally confirms that sanitation is a service, which, more than any other, requires the engagement of the consumer. This engagement, and the associated benefit to health which improved sanitation brings, is best achieved if the consumer makes a contribution to the service. This can be a once off capital contribution and/or an ongoing contribution which may be in cash or in kind (for example contributing labour).

In the case of capital contribution South Africa had adopted a principle of requesting consumer contributions in the recent past. The Basic Household Sanitation White Paper, which promotes a demand responsive approach, supports this. However, with the principle of free basic services being accepted, the more recent sanitation implementation projects have not required capital contributions. Therefore, as noted in Section 3, the starting point is that free basic sanitation means that consumers get the service without making contributions in cash or in kind. However, this excludes certain 'on site' components of the facility as discussed in section 6.4.

From the operation and maintenance perspective it means providing support taking into account the exclusions discussed in Section 6.4. In the case of waterborne systems, operation and maintenance support includes providing water for flushing. It is recommended that 15 litres per person per day should be provided in this regard. For a household of 8 people this will amount to 3 to 4 KL above the amount provided for in terms of the free basic water. This amount will be more in the case of people who are at advance stages of AIDS.

With regard to the health and hygiene promotion element of sanitation; this does require time from households to participate in the communication process. For this reason, health and hygiene awareness and education aimed at increasing the demand for good sanitation and improved hygiene behaviour need to precede sanitation improvement programmes and also become an integral part of ongoing sanitation services provision, in line with the Basic Household Sanitation White Paper and the Health and Hygiene Strategy developed by the Department of Health in consultation with DWAF.

6.2 Will it always be possible to provide it 'free'?

While it remains national policy to provide basic sanitation free to the poor, this is constrained by the financial viability of the water services authorities that are responsible for implementing this policy. There may be situations where such authorities simply do not have access to sufficient subsidy funds to provide a free service, at least in the short to medium term. In such cases the authority may place a cap on its free basic sanitation grant and require the beneficiaries to contribute in cash or kind. (Household contributions are discussed in more detail in Section 6.4). This capping may **not** however result in people receiving sanitation below the minimum basic level. Where the poor are genuinely not able to make the required contribution, then the authority must reconsider its

allocation of funds and prioritisation of recipients, so as to use subsidies as wisely as possible to maximise subsidisation to the poor and keep their charges as low as possible. Capping should be seen as an interim measure and authorities should strive to progressively realise full subsidisation of the poor.
It is notable that if the water services authority makes wise choices with regard to the selection of technology, costs will be lower and the ability to provide the service free will increase.

6.3 Who are the intended beneficiaries?

The primary intended recipients of free basic sanitation are poor households. Although there is a broader policy commitment to the extension of free basic services to *all* households the policy is largely aimed at poor households for whom free basic services represent a significant poverty alleviation measure.

There is no commonly accepted definition of poverty in South Africa. A straightforward approach to defining poor households is one based on income. Households below a certain level of monthly income can be classified as 'poor'. More recently it has been recognised that household expenditure is a better indicator as it is easier to measure. This has been accepted by national government as an indicator for distributing the equitable share to municipalities. While this tool has its shortcomings it is proposed as the most practical indicator of poverty for the purposes of this policy.

The emerging consensus with regard to the definition of a poor household, as proposed in a document published in the National Treasury website titled “A national poverty line for South Africa”, is that a poor household should be defined as a household that does not have enough money income required to attain a basic minimal standard of living – enough to purchase a nutritionally adequate food supply and provide other essential requirements. In 2007 Stats SA estimated this amount of money income to be R322 per capita per month in 2000 prices. This will be further refined as the national poverty line discussions spearheaded by National Treasury reach finality.
WSA must begin to think in terms of targeting in line with the national poverty line.
It is likely that due to cost differences across the country and due to other local issues (such as seasonal unemployment in some areas) the specific local poverty indicators will be more appropriate than national indicators.

Nevertheless, it needs to be recognised that currently National Government makes its own assumptions in deciding on how to distribute the equitable share, as mentioned above. Currently, a household with expenditure below R1 100 is taken as a poverty benchmark at national sphere.

6.4 What are the limitations to providing the service free, in relation to capital and operating expenditure?

In answering this question it is important to understand what is included under 'capital' and 'operating' costs. This is covered in Section 11.1.

As noted in Section 6.1 it was implied that 'free' sanitation means that the poor household does not have to contribute towards the cost of providing the service initially (capital) and managing the service in the long term (operating). However, there are certain limitations in this regard:

Construction of new infrastructure and rehabilitation of infrastructure (Capital items):

- Poor households will not be required to fund the capital cost of constructing the infrastructure necessary for a basic service but with the *proviso* that the water services authority may set a ceiling amount of capital to be allocated for construction per household.
- Where rehabilitation of infrastructure is required (a capital item) this will be provided free. But this excludes the 'on site' infrastructure which is the responsibility of the household with an exception described below.
- An exception may be made by the water services authority for the rehabilitation costs of pits or tanks, the underground infrastructure associated with 'on site' sanitation. Typically such an exception may apply to situations where it is not feasible to empty ventilated pit latrines and relocation of such pits is required. It may also apply to rehabilitation of collapsed pits.
- The rehabilitation of buildings, pedestals and pipework, which are part of the 'on site' facility, is the household's responsibility.

Operating and maintenance of infrastructure

- Households are responsible for the day-to-day operating costs of the 'on-site' component of the service. This includes providing anal cleansing material, cleaning the pedestal and the room or privy in which the toilet is located, and ensuring that solid waste is not discharged into pits or tanks.
- In the case of systems which require flushing, the household must ensure that the 'on site' water pipe work and flushing systems are fully functional and that water used beyond the limit set for free basic water is paid for.
- Day-to-day maintenance of the complete 'on site' facility is the responsibility of the household. This includes all repairs to pits, tanks, pipes, pedestals, flushing mechanisms and buildings in which the toilet is housed. However, an exception may be made with regard to sludge or compost handling, as described below.
- As far as possible 'on site' sanitation systems should be designed so that the household can themselves manage the sludge or compost which is produced. However, where this is not possible the water services authority may arrange for a sludge or compost removal service to be provided to the household free.

7. Issues of equity

Pragmatism dictates that in reality poor households with access to onsite sanitation technologies are likely to benefit less with regard to the support service component of the free basic sanitation policy than households with other technological solutions such as waterborne sanitation.

This is likely to result in an urban bias with regard to the flow of subsidies.

This is in line with the fact that the cost of leaving in urban areas is comparatively higher and subsidies to poor households in such areas should reflect this.

8. The decision-making framework: focus on the consumer

Following the principles expressed in the Basic Household Sanitation White Paper it is essential for households to be key participants in the decision making process, both to ensure that service level decisions are made properly and to ensure that the broader health benefits associated with the provision of sanitation are realised. For this to be effective the following is required:

a) The principle of *being responsive to demand* implies that consumers must be given service level choices with the knowledge of what the service levels cost. Therefore there must be clarity on the service levels offered and on the tariff to be applied to these service levels. Here it should be noted that, while a basic level of service appropriate to the settlement conditions might be provided free, consumers will have to pay for higher levels of service.

b) In calculating tariffs the approach to free basic services must be finalised and this requires the methodology for applying subsidies to be agreed (See Section 12).

c) Consumers must be informed of the health related aspects of sanitation. This requires an intensive communication process.

For this process of consumer engagement to be successful the consumer needs to be seen as a key participant in the sanitation planning cycle, as shown in Figure 2. The process of selecting service levels, assessing both resource and infrastructure requirements, assessing organisational arrangements and then analysing the finances must be undertaken before tariffs can be calculated. The tariffs for particular service levels then become part of the negotiation with consumers and, pending the outcome of the negotiations; the cycle may need to be repeated.

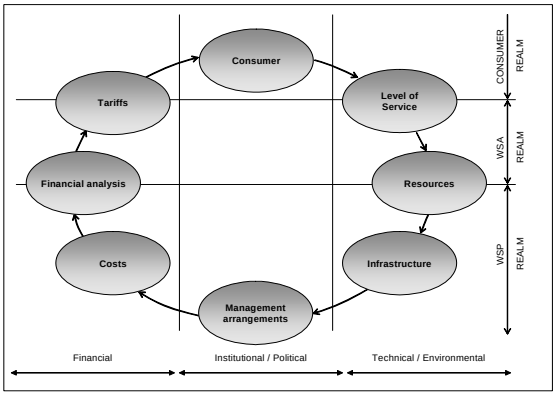

Figure 2: The Planning Cycle

The importance of the financial analysis needs to be stressed, as it is here that the sustainability of the service from the point of view of the consumer and water services provider needs to be proven.

The interaction with consumers does, in fact, seldom take place through one individual. More typically there are a number of individuals involved, as shown in Figure 3 below.

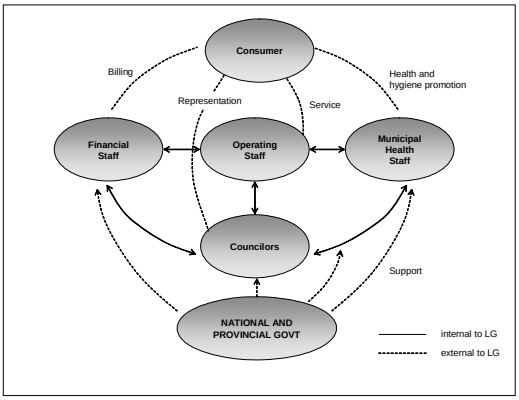

Figure 3: Decision making relationships

For decisions to be taken effectively, with the maximum benefit to the consumer in mind, the relationships between council, finance, operating and health representatives must be sound and there needs to be clarity around roles and responsibilities. This is particularly so if a non-municipal water services provider is appointed in which case the finance and operating staff will be in a separate organisation from the councillor and the health promotion staff.

Councillors have an important role to play in ensuring that the negotiation and communication process is properly established. If this is to be effective they must have the political will to apply free basic sanitation and promote the allocation of sufficient subsidies to achieve this goal.

9. Legal and institutional framework

Much of the ultimate responsibility for delivering free basic sanitation will rest with local government. However, they will have to operate in a context which enables them to provide subsidised services effectively. This includes appropriate national subsidy arrangements and guidance and support from other spheres of government. This section therefore focuses mainly on how government can provide the context for the detailed implementation strategies of local government.

9.1 Legal framework

The legal framework for implementation of Free Basic Sanitation is guided by the Constitution of the Republic of South Africa (Act No 108 of 1996), the Local Government: Municipal Systems Act (Act No. 32 of 2000) and the Water Services Act (Act No. 108 of 1997). The relevant clauses of these acts will be briefly outlined below:

- The Constitution says in section 152 that one of the objectives of local government is "to ensure the provision of services in a sustainable manner"

- The Municipal Systems Act in section 74 says that: "A municipal council must adopt and implement a tariff policy on the levying of fees for municipal services provided by the municipality itself or by way of service delivery agreements, and which complies with any other applicable legislation"

- The Municipal Systems Act in section 75 says that : “A municipal council must adopt by-laws to give effect to the implementation and enforcement of its tariff policy”

- The Water Services Act determines in section 10(1) that: “The Minister may, with the concurrence of the Minister of Finance, from time to time prescribe norms and standards in respect of tariffs for water services” and following that in section 10(4) stipulates that: “No Water Services Institution may use a tariff which is substantially different from any prescribed norms and standards”

- The Minister of Water Affairs and Forestry promulgated such norms and standards for tariffs on 1st of July 2001 in regulations relating to Section 10 of the Water Services Act.

In summary:
The setting of tariffs is a local government responsibility but these tariffs are to be determined within a clear framework of norms as provided for in both the Municipal Systems Act and the Water Services Act as well as the tariff regulations. It means on the one hand that tariffs must cater for poor households by means of special tariffs or a zero tariff but on the other hand financial sustainability of the service must be ensured. This is the challenge that water services authorities will face, taking into consideration their unique local circumstances.

9.2 Legal obligations relating to provision of free basic sanitation

While a water services authority has obligations to conform to national policy, it is not legally bound, through existing legislation, to providing free basic sanitation. However, the authority may be open to legal challenge by consumers if it can be shown that it is not using its resources to provide services to the poor effectively.

9.3 The role of the household

The current Basic Household Sanitation White Paper places the household at the centre of the planning and sanitation management framework. Interaction between households, the consumers of the sanitation service, is dealt with in Sections 6 and 8.

It is notable that households also bear responsibility for:
- Their own behaviour relating to good hygiene practice.

- The operating and maintenance of 'on-site' sanitation infrastructure, within the limits described in Section 6.4.

The location of the settlements in which households live also plays a part in defining their role. For example, in relatively remote rural settlements it may not be possible for water services providers to provide a formal service to empty pits. In such situations a household managed approach is needed, either based on technologies which do not require de-sludging, or based on pit relocation rather than emptying.

In household managed systems the role of the water services authority becomes the one primarily of providing support and capital for relocation of on-site toilets.

9.4 Water service authority and provider relationships

The overall institutional structure relating to water services is now in place and is described in the Strategic Framework for Water Service. The key elements of this structure are summarised below.

The commitment of the South African government to a decentralised system for delivering services to households is being realised with the completion of the local government re-structuring process and the acceptance that local government has full responsibility for delivering services. This implies that municipalities have decision-making powers over the implementation of projects (capital works), the ongoing operation and maintenance of the resulting services and communication with consumers. Further, municipalities have responsibility for decisions associated with service levels and tariffs, within the constraints set as national norms and standards. From the perspective of sanitation they are therefore fully responsible for all key decisions, working within the policy framework established by national government and using grant funds provided by government, where appropriate.

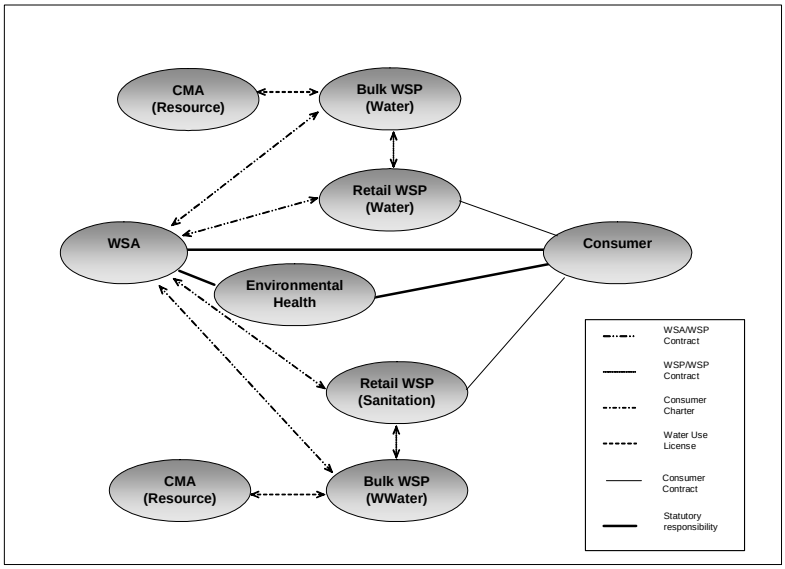

Figure 4: Relationships between WSA and WSP's

Based on the provisions of the Water Services Act and the Municipal Structures Act, particular municipalities have been assigned the *water services authority* function. This implies that they have the statutory responsibility for delivering services to all the consumers in their area of jurisdiction. The function has been assigned to metropolitan municipalities as well as district municipalities in some parts of the country and local municipalities in others. In the situation where a district municipality is the water services authority it takes responsibility for service provision in all local municipality areas with the exception of 'secondary cities', which have typically been allocated the water service authority function separately.

Water services providers are responsible for the actual day-to-day operation of the service. This responsibility may be undertaken internally by the municipality, which is the water services authority or may be contracted out to an external water services provider which may be one of the following types:

- *Another municipality*, the most typical example being where a district municipality, which has the water, services authority function contracts a local municipality in its area to be the provider.

- A *water board*.

- A *municipal entity*: a company responsible for providing services in which one or more municipalities have majority ownership.

- A *private sector organisation*, whether this be a company or an organisation with some other legal form.

- A *community based organisation*.

The Strategic Framework for Water Services and various other guidelines available from DWAF describe the relative responsibilities of authority and provider. However, it is important to note certain particular responsibilities of the water services authority, which are relevant to free basic sanitation:

- Determination of tariffs, whether they are undertkaing the service themselves or whether it is contracted out to an external water services provider.
- Health and hygiene promotion.
- Information sharing and communication with stakeholders.
- Bylaws.
- Preparation of a water services development plan (WSDP) and ensuring its implementation.
- Taking decisions relating to the appointment of WSPs and contracting them.
- Monitoring WSPs for compliance
- Taking transfer of water services schemes that may still be operated by DWAF.

9.5 The environmental health function

Health and hygiene promotion is a key component of the sanitation service. In relation to the constitutional responsibilities of local government this is part of the municipal health function.

There has been some debate over the years about the definitions of various health functions and over the assigning of these functions to municipalities. During 2002 conclusion was reached in this debate, with a reasonable level of finality, to the effect that that environmental health is essentially the municipal health function and responsibility would be assigned to district municipalities. This has big implications for sanitation in that responsibility for sanitation and environmental health will often lie with different municipalities: in many parts of the country where the water services authority function is allocated to local municipalities.

The potential difficulties with this institutional split in sanitation and health promotion functions can be resolved in two ways:

- Through good co-operation between district municipal health units and water services authorities in their local municipalities.

- Through delegation of the sanitation related element of the environmental health function by the district municipality to the local municipality.

9.6 Sanitation for farm dwellers (see Annexure C)

DWAF has a policy for providing sanitation to farm dwellers, which provides for the particular set of relationships between the farmer – as landowner – and his or her employees, as well as those living on the farm who may not be employees. From the point of view of a free basic sanitation policy the following arrangements apply:

- Poor households living on farms, supported by the farmer, may access capital subsidies for construction of basic sanitation infrastructure.
- The farmer is responsible for operating and maintaining this infrastructure, together with the households using the service.
- The households, again supported by the farmer may access capital subsidies for rehabilitation of pits or tanks.
- In certain - probably limited – situations, subsidies may be paid to the farmer to cover operating costs.

10. Service levels

10.1 Technical component of service

The definition of sanitation offered earlier in this report focuses on the 'hard' elements such collection, removal, and disposal of human waste and wastewater. It also refers to the 'softer' more supportive aspects including health and hygiene awareness. It is the responsibility of the water services authority to define service levels taking into account the local conditions and as well as the definition provided in Section 5. This is the most important part of a plan to provide free basic sanitation, which is part of the overall water services development plan.

In considering the 'hard' element of sanitation – the technology to be applied - the selection of the level of service is the most important decision if free basic sanitation is to be provided viably. It is not the place of this document to deal with technological options comprehensively – this is covered extensively in other references including DWAF's publication on Sanitation Technology Options: April 2007. However, it is important to note the range of options available and understand the relative costs of these options. Table 1 provides a summary.

The important point to note from this table is that there is a large range in costs between full waterborne sanitation systems and simple on-site sanitation systems such as VIPs. Further, there has been limited success
in South Africa with the intermediate options.

The decision making process to decide which option to apply for particular communities needs to take the following into consideration:

- Consumer demand, which implies acceptance of the service level and willingness to pay the tariff, associated with that service level.
- Viability from the point of view of the water services authority and provider.

- Environmental impact.
- Technical feasibility.

Sanitation System	Typical Capital Cost	Typical O&M Cost R/annum	Net Present Annual Cost	Comments
VIP- fixed structure	R3,850	R120	R512	Assuming pits emptied every 8 years
VIP- fixed top structure- double pit	R4,050	R80	R493	Assuming households empty one pit every 1.5 years
VIP- movable structure	R4,250	R80	R513	Assuming top structure moved every 10 years
Composting and desiccating latrines	R4,550	R50	R513	Assuming pits emptied manually every 2 years
Wet on-site digesters (Aquaprivies)	R4,400	R250	R698	Assuming tanks desludged every 3 years
Flush Latrines with Septic Tanks & Adsorption Trench	R6,300	R250	R892	Assuming tanks desludged every 3 years
Flush Latrines with Septic Tanks & solids free sewer+ Pond Treatment	R9,000	R450	R1,367	Assuming tanks desludged every 3 years, and simple oxidation pond treatment
Flush Latrines with Waterborne Sewers and Biological Treatment	R11,600	R800	R1,981	Assuming municipality responsible for all off-site O&M.
Flush Latrines with Shallow Sewers and Biological Treatment	R10,300	R700	R1,749	Assuming block households maintain sewer section passing through block
Flush Latrines with Waterborne Sewers to conservancy tank and Biological Treatment	R10,050	R10,400	R11,424	Assuming conservancy tank emptied weekly.

Table 1: Technical levels of service

Link to water supply
Another vital consideration to be taken into account in deciding on service levels, and relating this to what can be provided free, is the requirement of many sanitation systems to use water for flushing. Therefore it is necessary to look at free basic sanitation and water together.

Appropriate design standards
If the service is to be provided in a sustainable way, it is necessary for the cost of the service to be kept to a minimum, while still maintaining a good quality of service to consumers. In order to keep costs down this implies the application of appropriate technology and that appropriate design standards are applied.

Importance of mixed service levels
In all but the wealthiest municipalities it is important to have a range of service levels to offer to consumers. This allows appropriate service levels to be matched to the ability of consumers to pay. The next sub-section deals with the way service levels can be planned for specific areas.

10.2 Service level targeting by area[1]

Settlements conditions are a key factor to be considered in making service level decisions, particularly in a context where free basic sanitation is to be provided. To illustrate this, two extremes can be considered (See Figure 5):

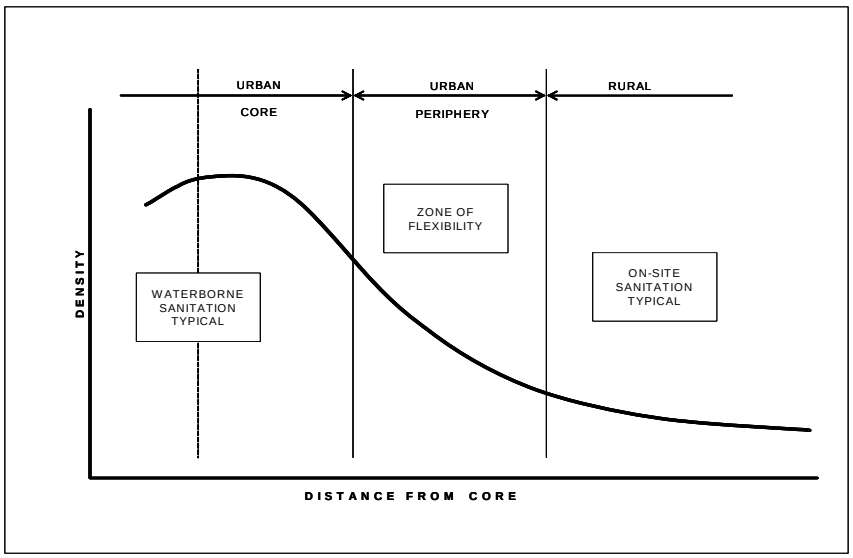

Figure 5: Relationship between Service Level and Location

[1] Note: service level targeting must be differentiated from tariff targeting which is dealt with later in this strategy.

- In the *urban core*, the densest area at the centre of an urban settlement will almost always necessitate the provision of full waterborne sanitation as there will be demand for this from consumers who typically locate in the urban core and dry on-site sanitation has not yet been proven to be technically viable on a large scale. However, if a municipality is to select waterborne sanitation as a basic service level in the urban core, this must be done only once financial viability has been tested and if it is certain that the amount of water needed for flushing is available.
- In *rural areas*, where densities are lower, where costs of reticulated systems are higher and where consumers can typically not afford waterborne sanitation, it is seldom feasible to provide anything but a simple on-site sanitation system such as a VIP toilet.

In between these two extremes, in what is often called the *urban periphery,* there is an area of uncertainty where careful analysis is required to decide on service levels. This analysis needs to be based on the free basic sanitation option selected, as described later in this document.

The link between the definition of a *basic* level of sanitation service and the viability of the sanitation operations is fundamental. It is obvious that an on-site system such as a VIP can be defined as a basic service level for the purpose of a free basic sanitation policy. However, for WSAs which serve well established urban areas the majority of consumers, including the poor, may have waterborne sanitation. The WSA may then choose to see waterborne sanitation as the 'basic' level of service to be provided free to the poor. But this has major implications for the viability of the service which play themselves out in the urban periphery. As the proportion of consumers in this zone who have waterborne sanitation and are poor increase, the costs increase without a proportional increase in income.

The important relationship between settlement conditions and service levels implies that it is essential for WSAs to plan for this through *area based service level targeting.* In so doing the WSA would define specific areas where a specific basic service level would be applied. This requires a financial analysis to ensure that this will be viable.

As an example of how area based service level targeting would work, the WSA would start off by drawing the limits of the *urban core.* This would be based on density conditions, the existence of a high proportion of commercial, industrial and institutional consumers and high proportions of multi-story residential buildings. In the urban core the WSA may choose to apply waterborne sanitation as the basic service level of choice.

10.3 Promotional component of service

Policy relating to sanitation is clear that the service must include the promotion of proper use of the sanitation facility and related health and hygiene practice in the household. This has cost implications and under a free basic sanitation policy consumers should not be required to pay for these costs. They must be included under the total costs for sanitation and be subsidised.

10.4 Temporary services

For various reasons a municipality may have to accommodate informal settlements and provide temporary services to households in these settlements until such time as permanent services can be provided. From a sanitation point of view the history of such situations in South Africa suggests that it is best to start with a sound, 'on-site' sanitation system which is low cost and meets health criteria (such as a VIP toilet). Some of the temporary solutions applied in the past (notably buckets and chemical toilets) have high operating costs and the amount spent on operating them can quickly exceed the capital cost of a solution based on a pit.

In this regard it should be noted that the Framework for Water Services states: 'Chemical toilets must only be considered as a temporary sanitation service. Bucket collection systems are not an adequate level of service. The costs of chemical toilets and bucket collection should not be borne by households'.

10.5 Services to 'illegal' settlements

Illegal settlements, where households have settled on land over which they have no rights and with the opposition of the landowner, provide a particular sanitation problem. Typically temporary services need to be provided at no charge. The potential benefit of using a sound 'on-site' sanitation system, which could be permanent, remains but may not be as easy to apply.

11. Financial framework

11.1 Costs to be included

A free basic sanitation policy requires attention to capital and operating costs.

Capital costs for initial provision of the sanitation facility typically include:

a) The planning phase of the project, including community engagement.

b) The training of construction teams.

c) Design of the facility.

d) Construction of the facility.

e) Health and hygiene promotion associated with the use of the facilities and related hygiene behaviour.

f) Training of those who are to take responsibility for operating and maintaining the facility.

g) Excavation of pits or trenches.

h) Provision of the 'top structure' on the site.

Rehabilitation costs (also referred to as refurbishment or asset replacement), which typically include:

- Replacing pipelines and other civil and mechanical works which are part of the 'off site' infrastructure, once these have reached their design life.

- Relocating a VIP where pit relocation is selected as the solution for dealing with full pits. This includes re-excavating the pit (and relining it where necessary) and moving the 'top structure'.

- Major repairs to collapsed pits, tanks or sewers.

In a situation where VIP relocation is required, the WSA may choose to finance the rehabilitation costs from its capital funds. But typically this would be limited to the 'below ground' component (pit excavation and lining). The household will be expected to dismantle and re-build the 'top structure' themselves.

Operating and maintenance costs can be divided into off site and 'on site' components. The 'off site' component includes:

- The water services authority costs, which include contracting, monitoring and regulation costs.

- Ongoing health and hygiene promotion costs.

- Operating of the facility (pumping, treatment etc)

- Financing costs.

- Treasury costs associated with accounting, billing and credit control.

- Maintenance of the off-site infrastructure[2].

- Water services provider overheads.

The 'on site' component includes:

- Provision of anal cleansing material (toilet paper or other materials).

- Cleaning the toilet and the toilet building.

- Painting and repairs to the toilet building, door, pedestal, pits, tanks, pipes etc.

- Sludge or compost handling which includes pit or tank emptying and disposal or utilisation of the sludge or compost.

- Provision of at least 15 l/p/d of water for flushing in the case of waterborne systems

- Ensuring that solid waste and excess water do not enter pits in the case of dry sanitation systems.

The principle of free basic sanitation means that poor households do not pay for the costs of operating and maintaining the 'off site' elements, providing the WSA can afford

[2] Note that maintenance is a regular year-to-year activity, which is accounted for on the operating account. This is in contrast with rehabilitation (synonymous with refurbishment or asset replacement), which is associated with failure or aging of the infrastructure and is accounted for on the capital account.

to pay on their behalf. But the household typically pays for the 'on site' elements. The exception in this regard relates to sludge or compost handling and provision of at least 15 l/p/d of water for flushing in the case of waterborne systems. The WSA should to provide these free. Therefore the WSA may decide to cover the costs of pit emptying if there is a permanent single pit VIP system.

11.2 Integrating capital and operating funding arrangements

The priority in South Africa currently is to improve sanitation coverage and this requires the provision of the necessary capital to construct basic sanitation infrastructure for the poor. However, at the same time the necessary finance must be made available to allow sanitation services to be operated and maintained properly. This requires water services authorities to plan for both. And it also requires the appropriate allocation of capital and operating subsidies from the national fiscus.

Financial planning must also take into account rehabilitation costs. Infrastructure, which is reaching the end of its functional life, must be replaced where applicable.

When considering rural areas where dry on-site sanitation systems are likely to be the technology of choice, the link between sanitation subsidy arrangements and management arrangements requires attention. Table 2 gives a summary of the relationship between the technology selected, management arrangements and funding source for a choice of dry 'on site' sanitation options.

Technological option	Density & settlement locality	Management arrangement	Funding source
1. Single-pit VIP (fixed top structure)	Medium (peri-urban)	Municipal empting program, high tech equip	ES for empting program
2. Single –pit VIP (movable top structure)	Medium (peri-urban / rural)	Dig pit, hh manage on-site sludge	MIG for pit digging & training
4. Urine Diversion with composing	Rural	Municipal solid waste removal	ES for solid waste

Note:

1. ES stands for equitable share, funding allocated from the national fiscus to cover operating costs of municipalities and targeted for free basic services.
2. MIG is the municipal infrastructure grant, capital funds allocated to municipalities for providing basic municipal infrastructure to the poor.

Table 2: Relationship between technology option, management arrangement and finance.

As an example, the second row in the table illustrates a situation where the arrangement is for VIP toilets to be relocated rather than emptied. In this case the funding arrangements need to provide for assistance with capital for pit relocation costs, rather than operating subsidies for pit emptying.

11.3 Cost reduction

A key component of a free basic sanitation strategy is to keep both capital and operating costs as low as possible so that the subsidy funds can cover the greatest number of people possible. WSAs need to pay full attention to the design of appropriate technologies so as to minimise costs.

11.4 Services on private land

Services provided to the poor on private land are included under the free basic sanitation policy. This implies that subsidies will be made available to finance such services. This is addressed in a guideline prepared by DWAF (See also Section 9.6).

11.5 Overview of sources of finance

The diagram in Figure 6 shows the overall arrangement of finance flows in a context where free basic sanitation services are being provided. A 'supply side' subsidy is illustrated where the subsidy is allocated to the WSP.

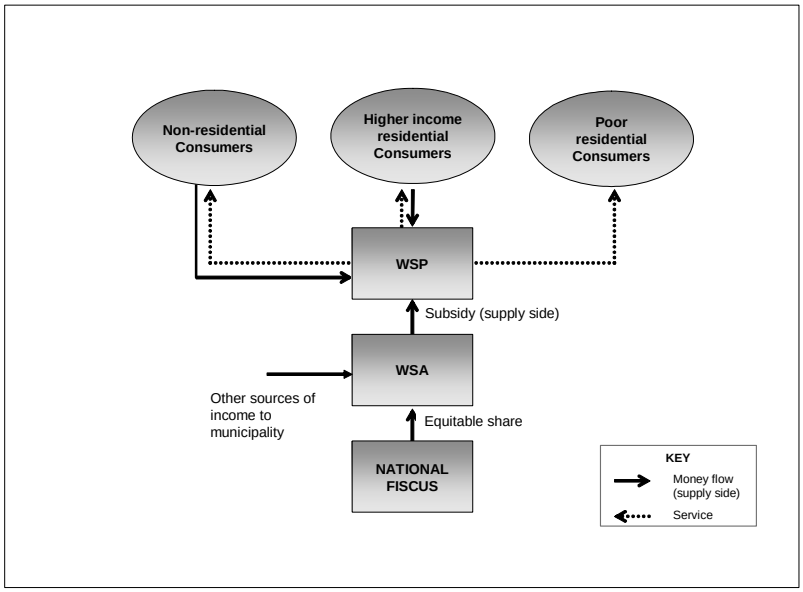

Figure 6: Financial framework with supply side subsidy

From the point of view of the water services provider, the income, which allows it to operate the service, is obtained from:

a) Tariffs paid by consumers who are not poor households for the services they receive.

b) Other income raised by a municipality, typically from property rates or district levies replacement allocation, which is used to supplement the water services account.

c) Subsidies from the national fiscus which are allocated to water services by the municipality. If these are paid to the services provider they are referred to as *supply*

side subsidies (paying the service provider to cover the cost of the service to poor consumers).

The same diagram is amended below to show the situation with a demand side subsidy where the payment is made to the consumer and not to the services provider. This allows the consumer to pay the tariff charged by the services provider.

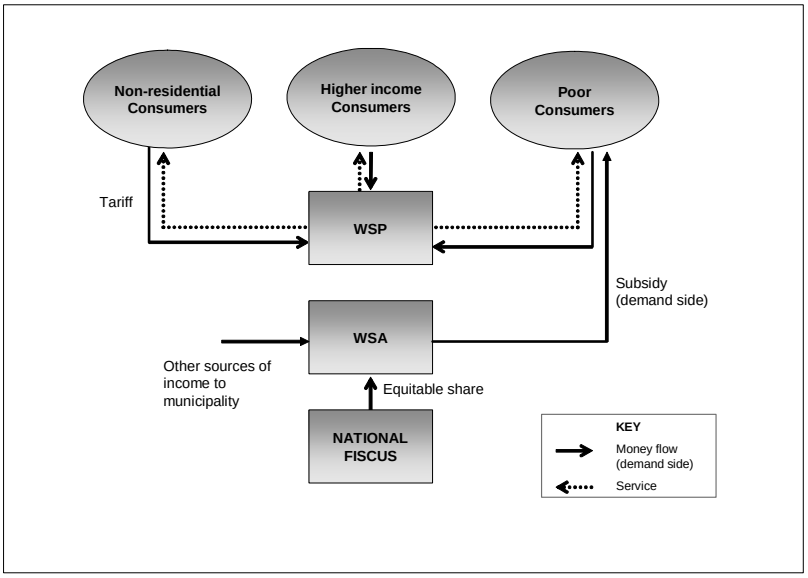

Figure 7: Financial framework with demand side subsidy

Demand side subsidies can be applied using a mechanism such as a voucher, which consumers can redeem with the water services provider. A more typical arrangement in South Africa is one where the subsidy is reflected as a credit to the consumer on their combined municipal account. This is not strictly speaking a demand side subsidy as the consumer has no control over the use of the funds. However, the consumer is charged the normal tariff for the service and does see the credit on the account although money does not actually change hands between consumer and service provider. This is therefore a hybrid arrangement but one with considerable merit as described later in this document.

11.6 Tariffs

Establishing a tariff policy, which provides for free basic sanitation, is central to the success of arrangements to provide a free service effectively. It allows income to be raised from those who are not eligible to get the service free which is often the main source of income into the sanitation account. In circumstances where the cost of providing the service free to the poor is greater than the subsidy amount received from the water services authority, part of the income received from consumers who are not poor is applied as a *cross-subsidy* (wealthier consumers covering all or some of the cost of providing the service to poorer consumers). In the case of water services authorities, which have relatively wealthy consumers this, cross-subsidy may be substantial. However, those with relatively poor consumer bases may be unable to cross-subsidise.

Tariff policy is dealt with in some detail later in this document.

11.7 National operating subsidy arrangements

Taking the country as a whole, the primary source of financing for water services remains local taxes and other revenues levied and collected by municipalities themselves, including property taxes, district levy replacements and user charges. The equitable share and other transfers that go to local government supplement these revenues and are targeted at the poorest municipalities that have a limited local tax base and who have the highest numbers of poor households.

In principle, the *equitable share* is intended to place municipalities in a position where they can provide for free basic services to the poor. However, it is an unconditional grant made to municipalities and they make their own choices as to how to use these funds. However, unless the municipality has large proportion of wealthy consumers to act as a source of funds for cross-subsidising poor consumers, then the only way free basic sanitation can be achieved is through the use of the equitable share to cover the cost of providing sanitation services to the poor.

The grant includes a basic services component, which is calculated as shown in the following table.

Municipal Service	Serviced Households		Unserviced households	
Electricity	40	31%	15	33%
Water	30	23%	10	22%
Refuse	30	23%	10	22%
Sanitation	30	23%	10	22%
Total	**130**		**45**	

Table 3 Allocation of the basics services component of the Equitable Share (National Treasury 2007)

Equitable share figures are granted to municipalities on a medium term basis and the numbers are increasing, particularly for those municipalities, which have a high proportion of rural areas. The extent to which such subsidies are sufficient to cover the costs of providing free basic sanitation is of ongoing concern to municipalities. What is evident is that they are typically not sufficient to cover the cost of waterborne sanitation without the inclusion of cross subsidies.

Finally it should be noted that payment of equitable share funds that are associated with water and sanitation is to the water services authority. Therefore, municipalities which are not WSAs do not get a subsidy allocation for sanitation. This means that where a municipality is appointed to be WSP, subsidies to it must flow as discussed above.

11.8 Funding for environmental health

Environmental health is not, strictly speaking, included as a basic service provided for under the equitable share provisions. Neither is it considered to be part of primary health care to be funded under agency agreements with provinces. Municipalities can deal with this in the following ways:

a) Allocate funds from own sources (district levies or property rates income – see below).

b) Use the equitable share based on the principle that environmental health has a high public benefit.

c) Use equitable share based on the principle that on-going health and hygiene promotion (being part of environmental health responsibilities) is unalienable part of a basic sanitation service.

11.9 National capital subsidy framework

Currently the capital subsidy arrangements for all municipal infrastructure are rationalised into a single subsidy, referred to as the municipal infrastructure grant (MIG), which is allocated annually to municipalities based on a formula.
In addition the housing programme also provides sanitation infrastructure as part of the subsidized house.

11.10 Other local sources of finance

Other sources of finance available to WSAs include:

- Surpluses from property rates accounts (seldom applied to sanitation unless this is the selected FBS option for charging for sanitation).

- District levies replacement transfer.

12. The local subsidy framework

12.1 Applying capital subsidies

With the introduction of MIG, water services authorities have greater autonomy over how capital subsidies are allocated to projects. It is essential for wise decisions to be taken on service levels and design standards, backed up by a financial analysis to ensure that the resulting services can be operated in a sustainable manner.

12.2 Local operating subsidy framework

Figures 6 and 7 show the overall financial framework for providing municipal services and free basic sanitation in particular.
The local subsidy framework has five primary components:

a) Allocation of subsidies to the sanitation service

b) Distribution of subsidies between settlements within the WSA areas.

c) The allocation of subsidies from the WSA to the WSP.

d) Decisions relating to the use of cross-subsidies within the WSP service area.

e) The allocation of subsidies by the WSP to the consumer.

Components a) to c) are dealt with in this section. Component d) is really dependent on the FBS option selected and is covered in Section 13. Component e) represents the method for applying the subsidy to poor consumers, also covered in Section 13.

12.3 Allocating subsidies to sanitation; decision on free service

The first step is for the municipality which is the water services authority to calculate the total amount of operating subsidy it has available for all basic services. This includes the equitable share, district levies replacement, surpluses from rates accounts, retained funds etc. This amount then needs to be divided between services. A methodology for doing this, based on public benefit considerations, is contained in a DPLG draft tariff guideline (DPLG, 2000b).
Once the total amount of subsidy available for sanitation is calculated the amount per household served can be calculated. This allows a check as to whether it will be possible to provide the service free: if the subsidy amount equals to, or exceeds, the cost of providing a basic sanitation service then it is possible.

If the subsidy amount is insufficient to provide the service free then the water services authority has no choice other than to set up an arrangement whereby it will provide a subsidy to the maximum that is affordable and households will have to pay the balance. This may be referred to as a transitional arrangement if there are indications that subsidy levels will increase.

12.4 Distribution of subsidies between settlements in the WSA area

The unit for planning the distribution of subsidies is the settlement as this is assumed to have a set of similar circumstances with regard to consumer characteristics, physical features, technology choice and costs.

The distribution of subsidies to settlements can only be done once the WSA has finalised its definition of basic service levels, related this to settlement characteristics and to technology choice. This will allow costs and revenue options to be assessed.

Specific procedures for undertaking this analysis are included as part of the water services development plan and are covered to a limited extent in the free basic sanitation guideline, which complements this strategy.

The output from the analysis should be a decision as to the amount of subsidy to be allocated to particular settlement (geographic) areas and for particular sanitation technologies and management arrangements.

12.5 Allocation of subsidies from WSA to WSP

This section deals with the allocation of operating subsidies (to cover operating and maintenance costs).

In the decentralised system, which is being implemented in South Africa, the responsibility for ensuring that subsidies are soundly applied to benefit the poor rests largely with municipalities and, in the case of water services, with water services authorities.

If the WSA is also the WSP for its area the step of transferring subsidies to the WSP obviously falls away and the WSA would move directly to apply the FBS options as described in the following section. However, where the WSA appoints external WSPs, the subsidy amounts which it has available to assist the poor, need to be allocated either directly to the poor through demand side subsidies or to the WSP in the case of supply side subsidies. It is evident that currently there is little support for demand side subsidies in South Africa, other than through targeted credits. Therefore the emphasis here is placed on subsidies to the WSP.

The methodology for calculating the subsidy flows is addressed in more detail in the free basic sanitation guideline. Basic principles to be applied are:

- *Primary principle:* Where a WSA is reliant on WSP/s to provide services on their behalf, it is essential for funds to be transferred to the WSP or credited to consumers. If this is not done a free basic sanitation policy will not work, as WSP/s will not have sufficient funds to run the system effectively.

- *Exception to the primary principle*: If the WSP is serving an area with a high proportion of non-poor users it may be possible for viability to be maintained without a transfer of funds from the WSA.

- *Setting incentives:* WSPs can only be subsidised based on a clear set of conditions set into a proper contract which include incentives for them to perform. These incentives should include:

  - Maintaining or improving the quality of service to consumers according to an agreed measure (this must be clearly defined in the performance agreements).

  - Improving coverage (which will mean increased subsidy).

- *Setting controls:* Regardless of whether the WSP is being subsidised the WSA is obligated to regulate the performance of the WSP. However, if a subsidy is being applied the obligations of the WSA to monitor become more stringent.

The key elements of the methodology in calculating the amounts are summarised below:

a) The total subsidy 'pot' available to the WSA needs to be calculated for the medium term, including the equitable share received from the national fiscus and other sources of funds sourced locally.

b) A decision must be taken by council on the amount to be allocated to sanitation. (See Section 11.3).

c) The WSA must decide on an amount to be retained for the WSA function and for sanitation promotion.

d) The remainder, the sanitation services subsidy, then needs to be distributed based on the number of poor households which are being served by WSPs. (clearly those who are not being served currently are not incurring any operating costs).

e) In order for step c) to be achieved some indicator of poverty needs to be assumed, typically using census data.

f) The number of poor consumers served by each WSP needs to be assessed so that the subsidy allocation to the particular WSP can be calculated.

g) Subsidy payment arrangements need to be written into the agreement with the WSP.

h) The arrangements for the disbursement of such subsidies need to be made.

Consideration needs to be given to the use of bulk WSPs and support services agents in the WSA area. It is theoretically best for subsidies to be paid only to retail WSPs and for them to use the subsidies, together with income they raise from tariffs to pay for bulk services and support services. However, if there are practical difficulties in doing this the WSA may decide to pay bulk WSPs and support services agents directly, on behalf of the retail WSPs. This should be avoided if possible and a situation where bulk WSPs and support agents receives subsidies and not the retail WSPs *must not arise*.

12.6 Internal cross subsidies

WSPs may also have the ability to apply internal cross subsidies if they have a relatively large proportion of non-residential and high-income residential consumers who they can charge at above the cost of providing the service.
The extent of cross subsidies must be transparent and must be mediated by the WSA. The amount will be determined by the particular FBS option adopted by the WSA and applied by the WSP. The level of such subsidies that can be sustainably incorporated into a tariff structure will depend on a number of local factors (Eberhard, 1999):

- capital subsidies to, and capital requirements of, the local water system;
- total equitable share subsidy made available to the WSA;
- regional and local cost factors which influence the costs of supply;
- total wealth of the supply area;
- proportion of sanitation services consumed by the non-residential compared to the residential sector;
- income distribution within the service area;
- consumption distribution within the service area; and
- local political feasibility of introducing cross subsidies.

In particular the ratio between wealthy and poor consumers; the distribution of consumption in the service area (i.e. the ratio of large to small consumers); and the ratio between non-residential and residential consumers are likely to be central to the viability of local level cross subsidies.

Once the level of cross subsidy is known then the funds available for subsidising poor consumers from this source can be added to the subsidy funds received from the WSA.

13. Targeting options

13.1 Eight possible FBS targeting options

Free basic sanitation can be targeted in many ways, with eight of the most common approaches suggested here as the core of the free basic sanitation implementation strategy. Note that these approaches refer to targeting operating subsidies and do not consider the capital costs. The approaches are grouped into those which are recommended (group A) and those which are sometimes used but are not recommended (group B):

A1	Service level targeting[3].
A2	A rising block tariff linked to water consumption (with a free basic amount to all who consume within the first block).
A3	Setting the charge based on property value.
A4	Targeted credits or subsidies.
B1	Setting the sanitation tariff as a proportion of the water bill, where rising block tariffs are applied to water.
B2	Incorporating sanitation with property rates.
B3	Using a charge based on plot size (with a zero rating for properties under a determined threshold).
B4	Geographical (zonal) targeting[4].

It is recommended that flexibility should remain at the local level in the use of these operating subsidy-targeting options. It is also likely that a mix of these options may need to be applied in some municipalities.

13.2 Criteria for selecting an operating subsidy targeting option

It is intended that the methodology for setting criteria and selecting options will be dealt with in some detail under a separate guideline. However, for the strategy it is necessary for the options and their merits to be understood and, therefore, some discussion follows dealing with the criteria to be applied and the overall approach to selection of the appropriate FBS option.
Key criteria for selecting options are:
a) Accuracy of targeting.

b) Ease of administration.

[3] Note that in this section targeting relates to tariffs (specifically deciding who will get the basic service free). For a discussion on service level targeting see Section 10.2.

[4] Again targeting here relates to tariffs, in this case setting the same tariffs for a given geographic areas.

c) Equity with regard to those consumers who do not get the service free.

d) Equity with regard to access to sanitation technology (service level)[5].

e) Transparency (ease with which consumers can understand how sanitation tariffs are calculated and subsidy allocations made).

f) Revenue security (the extent to which the tariff provides for a sufficient and stable revenue stream).

Each of these criteria is discussed briefly below.

Accurate targeting

The key to success in applying a subsidy aimed at helping the poor is to make as sure as possible that it reaches the poor and that levels of 'leakage' (use of subsidies by those who are not poor) is kept to a minimum.

A discussion of targeting approaches is included in the appendix. This has also been dealt with in guidelines for local authorities which were developed by the DPLG in this regard (DCD, 1999) which are aimed primarily towards applying FBS option A4. Under this option consumers are individually identified based on a measure of poverty and are registered on a database as being poor (indigent register). Other methods of targeting are discussed below.

Option A1 uses the level of service which the consumer has as a proxy for their level of poverty. For this to be effective the selection of service level must originally have been made with an emphasis on poverty criteria.

It is notable that certain of the FBS options are intended to be self-targeting, based on consumption of the service. This assumes that poor consumers will use less of the service. This is specifically the case with FBS options A2 and B1, which are nominally consumption-based tariffs where lower (or zero) tariffs are applied to lower rates of consumption. As wastewater flows cannot easily be measured they both use water use as a proxy for wastewater discharge flows, which are taken as a measure of consumption of the service.

Other options use the property to which the service is provided as an indicator of the wealth of the consumer of the service. Either the value of the property (A3) or the size of the plot (B3) are taken as indictors. B2 incorporates charges into property rates, which is now no longer legal as a separate sanitation tariff must be charged.

Geographic targeting relies on the assumption that consumers living in particular areas have the same socio-economic profile and therefore tariffs can be set based on location.

Cost of administration

It is important to know the administrative costs of targeting. In some municipalities the practical problems and costs associated with targeting may absorb an unacceptably high proportion of the available subsidy funds.

[5] It is often the case that equity with regard to sanitation technology can not be achieved with, for example a poor household in a rural area having access to a VIP toilet and one in the urban core having waterborne sanitation. However, equity is maintained in the sense that both technologies are adequate from a health and hygiene point of view under the settlement conditions where they are applied.

First of all it is notable that several of the FBS targeting options require that fully established municipal administration system is in place with a customer database and a billing system. This includes:

- A2 and B1, which assume that water use is measured.
- A4 which requires a bill to apply the credit.
- A3 and B2 which require a property valuation system.

Options A1, B3 and B4 can be applied in areas where there is a less well established administration. They can all be applied on the assumption that a certain group, identified by plot size, geographic area or service level is poor and therefore should receive the sanitation service free.

Equity with regard to those who are not poor
Consumers who are not poor may feel disadvantaged if they have to pay unusually high tariffs for the service to provide for cross subsidies. The WSA needs to establish some limits as to how much it is willing to charge such consumers above the cost of providing the service.

Equity with regard to access to technology
If both high and low service levels are offered free to the poor those who get the lower levels will obviously be disadvantaged. As this situation often occurs in WSA areas with mixed rural and urban areas where, for example, poor consumers in the urban core may get waterborne sanitation and those in rural areas may get 'on site' sanitation. This situation will apply widely and, while there may not be equity with regard to the 'comfort' of the sanitation facility it can be argued that there is equity with regard to the public health benefit.
Transparency
Certain subsidy options are not easy to understand, particularly FBS options A2 and B1 where the use of rising blocks with water flow as a proxy for wastewater flow can be confusing. Consumers need to know how tariff charges are calculated by the WSPs.

Revenue security
This relates to the extent to which revenue can be predicted and the associated risk that it will not be forthcoming either because consumers are unwilling to pay or because of variability in factors which are used to calculate bills to consumers. In this regard property value based charges are favourable, as property values are not reassessed often. On the other hand volume based charges may vary from year to year, particularly if stringent demand management measures relating to water consumption are imposed.

13.3 Method of selection of FBS targeting options

As stated above, the methodology for selection of the FBS option is covered in some detail in the FBS guideline. It is only necessary to note here that, ideally, the WSA should undertake a comprehensive investigation of each option and assess each against agreed criteria. Consumers should be involved in such a decision making process.

The methodology *must* include a sound financial analysis to assess the feasibility of applying the options being considered.

It is evident from the criteria that certain options will be ruled out due to the limitations of the administrative system in place. For example, those municipalities with very low capacity and a high proportion of poor consumers may have to rely in part or full on a service level targeting approach. This may approximate geographic targeting, as service levels are often the same in one geographic area.

It is also notable that more than one option can be applied. For example, service level targeting can be used with a zero charge set for lower service levels (VIPs perhaps) and another approach can be used for those who have higher service levels such as waterborne sanitation. But in doing this equity considerations must be taken into account.

13.4 Brief comparison of FBS options

The following table summarises the advantages and disadvantages of the eight FBS options, with an indication of the circumstances under which each could be an appropriate choice. As mentioned earlier, in some WSA areas where there are huge variations in settlement conditions and service levels (e.g. urban areas with waterborne sanitation with metered water supply and rural areas with onsite sanitation), it might be necessary to apply a combination of options.

Option (see note)	Advantages	Disadvantages	Applicability
A1. Service level targeting	Does not require a complex billing system for basic service levels, Suited to municipalities with limited capacity.	Targeting may be poor if there are a large proportion of non-poor households using basic service levels or where a large proportion of poor households have higher service levels.	Suited to municipalities with lower capacity and a large proportion of poorer consumers. Typically suited to WSA's, which have mixed urban and rural areas.
A2. Rising block tariff linked to water consumption	Taps into subsidy mechanisms already developed for water supply, Does not require targeting.	Requires an effective metering, billing, and credit control system. The link between water use and sanitation use if sometimes tenuous, particularly for high-income consumers living on larger properties with gardens. A problem arises when there are unmetered households who use a lot of water (considered non-poor) and do not get bills and therefore do not pay.	Applicable where there are a relatively high proportion of consumers with metered water and waterborne sanitation. Typically suited to the urban environment.
A3. Charge based on property value	Taps into subsidy mechanisms already developed for rates. It allows flexibility in setting the charge in relation to property value, separate from the property rate.	Requires a strong rates billing and credit control system. There may also be equity problems with regard to service levels.	Applicable to areas where there is a relatively strong rates base. Typically suited to urban areas.
A4. Targeted credits or subsidies	Highly transparent subsidy. Relatively simple to apply from an accounting point of view, Easy to integrate with other services where a 'free basic service' policy is being applied.	Expensive as it requires a system to select those who are to benefit from poverty relief measures. Requires an effective metering, billing, and credit control system. A problem arises when there are non-poor households who do not receive bills and therefore do not pay.	Best experience has been with small to medium sized largely urban municipalities.
B1. Setting the sanitation tariff as a proportion of the water bill	As with option A2 perhaps slightly easier to administer but less transparent than A1.	As with option A2.	As for A2.

Option (see note)	Advantages	Disadvantages	Applicability
B2. Incorporating sanitation with property rates (no separate charge)	As for A3 but less flexible and less transparent. Relatively easy to administer.	Requires a strong rates billing and credit control system. The extent of the subsidy is not transparent to the recipient. But no longer legal.	As for A3.
B3. Using a charge based on plot size (with a zero rating under a particular threshold)	Does not require individual targeting.	May be difficult to assess plot size in rural areas. Targeting may be poor, particularly if plot sizes have changed over time historically. Plot sizes must be known and this is very difficult to determine in informal areas	Typically suited to municipalities with limited capacity, Not suited to rural areas where plot sizes may vary considerably and are generally not known
B4. Geographical targeting	Relatively easy to administer, Low administrative costs, Does not require individual targeting.	Targeting is of a broad sweep nature and errors or inclusion or exclusion are likely to be high where there is no homogeneity within the area.	Suited to urban and rural areas where residential areas display a degree of homogeneity.

Table 4 - Applicability of free basic sanitation options

Note: Although this table is not intended to be comprehensive, four options given (A1 to A4) are recommended. Options B1 to B4 may have limited application but are not recommended.

14. Finalising a tariff policy

The application of the FBS option must be built into the tariff policy for the WSA. This policy should be based on the requirements of the Municipal Systems Act and regulations relating to the Water Service Act. From the point of view of free basic sanitation it should include, at least:

a) A summary of the service level policy, as service levels has a direct bearing on the feasibility of applying free basic sanitation.

b) The subsidy framework, including the method to be used to distribute subsidies to WSPs and to ensure that subsidies are targeted at poor households only.

c) A description of the FBS option(s) selected and the basis upon which this selection was made.

d) The method of calculation of tariffs.

Service levels have been dealt with in Section 0 and the FBS option has been dealt with in Section 0.

15. Implementation

The process to implement a local free basic sanitation strategy will depend on local conditions and, particularly, on the capacities of local authorities. For this reason an implementation strategy should contain three elements namely:

- *A phased approach*: a phased implementation period to allow low capacity and lower income municipalities time to 'phase' in full implementation;

- *National guidelines with local choice*: the provision of national guidance, guidelines and benchmarks but with the scope for municipalities to be able to choose the most appropriate local options; and

- *Management and institutional support*: the establishment of adequate management support for municipalities.

Although outside the direct ambit of this strategy, implementation should be co-ordinated as far as possible with implementation approaches for the provision of other free basic services.

15.1 Phased approach

Once rollout of the strategy begins, it is important to ensure that the implementation of the strategy is phased in such a way to ensure that low capacity and low-income municipalities have sufficient time and support to properly implement the policy.

15.2 National guidelines but local flexibility

Different strategies will be appropriate in different municipalities. Based on the institutional, technical and financial issues outlined in this document a suite of options should be provided to local government. These are covered in guidelines aimed to assist local authorities in implementing the free basic sanitation policy in a way which:

- is in accordance with current national policy in the water sector;
- supports continued financial viability of local government; and
- guards against a slowdown in the extension of basic services to those households with inadequate access to sanitation.

At the same time the approach allows for maximum local flexibility in the choice of options for implementation of the policy.

15.3 Management and institutional support to municipalities

The planning and implementation requirements on municipalities of a free basic sanitation policy are substantial. It is incumbent on national government to establish the required support for local authorities in taking on this new task of providing free basic sanitation and other services.

Six areas of support to local authorities have been identified including:

1. *Policy and implementation strategy framework*: the establishment of a strategic framework in which municipalities can develop local implementation strategies. This document is the first step in this regard;
2. *Developing implementation guidelines*: providing a more detailed set of guidelines, which municipalities can use to establish local strategies.
3. *Lead municipalities*: the use of pilot municipalities to test implementation approaches;
4. *Providing ongoing guidance and support*: ongoing support will be provided through existing mechanisms
5. *Information and planning tools*: providing access to financial models, international experience and best practice local examples.
6. *Monitoring progress of the policy*: national government through the Water Services Development Plans and current and proposed DPLG and National Treasury financial monitoring systems should monitor progress of the policy and assess any impacts on financial viability of local authorities or negative impacts on infrastructure extension.

15.4 Communication with municipalities

A rollout plan for this free basic sanitation strategy will be established by DWAF. As part of this plan, DWAF regional offices will establish communication arrangements with municipalities. Emphasis will be placed on increasing understanding of the planning, financial analysis and ongoing operational aspects.

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17. Annexure A: International practice

17.1 Addressing poverty

Most countries have some form of social assistance or welfare programmes to provide relief to the poor. In higher income developed countries these programmes are generally within the framework of a comprehensive social security system encompassing income support, unemployment support, pensions and often access to subsidised services. The general approach is that social security is provided by central government while public service delivery assistance lies with provincial or local governments.

Most systems have some mechanism for central government to fund the local level to assist them in meeting their statutory duties, particularly where minimum standards of provision are obligatory. A common approach is the use of some form of equalisation grant which recognises that local authorities have differing capacities to raise revenue and differing expenditure needs and that there is not always a match between these. Equalisation grants operate on the principle that central government should direct assistance to where the mismatch between needs and resources is greatest (Parnell *et al*, 1998).

In middle and low income developing countries there is seldom as comprehensive a social security net as in the developed world. Therefore in these countries local level approaches to poverty alleviation, including subsidised services, are often more important than in the developed world because of the absence of broad income support measures. A wide range of such measures have been used (see Wegelin and Borgman, 1995). The experience from these countries has shown that "targeted local scale (urban or rural) interventions are most likely to succeed in eradicating poverty" (Parnell *et al*, 1998).

A number of key lessons have been identified by Parnell *et al* in the design of targeted poverty alleviation programmes:

- Targeted local scale interventions are most likely to succeed in tackling poverty;
- The careful design and delivery of a targeting mechanism is as important as the level of expenditure committed to it;
- When poverty is widespread and administrative capacity is low, broad targeting rather than narrow targeting is desirable;
- It is critical to ensure that targeting mechanisms should not be 'captured' by the recipient lobby groups;
- Administrative costs should be kept as low as possible;
- Self-targeting and geographical indicators should be used as filters to reduce the need for individual assessments of who is poor;
- Since poor local authorities are less able to mobilise additional local revenue to support services well designed intergovernmental transfers are particularly important;

- Monitoring is always required so that the subsidies do not benefit the affluent at the expense of the poor.

17.2 Sanitation and water services

Because of the public health and individual welfare benefits of universal access to water and sanitation services many governments have historically kept water services operations within the public sector and kept tariffs artificially low through a range of subsidy measures. These subsidies have often been provided to the service providers rather than to consumers themselves (Foster *et al*, 2000). The results of these approaches have often been unsatisfactory. The main reasons for this have been the experience that under-pricing of water services has tended to benefit consumers with existing water services, to the detriment of those households without services, and that general subsidies have led to highly inefficient water utilities.

In response to these concerns there have been strong moves in the water and sanitation sector internationally towards full costing of water services and away from generally subsidised water supplies. One result of these reforms has been an increase in household bills and the unwinding of cross subsidies. Improved credit control has also led to reduced levels of non-payment. All these effects have tended to increase the financial burden on poorer households (Gomèz-Lobo and Contreras, 2000).

The growing burden on poor households in turn has led to recent moves towards more targeted subsidies that provide better guarantees of access by the poorest households. A number of countries have introduced targeted subsidies which are directed at poor consumers who cannot pay their bills rather than at water providers broadly.

The main advantages of subsidies directed at consumers are that they are transparent and explicit and that they minimise distortions in the behaviour of water providers and consumers (Foster *et al*, 2000). They are also targeted thus minimising subsidisation of wealthier households and serve well recognised public health and equity objectives. The main drawbacks are potentially high administrative costs, difficulties of designing suitable systems for targeting, and the need to raise finance somewhere else in the water services or general fiscal system to cover the costs of the subsidy.

17.3 Community involvement

Much of the international literature points to the advisability of greater involvement of community organisations and NGOs in developing local solutions for providing sanitation in low income areas. There is also an argument that responsibility for provision ought to be devolved to the lowest, most local institution or grouping that has the competence necessary, with the proviso that the institution or group is adequately resources (Rabinovitch and Leitman, 1993).

The literature also suggests that discussions among professionals working with governments and aid agencies on how to improve infrastructure and service provision in informal settlements generally tend to focus on how to reach as many

people as possible with limited resources. The inhabitants are rarely adequately consulted as to their priorities. Even when a particular kind of intervention has been agreed upon, the inhabitants are rarely involved in choosing what interventions should be made, in determining how much should be spent and in developing the most appropriate ways of cost recovery. (Wall, 2000).

Role of women

There is often insufficient recognition of the crucial role that women play in water and sanitation at the household level. In many societies, women do not automatically become involved, and a determined effort is necessary to ensure their participation in decision-making. User participation that includes women is promising for improving sanitation. This is essential particularly in that many households are headed by women, and it is usually the women who are primarily responsible for bringing up children. Their needs therefore require consideration as a high risk group and as a primary audience. Sustained health improvement stemming from water, sewerage or urban development projects hinges on education and behaviour change – factors which fundamentally involve women. Their role in ensuring the success of a project of component should not be underestimated and their inputs and opinions should be actively solicited (Wall, 2000).

Communities as resource managers

In order for communities to participate in the decision-making process of infrastructure provision, it often required that they need capacity building. This could be done by general education, formal training in relevant skills, or through experience. Infrastructure programmes are most sustainable if they have inbuilt mechanisms that guide the behaviour of all in ways to reinforce the programmes. Programmes and techniques must take account of the motivations of those managers, politicians, community leaders, workers, or whoever is likely to be involved in their implementation. The task is to seize on particular times and methods of introducing programmes so that role players find it to their benefit to act in ways consistent with these programmes. (Wall, 2000).

17.4 Willingness to pay

A contingent valuation survey was conducted in Kumasi, Ghana, to estimate households' willingness to pay for two types of improved sanitation services: improved ventilated pit latrines and water closets connected to a sewer system. Over 1200 randomly selected households throughout the city were interviewed. Most households were willing to pay more for improved sanitation service than they were currently paying for their existing sanitation system (mostly public and bucket latrines), but in absolute terms the potential revenues from households are not large, of the order of US1,40 per household per month (about 1-2 percent of household income).

The results of the study confirm the conventional wisdom that, without massive government subsidies, waterborne sewerage is not affordable to the vast majority of households. On the other hand, it appears that only modest subsidies are required to achieve relatively high levels of coverage with on-site improved ventilated pit latrines (VIPs). This is because the VIPs are much cheaper than

conventional sewerage and because most households are willing to pay about the same for a VIP as for a water closet connection to a sewer, ad cannot afford to pay any more for sanitation (Whittington and Lauria, et al, 1993).

17.5 Targeting

Direct subsidies (i.e. subsidies to the household level) are an increasingly popular means of making infrastructure services more affordable to the poor. A central element of pro-poor subsidies is that they rely on the targeting of subsidies, in one form or another, towards those households deemed to be poor. The subsidy option with regards to sanitation needs to be treated with some caution with some best practice examples suggesting that subsidies should be used sparingly and only once the real costs of providing the service have been accurately identified.

Few sanitation programmes in developing countries have become financially sustainable in the sense that they are able to continue without substantial outside support. The low-cost sanitation programme in Lesotho is an exception. Widely applicable lessons emerged from Lesotho's urban and rural sanitation experience – these are summarised below (Blackett 1994):

Get the design right

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

Don't subsidise

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

Focus on promotion

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

Ensure proper institutional arrangements

Work within government structures if possible. Encourage collaboration with related programmes, and keep running costs appropriate to government budgets, so that the local government can afford to take over the costs once externally sourced donor financing is phased out. Select staff carefully…localise the staff over time.

Despite the note of caution raised in the Lesotho case on the use of subsidies, international experience of direct subsidies provides useful lessons for South Africa's implementation of free basic sanitation to the poor.

Chile and Colombia are amongst the few countries that have attempted to establish national scale water services subsidies for poverty alleviation. The schemes in the two countries are quite different and offer useful lessons.

Chile has established an individual means tested subsidy in which households are screened using a socioeconomic classification system based on an interview in the dwelling. Although fairly costly to administer this targeting instrument is also used to administer a number of other welfare benefits. Eligible households are awarded a subsidy which covers between 25% and 85% of water and sewerage bills for a period of up to three years. The revenue for the scheme comes from general taxation funds raised by the national government.

Colombia has a different approach. The subsidy is based on a geographical classification of households. Based on guidelines developed by central government all dwellings in the country are classified into six socioeconomic groups based largely on neighbourhood characteristics. Households in the lowest three groups receive a subsidy for water services, gas and electricity (groups 1 and 2 get a subsidy equivalent to between 40% and 50% of the average service cost) while households in the upper three groups pay a surcharge. This local cross subsidisation is supported by regional and national transfers as required.

A comparison of the targeting properties of these schemes shows that large errors of inclusion occur in both cases (i.e. consumers receiving a subsidy who are not really eligible). As regards errors of exclusion the Colombian system has much lower levels of erroneously excluded households. Overall therefore it seems that the Colombian system has better targeting in terms of the objectives of the subsidy schemes.

Errors of Inclusion and Exclusion

Targeting is never completely accurate and the general balance that has to be found is between errors of inclusion and exclusion. Inclusion errors refer to the inclusion of non-eligible households in the subsidy scheme, while exclusion errors refer to the exclusion of those households who should be receiving a subsidy. These errors are often large in practice. In both the Chilean and Colombian schemes up to 60% of beneficiaries of the scheme were not really eligible (a large inclusion error). Possibly more serious are those exclusion errors tend to be high too. In the Chilean scheme more than 80% of deserving households do not receive a subsidy. A comparison of the experience of these and other countries tends to show that there is a trade-off between errors of inclusion and exclusion. The more targeted one tries to make a scheme the more likely that deserving households will be excluded from receiving benefits.

Eligibility Criteria

To find an appropriate balance between exclusion and inclusion appropriate eligibility criteria need to be established. The criteria chosen also affect the administrative costs of the subsidy system. Income is often used as a single indicator. However it is often difficult to measure household income levels directly. Other indicators can be used which are proxies for income. These can include such variables as housing quality, level of education of head of household and others. However it has been found that it is difficult to find a suitable single variable that correlates well with income level.

Income and proxy variables for income are indicators based on individual household characteristics. An alternative approach is the use of geographical criteria which target all households in a particular area based on the areas characteristics. The main advantage is that location is easy to observe and a cheap indicator to administer. The important issue, however, is how well location correlates with underlying poverty measures. Although in some countries, such as Panama, it has been found that geographical criteria can lead to very high errors of exclusion (Foster *et al*, 2000) in other cases (such as Chile and Colombia) it has been found that there is no strong evidence to suggest that an individual means tested water subsidy is preferable to a formal geographically based subsidy scheme (Gomèz-Lobo and Contreras, 2000).

Estimating administrative costs

A targeted subsidy scheme can be very expensive. Estimates from Chile and Colombia suggest that the administrative costs of a subsidy scheme can range from 2% to 18% of the total value of the subsidies. Estimates for Panama however suggest that a subsidy scheme using targeting which relies on household interviews can absorb as much as 40% of the total value of the subsidy. This is because the administrative costs are high while the monthly subsidies are relatively low. It must be noted that in all the cases it has been found very difficult to get good statistics on the true costs of the subsidy programme.

In general, administrative costs must be managed and have the potential to use a significant proportion of the subsidies that should go to the poor. International experience and simulations show that low value subsidies are hard to justify in administrative terms unless the selection procedures can be shared across a number of subsidy schemes (Foster et al, 2000).

The "no targeting" option

It is of course possible to avoid the targeting issue by providing a free basic service to *all* households. The advantages of this are that the administrative costs of targeting are avoided and that there is equal treatment of all consumers. The disadvantage is that a significant proportion of the subsidies will be going to wealthy households. Because middle and upper income households in many cities have the majority of private, metered connections they often receive the majority of water sold at the subsidised price (Boland and Whittington, 2000). A deeper concern with not targeting subsidies is that this may simply not be financially viable in areas with limited ability by consumers to cross subsidise.

17.6 Incentives for households to install improved sanitation

Promotion

The literature suggests that few households beyond a small minority of pioneers are likely to install a new latrine purely on the advice of strangers. Most people need peer pressure and support. For this reason there are advantages in a promotion system which mobilises prominent community residents, such as community health workers, officers of the local residents' association, women's organisation, political party, or other volunteers, to spread the word among their friends and neighbours.

More powerful that persuasion or exhortation is the strength of example. Any cadre of promotion workers, whether trained professionals or local volunteers, must be seen to own and use sanitation facilities, preferably of the type they are promoting, if their words are to be taken seriously. This has the added advantage of allowing local residents the chance to inspect one of the latrines at first hand, and also to discuss its costs, use and maintenance with the owners.

Demonstration and exhortation have limitations. Their effects can take time to have an impact as the idea of improved sanitation starts to catch on in the community, and it can be many years before ownership of a latrine becomes the social norm. Inducements are often used to speed up the process. The simplest and most common of these is to subsidise the cost of construction.
The literature suggests that there are two sets of circumstances in which some form of compulsion may help to ensure a high degree of coverage of a community with sanitation facilities. It can be argued that a high coverage level is necessary if sanitation is to be of benefit to the community's health because the faecal pollution caused by a minority of non-users is sufficient to jeopardise the health of all their neighbours.

The first case is where anyone wishing to erect a house in an area of new construction is first obliged to install a latrine. In the urban site and service schemes in Botswana, each plotholder has to complete the latrine superstructure within three months of occupation of the site and prior to starting construction on the house.

The other case is the consolidation phase of a sanitation programme in which the majority of households already own a latrine and sanitation has become the social norm. Compulsion, reinforced by the power of peer-group pressure, may then help ensure that the remaining minority conforms to that norm. Here too, the compulsion must be an expression of the values of the community, rather than coercion from outside, or the residents will not accept the authority of those who impose it and will probably seek to evade it. If the compulsion is visibly an expression of the will of the community, members of the community will themselves apply pressure to those who do not comply (Cairncross, 1992).

Leveraging 'status'

Maximum leverage in investment in low-cost domestic sanitation technology may be obtained by targeting households other than the poorest. In most societies, the first to take advantage of new technology, credit, government subsidies, and opportunities to improve their standard of living are the relatively well-off members of the population. The are economically more secure and better able to take initiatives others might perceive as risky; they are better education and more aware of the benefits offered. Innovations they adopt are likely to acquire an aura of status that makes them attractive to emulate. This raises the question as to whether to target the promotion at this group, as well as the poor?

The dilemma is most acute when a subsidy is involved. Is it equitable if a subsidy intended to put sanitation within the reach of the poorest is taken up by those who could afford to build their own? Is one to put a ceiling on the income of the households which are allowed to benefit from the programme? In many cases, the problem is solved when the wealthiest households aspire to more expensive

sanitation systems such as conventional sewerage or septic tanks, but it cannot always be assumed that this will occur.

On the other hand, it is not necessarily bad if relatively well-off households adopt the sanitation technology which is being promoted. As long as their participation does not absorb an excessive amount of programme resources, it can help turn a latrine into a status symbol others will wish to acquire (Cairncross, 1992).

17.7 Revenue

There is a broad agreement in the international literature that the economic cost of raising revenue tends to be lowest at the national level. Use of the national tax base reduces high levels of incidence on any individual region or consumer group. The use of income and value added taxes also tend to have lower distortionary effects in the economy. There are therefore strong arguments for revenue raising for a countrywide subsidy to occur through the national tax system.

At the same time there continues to be a strong reliance in the water sector internationally on local level revenue raising through cross subsidisation between consumers of a single service provider (Boland and Whittington, 2000). The reasons for this appear to be administrative ease rather than economic efficiency. Those countries with more sophisticated nationally determined subsidy schemes tend, however, to place greater reliance on transfers from national government and not solely on local level cross subsidies. The Chilean and Colombian experiences are instructive as to different subsidy design options as they rely on different levels of cross subsidisation or revenue raising.

National subsidies versus local cross subsidisation

In Chile the subsidy is financed from the national fiscus. The National Planning and Cooperation Ministry is responsible for determining the number, amount and regional distribution of subsidies, as well as the detailed parameters determining the benefits accruing to households. These parameters must also be approved by the Ministry of Finance. Once the total number of subsidies is determined they are made available to regional governors who distribute the total regional amount to the different municipalities according to national guidelines. The municipalities are responsible for all the administration related to providing the subsidies at the local level.

There is a complex financial control mechanism. The water services provider invoices the municipality for all charges discounted from eligible customers' bills. The municipality then passes this to the regional governor who consolidates all invoices into a regional invoice. This is passed to the Regional Development Department of national government which verifies the invoices and generates a national invoice that is presented to the Ministry of Finance. The transfer of funds then flows in the opposite direction.

In Colombia the six national household income categories form the basis of the revenue raising approach. Firstly, a surcharge can be applied to the upper two categories and to industrial and commercial groups (institutions such as hospitals and schools are exempt from paying surcharge or receiving subsidies). The surcharges are capped at a maximum of 20% of the water and sewerage bill. If a

water services provider, after applying the surcharges and subsidies, obtains a net surplus the funds must be deposited in a 'solidarity and income distribution fund' of the relevant regional entity (such as a Municipality, District or Department). These resources are then used to fund subsidies for other providers of the same service in the same regional area (i.e. those providers that show a deficit). If, after this last transfer, there is still a surplus of funds, these can be transferred to adjacent localities, according to national criteria set by the relevant regulatory commission. Finally, if the local surcharges are insufficient to fund the required subsidies the difference can be funded by transfers from the National or Provincial budgets. These national and provincial funds may come from general tax revenues or from 10% of the land tax revenues. These funds are also deposited in the 'solidarity and income distribution fund' of the relevant municipality which must in turn pay the service provider within 30 days from the date that the service provider submits an invoice to the municipality.

There is no easy way to assess which of these approaches is more efficient. The presumption is that the Chilean approach should impose less efficiency losses on the economy because the revenue is solely raised through general taxation. Because both schemes are based on the presentation of an invoice by the water services provider to the municipality, backed by national level 'guarantees', they both provide strong protection against the service provider suffering financial loss as a result of the subsidy.

17.8 Offering credit to improve sanitation

In Honduras, the Cooperative Housing Foundation and UNICEF hope to improve unhealthy sanitary conditions though a sanitation loan programme for low-income families. The programme aims to increase interest in using credit to make sanitation improvements, and to raise awareness of the need for better environmental sanitation. Loans are available to participating families to build shower stalls, construct water storage tanks and wash stands, implement rooftop rainwater collecting systems, or make other improvements, such as devising an appropriate way to dispose of human excreta. People have the option of building alternatives to simple pit latrines, including ventilated improved pit (VIP) latrines, dry compost latrines, and pour-flush toilets. Loans can also be used to make a legal connection to a city's waterborne sewerage system when possible. By offering a variety of options in a broader price range and linking them to well-managed credit programmes, the Cooperative Housing Foundation and UNICEF hope to increase the demand for urban sanitation. (Hogrewe, Joyce and Perez, 1993).

18. Annexure B: Technological & Organisational options

18.1 Purpose of this annexure

As part of the process of rolling out a free basic sanitation approach nationally a strategy and guideline have been developed. These have been discussed widely at national and regional workshops and are in the process of being amended. A common theme in the feedback received on the strategy is that it does not take sufficient cognisance of conditions in rural areas, particularly relating to technological options and operating and maintaining arrangements for the sanitation service. These are not directly related to free basic sanitation and really should be dealt with as part of an over-arching sanitation strategy.

Although it is proposed to work on such an overarching sanitation strategy, under a separate DWAF initiative, this is not in place yet. It has therefore been decided the free basic sanitation roll-out can not be delayed. Therefore it has been decided by DWAF that an interim technical annexure should be prepared as part of the free basic sanitation documentation, to be annexed to the Free Basic Sanitation strategy.

This document (the technical annexure) is intended to provide sufficient background information on technological options and the associated management implications to allow the Free basic sanitation roll-out to proceed. It will, in due course, be superseded by a full sanitation strategy to be drafted by the National Sanitation Task Team.

The advice received from Mvula Trust in the preparation of this document is acknowledged, with thanks.

18.2 Impact of settlement conditions

The way sanitation is managed is strongly related to settlement conditions, for a number of reasons, with urban and rural extremes characterised by the following:

- Urban settlements tend to be dense, have a relatively high proportion of businesses and have residents with higher household income levels. This makes waterborne sanitation systems more viable.
- Rural settlements tend to be more dispersed and, therefore, harder to serve with reticulated infrastructure and harder to access by formally run operation and maintenance teams.

The result is that sanitation solutions need to be tailored for specific settlement conditions.

In planning for sanitation, information is available on conditions for specified settlement types from Stats SA, gathered via the national census. Currently four types have been used:

- Urban
- Peri-urban
- Tribal areas.
- Rural formal

These categories are problematic to some extent, particularly as they as they do not deal with density and the 'tribal areas' category includes a wide range of situations. However,

Stats SA are rectifying this and will be able to provide an analysis based on density at some point in the near future.

In the interim it is useful to relate these Stats SA categories those used in the free basic sanitation strategy document (Section 9.1). This is shown in Table 5.

FBS broad categories	Other subdivisions applied	Census categories
Urban core	Urban	Urban
Urban periphery	Dense settlements	Peri-urban
Rural	Rural dense	Tribal areas
	Villages	
	Rural scattered	
	Remote rural (mostly scattered)	
	Commercial farms	Rural formal

Table 5: Comparison of settlement categories

In planning for sanitation it is important to keep the term urban core for the area where waterborne sanitation is an appropriate technological solution. This will often be a smaller area than that defined as urban in the census. Outside the urban core other urban areas could be called 'remainder of urban area' and peri-urban areas.

For purposes of sanitation planning it is important to differentiate rural areas on the based on the density of settlements and their remoteness as these affect choice of technology and management options. The breakdown needs to suit local conditions but should include at least three categories:

- Villages and other large (dense) settlements.
- Scattered settlements (which tend to be remote)
- Commercial farms (or rural formal).

18.3 Technological solutions

Once again, this document is not intended to cover the range of technological solutions available. This has been covered in the DWAF 'technical approaches' presentation and in many other references. The focus in this document is on situations where there are current problems with technology choices. Based on the views expressed in workshops held throughout the country these problems relate primarily to on-site sanitation and the feasibility of different on-site sanitation options in particular settlement types that have particular institutional arrangements. Here the technological choices range from:

a) Single pit Ventilated Improved Pit (VIP) toilets with permanent top structures.
b) Single pit VIP toilets with movable top structures.
c) Double pit VIPs.
d) Dehydrating and composting toilets.

e) Pour flush toilet
f) Aqua-privy and soakaway
g) Septic tanks

In South Africa it is the first four which are being most widely promoted as they do not require water for flushing. This discussion therefore deals primarily with these four options. Their key features from the point of view of overall suitability can be summarised in Table 6.

Technological option	Operating arrangements	Maintenance: removing waste	Possible innovations
Single pit VIP with permanent top structure	Easy to operate but there must be prevention of solid waste entering the pit	Pit must be de-sludged and this typically requires mechanical equipment.	Use of enzymes to promote digestion and increase intervals between emptying. Possible low technology pit emptying equipment. Use of large pits can extend life substantially with little extra capital cost.
Single pit VIP with movable top structure	Ditto	New pit can be excavated and top structure moved.	Enzymes (see above). Pit size is important (see above).
Double pit VIP	As with a single pit VIP but requires simple activity of switching between pits when one is full (one year interval?).	Dry pit can be excavated by hand. (See note 1)	
Dehydrating and composting toilets	Requires the addition of other materials to promote composting.	Regular removal of compost required and can be done by hand. (See note 2)	

Table 6: Technological options for dry on-site sanitation

Notes:

1. Experience with double pits has not all been good. Often the second (out of use) pit does not dry out as water enters it from the 'in use' pit or the ground. Decomposition then does not take place optimally in which case the second pit cannot be emptied by hand.
2. While they potentially offer a good solution, there have been problems with these toilets and they have not been proven sufficiently for large scale use at this stage. For composting to be effective the temperature in the chamber must be close to optimum and this does not always occur for a variety of reasons. Good management of the toilet by the household is essential.
3. In order to operate and maintain these sanitation systems specific management arrangements are required, discussed later in this report.

Settlement type	Institutional arrangement	Technological option
Urban	WSP typically a municipality or municipal entity	Waterborne in urban core.
Peri-urban	As for urban	On-site sanitation but some areas have waterborne; On site typically single pit VIPs.
Villages and dense rural (larger settlements with communal tenure)	In some cases (probably few) municipal WSP active; reliance more likely on CBO type WSPs.	Typically VIPs; unless formal pit emptying arrangements can be proven to be successful, should have movable top structures. Double pit VIPs and dehydration/composting toilets may have some application if carefully designed for the local conditions and well managed by households..
Scattered rural (small, often remote settlements with communal land tenure)	WSP often absent; CBO type WSPs may have been established.	Typically VIPs with movable top structures and large pits should be used. Relocation will be necessary at some point.
Formal rural (commercial farms)	WSPs typically absent; farmers are intermediaries.	Typically on-site (wet or dry). Movable top structures should be favoured in order to allow for relocation when full. Double pit VIPs and dehydration/composting toilets may have some application.

Table 7: Relationship between settlement type institutional arrangements and technology

18.4 Institutional arrangements

The institutional arrangements for water services are well documented and are not repeated here. However, certain key points need to be made about water service providers in rural areas and their relationship to sanitation, as shown in Table 7.

18.5 Management arrangements

Again the focus here is on on-site sanitation as this is where concern has been raised in workshops.

Whatever the institutional structure, management arrangements must be in place to deal with the following:

- Health and hygiene promotion.
- Routine day-to-day O&M activities.
- Sludge or compost handling.

In considering the way responsibilities are allocated for these three items the first two have a universal solution:

- Health and hygiene promotion must be undertaken by the water services authority or by a specialist organisation appointed by it that may or may not be the water services provider. If the specialist organisation is not the WSP then is could be referred to as a health and hygiene promotion agent.
- Routine day to day O&M activities must be undertaken by the household. This includes provision of anal cleansing material, cleaning of the pedestal, ensuring that solid waste does not enter pits, monitoring the amount of water which enters pits, cleaning and painting the top structure and repairing the top structure and pedestal when necessary.

In the case of sludge or compost handling the options for doing this vary with the technology as described in Table 4. It is evident that the requirements for sludge or compost handling range from high technology to low technology and, importantly, this means that the management arrangements must be established accordingly, as shown in Table 7.
With regard to mechanical de-sludging there is limited experience with this in South Africa and what experience we have (in Durban for example) has not always been good. This will only work if it is done in conjunction with good management of pits by households. In particular solid waste must be excluded from pits.

Mvula Trust is experimenting with the moving of sludge to a separate pit instead of relocating the whole VIP structure. But this is not a proven option as yet.

18.6 Summary - relationship between technology, management and financing options

Following from the previous discussions the relationship between technological options, management arrangements and funding can be summarised in Table 8.

	Sludge or compost management options		Implications
	Urban context	***Rural context***	
Single pit VIP with permanent top structure	Requires mechanical de-sludging system; sludge taken to treatment works. Typically this requires a formal contract with a private firm.	The viability of a mechanical de-sludging arrangement is questionable for areas well away from urban centres.	Technology not suited to most rural areas. But then why is this option being applied quite widely currently in most rural areas? Requires operating grant finance to fund emptying.
Single pit VIP with movable top structure	Can be done using small contractors. But only suitable where densities are lower (peri-urban areas perhaps) as there needs to be space to relocate the pit.	Can be done in most rural areas but note the need for capital (cash or through sweat equity) to rebuild the pit. An option is for the household to take responsibility for moving the top structure and WSA for providing new pit.	Suited to rural areas but does require ability to organise small contractors and channel capital finance for re-construction.
Double pit VIP	Households must empty dry pit but WSA must organise system for removing solid waste.	Households empty pit and sludge can be spread on ground. However, if pit does not dry this may not be possible.	Suited to household management in urban and rural context.
Composting / urine diversion toilet	Option for using the compost on the plot for gardening.	Options for using compost for gardening.	Suited to household management in urban and rural context. But requires good management by households.

Table 8: Typical management arrangements for on-site dry sanitation

Technological option	Density & settlement locality	Management arrangement	Funding source
1. Single-pit VIP (fixed top structure)	High to medium (urban to peri-urban)	Municipal empting program, high tech equipment.	ES for empting programme.
2. Single –pit VIP (movable top structure)	Medium (peri-urban / rural)	Simple management arrangements using small contractors; on-site sludge	MIG for pit relocation and associates training (part of the rehabilitation component of MIG).
3. Double pit VIP	Any settlement but mostly applied in per-urban to rural areas.	Sludge emptying by household. Removal with solid waste in peri-urban areas.	Limited amount of ES for promotion and solid waste removal.
4. Dehydration and composting toilets.	Ditto	Compost emptying by household. Use for gardening.	ES only for promotion.

Table 9: Relationship between technology, management and financing options

This table is used in the free basic sanitation strategy.

18.7 Conclusions

From the point of view of free basic sanitation the following conclusions can be drawn:

a) It is essential for the technological solution selected for the sanitation service to be matched with a viable management solution. Often this can only be done if provision is made for a simple, low technology approach for sludge and/or compost handling.
b) Currently single pit VIPs with fixed top structures are being implemented widely in relatively remote rural areas but without a viable sludge handling solution.
c) Currently lack of attention to designing VIPs for relocation in the future is a major concern.
d) If a system based on pit relocation is to be applied then this amounts to rehabilitation and capital subsidies (MIG funds) need to be made available for supporting such relocation.
e) If a system which requires mechanical emptying of pits is implemented it should be noted that this is expensive and equitable share funds need to be allocated to cover the sludge handling costs.
f) Double pit VIPs and composting / urine diversion toilets may have relatively low operating costs. But the concern with these options is that currently they are not fully proven technologies. Double pits only work if the second (out of use) pit can dry out. Composting toilets only work if households are prepared to deal with the compost.

19. Annexure C: Strategic issues relating to farm dwellers

19.1 Introduction

One of the key issues arising from the consultation with municipalities is the need for guidelines to assist water services authorities in implementing free basic sanitation to farm dwellers. Farm dwellers are often marginalised and excluded from the mainstream service delivery support from local authorities. This has often been attributed to the lack of a clear framework for public infrastructure investment on privately owned land. In order to deal with this the National Sanitation Task Team is currently developing draft guidelines for implementing farm dweller sanitation. These guidelines, once approved, will replace this Annexure. However in the interim this document (Annexure C) is intended to assist water services authorities in preparing a free basic sanitation policy for farm dwellers, as part of their tariff policy.
This annexure is intended to provide an overview of policy issues and make suggestions for implementation of free basic sanitation to farm dwellers.

19.2 Who is a farm dweller?

The farm dweller definition is drawn from the DWAF sanitation policy. This policy draws a distinction between farm workers and farm dwellers. Farm *workers* would be employed on a farm, but may live on or off the farm. (The emphasis of this strategy is obviously placed on those living on farms).

Farm *dwellers*, on the other hand, live on a farm but may not necessarily be employed on that farm. They usually live without secure tenure on privately-owned land. In most cases farm dwellers are poor households who have limited access to services and are vulnerable to consequential health hazards.

The focus of this document is on farm dwellers (may or may not be a farm worker) who are typically poor households and would therefore be eligible to receive free basic sanitation.

19.3 Key issues for consideration in applying free basic sanitation to farm dwellers

In order to effectively implement or extend free basic sanitation coverage to farm dwellers it is essential for a water services authority to understand the following key issues:

- *Service levels* – there needs to be an understanding of the levels of sanitation service that farm dwellers have access to as well as the numbers of poor households that are affected. The service levels that households are likely to have in farms range from none (use of veld) to inadequate (bucket and unventilated latrines) to adequate (VIPs and flush systems).
- *Cost of provision* – an assessment of the cost of providing FB San under any of the service levels above needs to be thoroughly considered since this will affect the overall financing of FB San implementation programme. This should also include cost quantification for sanitation (health and hygiene awareness) promotion. The

possibility of keeping operating costs very low in all cases bar reticulated waterborne systems is notable.

- *Institutional arrangements* – the farmer, as the owner of the land, will be acting as an 'intermediary' in terms of the Water Services Act. This implies that the farmer has obligations to provide sanitation services but can expect support from the water services authority. The final obligation to provide sanitation services still remains with the WSA. The latter has a duty to ensure that the farmer or other intermediaries provide access to a basic level of sanitation service to those living legally on their land. For this reason, the farmer and the municipality have to enter into a formal contractual agreement regarding the responsibilities of both the farmer (as an intermediary) and the municipality (as a service authority).

- *Free basic sanitation financing* – if the farmer is providing basic sanitation to farm dwellers, it is expected that he or she will incur costs which must be paid for. If costs are kept low the requirement for finance to cover them can be minimised and may be easily shared between farm dweller and farmer, as described later in this document.

  However, the WSA may be willing to assist with subsidies, considering that, by providing sanitation to farm dwellers, the farmer will also be assisting the WSA in extending basic services to poor households living on the farm. Such subsidies would typically be sources from equitable share revenue available to the WSA.

  Where subsidies are provided a clear service agreement outlining roles and responsibilities as well as targets to be met will have to be entered into between the farmer (acting as an intermediary) and the municipality to formalise this relationship.

- *Funding to assist with access to basic sanitation facility* – Basic sanitation service is defined in the Strategic Framework for Water Services to include provision of a basic facility and its necessary operational support and communication including the health and hygiene awareness issues. Therefore, in considering free basic sanitation to farm dwellers it is equitable that all poor households living on farms should receive a capital subsidy for a basic facility and its necessary operational support and communication. This relates only to installing basic infrastructure.

  In this regard it is notable that the policy for the new Municipal Infrastructure Grant (MIG) allows for MIG funds to be used on private land to provide access to basic services to the poor. This is consistent with recommendations from the pilot studies on farm dweller sanitation done by the Water Research Commission in the Western Cape (report by Lagardien and Cousins: 2001). This report warns that farm dwellers should not have to suffer poor sanitation where the farmer is unwilling or cannot afford to provide adequate facilities.
  The WSA and the farmer should enter into an agreement which should stipulate how funding will be channeled to facilitate provision of basic sanitation service to poor farm dwellers. This may provide for a cost sharing arrangement, considering that the farmer will benefit through improvements on his or her private farmland.

- *Sludge management* – The way sludge from full pits or tanks is managed is a key concern. In the case of dry sanitation systems (typically a VIP) it is proposed that this is done through relocation of pits rather than pit emptying as the viability

of the latter is highly uncertain. This means that capital costs will be incurred as relocation will be classified as rehabilitation of infrastructure.

- *Monitoring FB San provision* – The WSA retains the responsibility for monitoring access to free basic sanitation. This is necessary especially in situations where an agreement will be reached to allocate equitable share to the farm owners. If subsidies are paid directly to farmers, the WSA has an additional obligation to monitor and ensure that farmers actually use subsidy funds for purposes for which they are given.

19.4 Suggested FB San options

A number of options for the practical implementation of a local free basic sanitation policy are considered below:

Farm owner provides free basic sanitation to farm dwellers at own expense

It is typically the case that farm dwellers are employed by the framer (as farm workers) or are former employees who have retired. In such cases accommodation is generally provided as part of the employment package of such workers and former workers. Accommodation is usually assumed to include a serviced housing unit, including sanitation. In this situation it is reasonable for free basic sanitation to be provided by farm owners, with the co-operation of farm dwellers in maintaining the system.

Under this option, the WSA assumes a monitoring role and ensure compliance with acceptable standards. Where VIPs, or other dry on-site sanitation systems, are used, the WSA would, in addition, typically assist with capital subsidies for the relocation of toilets where pits are full.
There are several advantages with this approach. It allows the farmer to implement incentives to his or her workers and it avoids the complexities of transferring operating subsidies to the farmer on a regular basis. In this regard it is notable that the costs per household are usually small as the day-to-day operating costs of on-site sanitation systems are small.
This option clearly requires the co-operation of the farmer. In cases where farm dwellers are primarily employees, this co-operation can be expected. This is less likely when there are greater numbers of farm dwellers who are not current employees and, in this situation, this option has less chance of success.

Water Services Authority finances the farmer as an intermediary in providing free basic sanitation to poor households living on the farm.

Under this option the WSA provides funding for sanitation services to the farm owner for operation and maintenance of the system using a portion of the equitable share allocation. The farmer, in turn, acts as an intermediary in extending free basic sanitation services to farm dwellers. There are clearly advantages to the farmer in this case, although the amounts of money involved may be small. The households also benefit and the WSA will not have to operate and maintain the sanitation system on its own.

The shortfalls of this approach are (i) there is an incentive for the farmer to over estimate the size of the subsidy required for operating and maintenance costs, (ii) in local authorities where there is a lack of institutional capacity to monitor the implementation of free basic sanitation, it may happen that subsidies allocated for sanitation are not used for the purpose for which they are intended.
In order to minimise the shortfalls, it will be necessary for the WSA and the farm owner to enter into a formal agreement stipulating:

- clear subsidy rules and regulatory framework,
- the number of households to be covered by the subsidy,
- the levels of services to be provided,
- description of what activities are being funded under the agreement,
- mechanisms for monitoring, reporting and resolving disputes,
- liabilities of (i) the WSA and (ii) the intermediary

This option needs strong capacity for monitoring, and enforcement of compliance with the conditions of the agreement, on the part of the WSA.

Joint Implementation by WSA, farmer and affected farm dweller

Under this option, all role players are involved in the implementation of free basic sanitation. This option is essentially a variation on Option 2 which provides greater emphasis on the responsibility of the farm dweller. For example roles could be shared according to the suggested split in table 1 below:

Who	Activities / Responsible for
Farm dweller	o Cleaning of the toilet o Basic day to day maintenance (cleaning and provision of toilet paper); painting of top structure, rehabilitation of pits in certain cases (temporary arrangement) o Repair of damage due to vandalism or misuse
Farmer	o Normal wear and tear (replacement of vent pipes, screens, seats, doors, pit sealing etc) o Provision of basic facilities and on-site infrastructure o Arrangement of pit relocation when pits are full.
Water Services Authority	o Overseeing that facilities are in good working order o Provide funding for Health and Hygiene education and undertake responsibility for training o Fund pit relocation or undertake sludge removal (where such a service is used in a neighbouring area). o Monitor performance of the farmer and ensure overall regulation

Table 1: split of roles and responsibilities

The advantages of this arrangement are (i) households participate in the process of decision-making and thereby implying increased acceptance of outcomes (ii) farmer does not have to incur high costs of providing free basic services alone (iii) the WSA's contribution is focused on monitoring, sanitation promotion and assisting with capital subsidies and (iv) opportunities for skills transfer.

The likely shortfalls are (i) the institutional arrangements are complex and may be difficult to manage for poorly capacitated authorities (ii) farmer may not have adequate resources or be willing to contribute towards needed on-site infrastructure.

19.5 Conclusion

For free basic sanitation to be successfully implemented a supporting guideline for extending coverage to farm dwellers is essential. Before options for providing free basic sanitation are finalised by councils, it is necessary to undertake a careful assessment of the service levels possible for providing free basic sanitation to farm dwellers, to understand and quantify affected households, to project costs at given levels of service and to assess suitable institutional arrangements.

The three options described above are suggested but should not be taken as prescription. Careful consideration of the merits of each suggested option is necessary and would have to be done as part of the analysis of options for free basic sanitation policy implementation at each WSA.