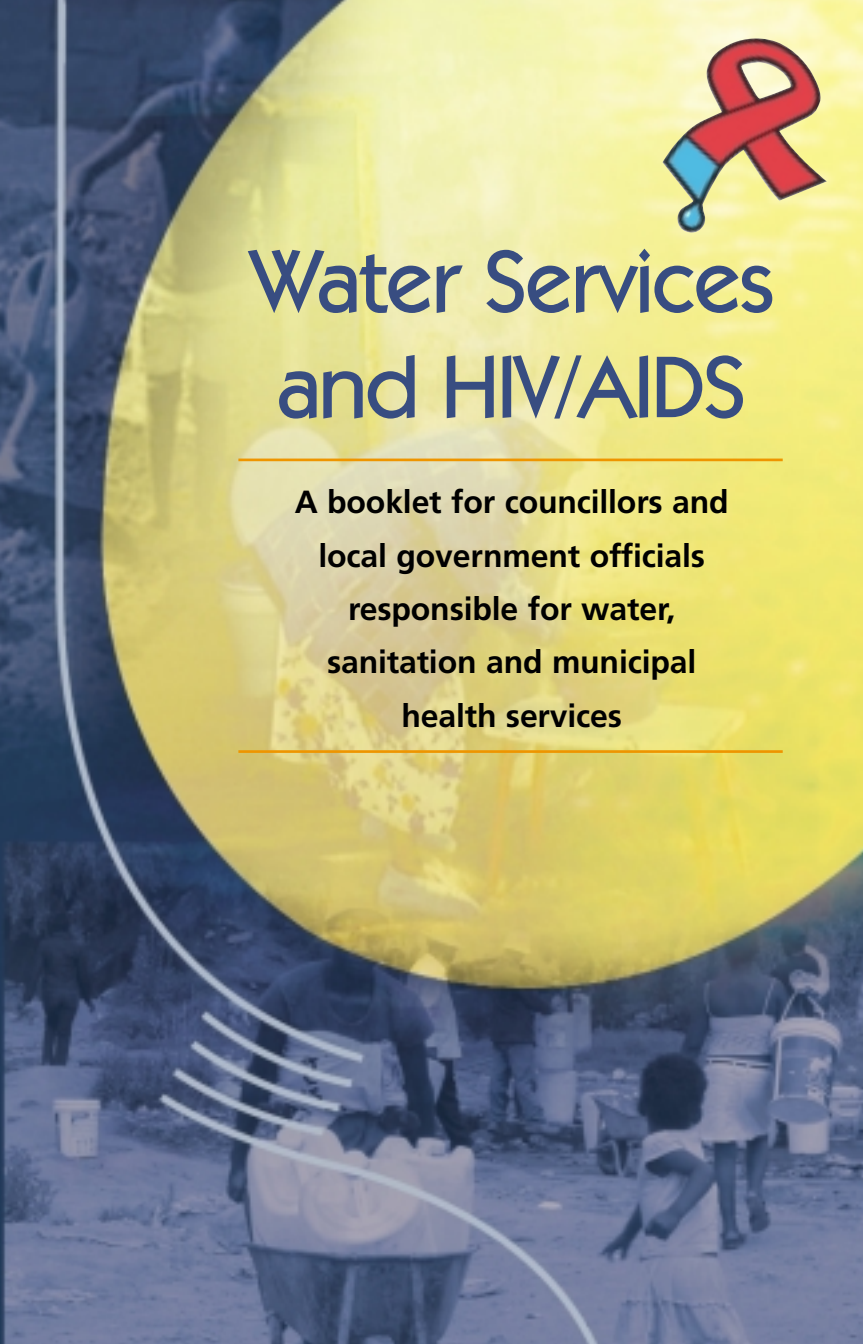




Water Services and HIV/AIDS

**A booklet for councillors and
local government officials
responsible for water,
sanitation and municipal
health services**





This booklet emanates from a Mvula Trust study for the Water Research Commission. The booklet accompanies the DVD, *Municipal Water Services and HIV/AIDS*. Both the booklet and the DVD focus on the links between water, sanitation, hygiene and HIV/AIDS. They highlight the need for water and sanitation services that support people that are living with, and affected by, HIV/AIDS.

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"The effectiveness of water and sanitation services in promoting healthy and sustainable livelihoods is dependent on effective health and hygiene education which is co-ordinated with the construction and delivery of water and sanitation infrastructure and related services."

Water Services and HIV/AIDS

An integrated approach to health and hygiene education in water and sanitation within the context of HIV/AIDS

A guide for local councillors and government officials responsible for water, sanitation and municipal health services

Responding to the challenges of HIV/AIDS involves everyone in South Africa. There is much that can be done to reduce the impacts of the pandemic, ranging from the provision of support for people living with HIV/AIDS to strategies that prevent the spread of HIV. Managing the pandemic requires action across all government departments, the private sector and civil society.

Municipalities have a particularly important role to play in managing HIV/AIDS. The provision of water and sanitation services that are affordable, accessible, reliable and used with appropriate health and hygiene practices:

- can help people with HIV to stay healthy
- increases the effectiveness of home-based care services for patients with HIV/AIDS
- supports people's livelihoods
- are vital for community development.

This booklet is a guide for planning and implementing water and sanitation services together with appropriate health and hygiene behaviour in order to reduce the impact of HIV/AIDS.

Water and sanitation services and the challenges of HIV/AIDS

To stay healthy, everyone needs to practice effective **health and hygiene behaviour** that is supported by water and sanitation services that are **accessible, affordable** and **reliable**.

In South Africa today, the provision of such services must address the needs of people with HIV/AIDS and their carers. This has implications for all stages of water and sanitation delivery – from planning and infrastructure development to the operation and maintenance of sustainable services.

Reducing the impacts of HIV/AIDS has implications for:

■ **The level of water and sanitation services provided**

People with HIV/AIDS need reliable supplies of **clean** water in **sufficient quantities** for taking medication, preventing dehydration from diarrhoea and maintaining personal hygiene. The provision of home-based care for people with AIDS requires water for washing patients, their clothes and bed sheets, and facilities for the **safe disposal of human waste**. The water and sanitation facilities need to be **nearby**.

■ **The level of subsidies needed to make the services affordable**

Households affected by HIV/AIDS need more than the basic level of services. However, most people with HIV are in the income-earning age group. Loss of income due to sickness or death from AIDS-related diseases



Photograph: Jonathan Tirmm

The unequal power relations between men and women in society increases the vulnerability of women to HIV. When fetching water, girls and women are very vulnerable to rape and HIV infection as a result of rape.

decreases a household's ability to pay for services. Policies for the provision of free basic water and sanitation services must respond to these challenges.

■ **The health and hygiene education activities required to support the provision of water and sanitation services**

*Appropriate hygiene behaviour improves everyone's health. **People with HIV/AIDS are particularly at risk from water and sanitation-related diseases.***

Education programmes need to show what can be done to reduce these risks so people with HIV can stay healthy. The link between water and sanitation and the health of people with HIV/AIDS should also form part of educational programmes within the health sector.

HIV/AIDS – the facts

Discrimination and fear prevent people taking action to manage HIV/AIDS. Finding out the facts can help to overcome such barriers.

How HIV affects the body

HIV stands for **h**uman **i**mmunodeficiency **v**irus. The virus damages the body's **immune system**, the part of the body that protects us from disease.

Being HIV-positive does not mean that a person has AIDS. It can take many years before the virus weakens the immune system so much that the body can no longer protect itself from certain life-threatening diseases. At this stage, the condition is called **AIDS**.

AIDS stands for **a**cquired **i**mmune **d**eficiency **s**yndrome. A person with AIDS may get very sick from more than one disease, such as tuberculosis and pneumonia. Although such diseases can be treated, there is presently no cure for AIDS. There are no drugs that can remove the HI virus from the body.

Controlling HIV in the body

People with HIV should have regular medical check-ups. These may include a blood test to measure the strength of their immune system. This test is called a CD4 count. It measures a type of cell in the immune system called CD4 cells. HIV destroys CD4 cells. If the level of CD4 cells gets very low, the doctor may advise **antiretroviral therapy** (ART). This involves taking antiretroviral drugs (ARVs). It is a life-long treatment that helps to increase the number of CD4 cells, and control the HIV.

Eating a nutritious diet and staying fit strengthen our immune system. Anything that reduces the risk of getting infections, such as the provision of clean water, also helps to protect the immune system of a person with HIV.

How people get HIV

HIV can pass from one person to another if body fluids that contain the virus get into the immune system of another person. These body fluids are blood, sexual fluids and breastmilk.

HIV is mainly spread through:

- having sex without a condom
- injecting drugs with needles that are contaminated with blood containing HIV
- getting HIV-infected blood or other body fluids into a wound or a deep cut
- an HIV-positive mother passing the virus on to her baby during pregnancy, childbirth or when breastfeeding.

You **cannot** get HIV from kissing, hugging or shaking hands with an HIV-positive person.

You **cannot** get HIV from sharing drinking or eating utensils, or sharing a toilet with an HIV-positive person.

Mosquitoes do not spread HIV.

A person may get HIV through one sexual encounter. Being HIV-positive does not mean that a person is promiscuous.

Controlling the spread of HIV

Anyone can get HIV. One of the reasons why HIV spreads so quickly is that people do not know that they have it. The only way to find out is to have an **HIV test**.

People who are HIV positive:

- can obtain counselling and support to manage the condition
- should take precautions to avoid re-infection with another strain of HIV and avoid passing HIV on to others

People who are HIV negative:

- should take precautions to avoid getting HIV
- should have regular HIV tests, with their sexual partner
- can provide support for HIV-positive people

Reducing the risk of water and sanitation-related diseases

HIV reduces the body's ability to fight infection. There are many common infections which people with a strong immune system resist or quickly recover from. But such infections can make HIV-positive people very sick.

Diseases related to dirty water, inadequate toilets and the lack of hand washing and other hygiene behaviour can be life-threatening for people with HIV. Parasitic worms and organisms that cause diarrhoea are spread when germs from faeces get onto people's food, drink or eating utensils. Page 7 shows what can be done to avoid this. Some other water-related diseases are shown on page 8.

Municipalities can help to prevent the spread of such diseases by ensuring access to adequate water and sanitation facilities and by providing health and hygiene education that supports the use of these facilities. (See page 9)

How germs in faeces are spread

Germs pass out of the body in the faeces. A person can get sick if the germs get back into a person's body through their mouth. The main ways in which this happens are shown on page 7. Hand washing and other hygiene behaviour is essential to stop this cycle of infection.

Some of the diseases that are spread in this way

Diarrhoeal diseases (including cholera and typhoid) and parasitic worms (hookworm, whipworm, roundworm), and hepatitis A.

How germs in faeces are spread



Germs pass out of the body in faeces



When eating, germs from dirty hands get into a person's body



Break the cycle of infection:

- wash hands with clean water after going to the toilet
- wash hands before eating or preparing food.



Flies can spread germs from uncovered faeces to food, water containers, eating or cooking utensils

Germs get into a person's body from contaminated food or dirty eating, drinking or cooking utensils



Break the cycle of infection:

- cover food to protect it from flies
- keep water containers covered to keep out flies
- use a toilet rather than the veld.



Other diseases related to water and sanitation

Throwing used water next to the house and not having proper drainage can make buildings damp. The germs that cause **tuberculosis** (TB) can live in homes that are dark, damp and unventilated.

TB is a common cause of death in people with HIV/AIDS.

Open drains and pools of water provide breeding places for mosquitoes, which transmit **malaria** in certain parts of the country.



Some types of germs, such as those causing **cholera** and **typhoid** are spread through contaminated water.

Urinating in dams and rivers can spread the parasite that causes **bilharzia**. This disease is caused by an organism that lives part of its life cycle in the human body and part in a particular type of snail. The snail lives in certain places where there is still, or slow-flowing, water.



Lack of sufficient clean water for washing, can spread skin and eye diseases, such as **scabies** and **trachoma**.

Preventing the spread of water-related diseases

Health and hygiene behaviour

- wash hands after going to the toilet and before eating or cooking
- use clean containers to carry and store water
- avoid spilling water around standpipes
- dispose of waste water where it will drain away quickly. Waste water that does not contain disinfectants, or other harmful chemicals, can be used for watering a garden
- protect sources of water from contamination
- in VIP toilets (ventilated improved pit latrines), keep toilet doors closed and toilet lids shut. Most flies will then try to escape from the pit up the vent pipe. The wire mesh at the top of the pipe stops flies getting out of the toilet
- report leaking taps or pipes, blocked drains and toilets so that they can be repaired
- use and maintain water and toilet facilities properly to make sure they stay clean and keep working



Photograph: Richard Holden

Facilities needed to support safe hygiene practice

- clean water available in sufficient quantities for both drinking and washing
- hand-washing facilities near toilets
- toilets for the safe disposal of human waste; at the basic level these should be VIP toilets not unimproved pits and these must be emptied or relocated as soon as they are full
- effective drainage systems for waste water and spilled water, especially around standpipes and communal washing areas

Additional needs of people with HIV

People with HIV/AIDS need access to services that reduce their risk of infection from water and sanitation-related diseases. Other factors that affect the level of services required by people with HIV/AIDS are shown below.

Water quality – the provision of clean water

Water for taking medication

HIV-positive people that are on antiretroviral therapy, need clean water to take their medication. It is important that they take their medication at the same times each day, so the water supply needs to be reliable.

Water for baby's milk

An HIV-positive mother risks passing on HIV to her baby through breastfeeding. Clean drinking water is needed for mixing formula milk, the alternative to breast milk.

If reliable supplies of clean water are not available, it may be safer to breastfeed. Mixing breastfeeding with formula feeding may increase the risk of HIV infection for a baby.

Water quantity – the amount of water supplied

Water for avoiding dehydration from diarrhoea

People with HIV are vulnerable to infections that cause diarrhoea. A person with diarrhoea needs to drink water to replace the water lost through diarrhoea, otherwise they can die of dehydration.

Water for increased demands on water borne sanitation systems

Flushing the toilet more frequently as a result of diarrhoea means that more water will be used. The free basic water allocations may not be sufficient in such cases.

Water for washing

When people are sick with diarrhoeal diseases, adequate quantities of water for washing not only the body, but also soiled clothes and linen are essential. Adequate facilities for disposal of waste laundry water are also needed.

Water for food security, growth and development

Water is needed to grow fruit and vegetables, develop small businesses and other community development projects.

Toilet facilities

People with HIV/AIDS need toilet facilities that are nearby as they may be too weak to walk very far. If a person is very sick, their caregiver may need to help them in the toilet. In this case, the toilet needs to be large enough to accommodate two people.

Like everyone else, people with HIV/AIDS deserve to have toilets that provide privacy, to preserve their dignity.

People with HIV/AIDS and their caregivers need:

- a supply of clean water that is reliable and easy to obtain in sufficient quantities
- toilet facilities that are hygienic, private and nearby.

“When water is not in the yard and also comes out at particular times only, it makes it very difficult for us to wash clothes, clean houses and bath our patients when we visit them during our house call duties”

Ms Thwala, home-based caregiver

What water services authorities can do to reduce the impact of HIV/AIDS

■ Develop appropriate water services policies and by-laws

The **Strategic Framework for Water Services** sets the national policy. Within this, each water services authority (WSA) must develop its own policies and bylaws that are suited to its municipal area.

Key questions to address in a water services policy:

- What is the impact of HIV/AIDS likely to be over the next ten to fifteen years?
- In which areas are the levels of water services insufficient to address the needs of households affected by HIV/AIDS?
- What can be done to provide higher levels of services in those areas?

Finding out the extent to which the communities you serve are affected by HIV/AIDS involves:

- liaising with the local clinic
- talking to households affected by HIV/AIDS
- engaging with home-based caregivers to find out more about the water and sanitation needs of their patients.

The by-laws that enforce the policy may need to have special conditions for communities that are affected by HIV/AIDS.

■ Set tariffs to subsidise services for the most vulnerable

Households affected by HIV/AIDS will need more than a basic level of service. Consider subsidising these households or communities, for example through setting higher tariffs in other areas of the municipality.

■ Regulate water services provision

Enforce by-laws and regulate contractors to protect the rights of people with HIV/AIDS to adequate and affordable levels of water and sanitation services.

■ Plan water services in the context of HIV/AIDS

Consider all components of service provision, including customers, environmental impacts, financial and maintenance issues. The Integrated Development Plans (IDPs) and Water Services Development Plans (WSDPs) must address the additional needs of people living with HIV/AIDS and their caregivers.

People with HIV/AIDS and their caregivers require a **minimum** service of:

- taps in yards
- more than the basic allocation of 6000 litres of free water per household per month, to allow for washing and food gardening
- toilet structures that can accommodate a person helping a sick person
- toilet facilities and services that can cope with an increase in the amount of human waste
- toilet facilities that are nearby.

Make arrangements to supplement funds from the **Municipal Infrastructure Grant** (MIG) so that the higher levels of service can be provided, for example by cross-subsidising through tariffs.

Education for health

An effective water and sanitation delivery programme:

- reduces the spread of water and sanitation-related diseases
- reduces associated public environmental health risks
- promotes sustainable water and sanitation services.

To achieve this, the programme needs an effective health and hygiene education programme that supports householders to:

- change their hygiene practices to reduce the risk of infection (see page 9)
- take care of water and sanitation facilities
- use water wisely, for example to avoid wasting clean water, to collect rainwater for watering plants.

An effective health and hygiene education programme:

- uses a combination of different approaches and tools, including printed materials, participatory focus group sessions, visual tools such as **P**articipatory **H**ygien and **S**anitation **T**ransformation (PHAST) tools, awareness raising campaigns and household visits
- provides information that is relevant
- takes place over a period of time
- is integrated within all phases of a water and sanitation project (see page 15).

People do not change their personal hygiene behaviour after one workshop session, one presentation or even one household visit. It is a process that must be supported through several interactions with householders. It needs to begin before construction and continue after the handover of the facilities.

Health and hygiene education within a water and sanitation delivery project

In areas where many households are affected with HIV/AIDS, the Business Plan must show how sufficient water and sanitation services to meet their needs are to be provided.

Community participation

Use community meetings and household surveys to gather information about the community's needs and preferences.

Key outcomes of community awareness and participation

- identification of householders' needs
- increased awareness of the link between disease and inadequate water and sanitation facilities
- support or 'buy-in' for the project from the community
- consensus reached about the most appropriate technical and service delivery options for that particular area.

There should be at least five visits to each household during the project. The visits should cover:

Before construction

- how the project will work, and its benefits
- advantages and disadvantages of available infrastructure options

During construction

- how water and sanitation-related diseases are spread, the need for handwashing and personal hygiene

- how the facilities should be used and maintained

- solid waste management (the safe disposal of faeces)

- how good health and hygiene behaviour can reduce the spread of disease

- the disposal of waste washing water

After construction

- check that the facilities are being used and maintained properly
- observe hygiene practices
- deal with any problems and suggest ways to improve hygiene practices if necessary.

Water and sanitation services for economic development and sustainable livelihoods

Water and sanitation projects can directly support skills development and job creation. For example through training and creating careers:

- community health and hygiene practitioners that are trained on an infrastructure project can be employed by the municipality
- local entrepreneurs can provide operation and maintenance services for water and sanitation facilities.

In addition, the provision of effective, efficient, affordable, economical and sustainable water and sanitation services promotes community development in general. A healthy, productive community is better able to deal with the challenges of HIV/AIDS.



Training can be provided for householders



Everyone needs fresh fruit and vegetables to stay healthy.



Simple additions to infrastructure can help people to save water.



The time and effort saved walking long distances to fetch and carry water can be put to more productive use.

The Water Research Commission publishes useful reports related to health and hygiene education within water and sanitation projects. For a list of their reports see their website: www.wrc.org.za

The following are companion publications to this booklet. They can be requested from the Water Research Commission:

Water Services and HIV/AIDS: Integrating Health and Hygiene Education in the Water and Sanitation Sector in the Context of HIV/AIDS. TT Report Number: TT 316/07, WRC, 2007.

Water Services and HIV/AIDS: A DVD for Councillors. WRC, 2007.

Water Services and HIV/AIDS: A Guide for Local Government Councillors and Officials Responsible for Water, Sanitation and Municipal Health Services. TT Report Number: TT317/07, WRC, 2007.

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