

WATER SERVICES AND HIV/AIDS

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

Report to the
Water Research Commission

by

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for

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Preface

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

(Strategic Framework for Water Services, Section 3.6.4: 2003).

The hygienic use of appropriate water and sanitation facilities is essential, particularly for people living with HIV/AIDS. Municipalities have an important role to play in ensuring that water and environmental health services address the implications of HIV/AIDS.

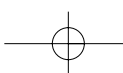
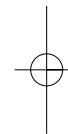
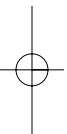
This report is intended to assist local government water services and environmental health officials with planning and implementing water and sanitation services, together with health and hygiene education, in order to reduce the impact of HIV/AIDS.

It sets out a framework for municipal responses to HIV/AIDS and highlights ways in which HIV/AIDS can be mainstreamed into water and sanitation planning, regulation, implementation and provision.

In order to clarify the institutional complexities in water and environmental health services, it provides a model, strategies and indicators for implementing project-related health and hygiene education in the context of HIV/AIDS.

Table of Contents

1.	Introduction	1
2.	HIV and AIDS — The Facts	2
3.	Water and Sanitation Services and HIV/AIDS	4
4.	Reducing the Risk of Water and Sanitation-related Diseases	5
5.	Water and Sanitation Needs of People with HIV/ AIDS	8
	5.1. Water quality	
	5.2. Water quantity	
	5.3. Toilet facilities	
6.	Municipal Responses to HIV and AIDS	10
	6.1. Four levels of response	
	6.2. Mainstreaming HIV and AIDS into development planning and implementation	
	6.3. Key Performance Areas	
7.	What Water Services Authorities can do to Reduce the Impact of HIV/AIDS ..	14
	7.1. Ensure access to water and sanitation	
	7.2. Develop appropriate water services policies and bylaws	
	7.3. Set tariffs to subsidise services for the most vulnerable	
	7.4. Plan water services in the context of HIV/AIDS	
	7.5. Regulate water services provision and water services providers	
	7.6. Facilitate water and sanitation for growth and development	
	7.7. Ensure health and hygiene education as part of basic water and sanitation delivery	
8.	Education for Health and Hygiene	18
9.	A Model for Water and Sanitation-related Health and Hygiene Education.....	20
	9.1. Main roles and functions	
	9.2. Co-ordination and collaboration	
10.	Strategies for Implementing Municipal Health and Hygiene Education	23
	10.1. Where a district municipality is the water services authority	
	10.2. Where a metropolitan municipality is the water services authority	
	10.3. Where a local municipality is the water services authority	
	10.4. Municipalities that are not water services authorities	
11.	Monitoring and Evaluation	26
12.	Conclusion	29



1. Introduction

Responding to the challenges of HIV/AIDS involves everyone in South Africa. At least 5.5 million people are living with the disease; one of the highest rates of infection in the world (UNAIDS/ WHO 2005). There is much that can be done to reduce the impact of the epidemic, ranging from support for people living with HIV/AIDS to strategies to prevent the spread of HIV. Managing the epidemic requires action across all government departments, the private sector and civil society.

We shall not finally defeat AIDS, tuberculosis, malaria, or any other infectious diseases that plague the developing world until we have won the battle for safe drinking water, sanitation and basic health care.

Kofi Annan, former UN Secretary General.

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 longer
- increase the effectiveness of home-based care for people with HIV/AIDS
- support people's livelihoods
- are vital for community growth and development.

This report is a guide for local government councillors and officials to address water and sanitation with appropriate health and hygiene practices in order to reduce the impact of HIV/AIDS. It sets out a framework for municipal responses to HIV/AIDS, and highlights ways in which HIV/AIDS can be mainstreamed into water and sanitation planning, regulation, implementation and provision.

In order to clarify the institutional complexities in water and environmental health services, it provides a model, strategies and indicators for implementing project related health and hygiene education in the context of HIV/AIDS.



Photograph: Kathy Eales

2. HIV and AIDS – The Facts

Discrimination, stigma and fear prevent people from taking action to manage HIV/AIDS. Knowing the facts can help to overcome these barriers.

How HIV affects the body

HIV stands for **H**uman **I**mmunodeficiency **V**irus. The virus damages the body's immune system, which 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 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 HIV from the body.

Controlling HIV in the body

People with HIV should have regular medical check-ups. About twice a year, their doctor will measure the strength of their immune system. This is done by a blood test called a CD4 test which measures the CD4 count. If the CD4 count is below 200 it means the immune system is weak and their doctor is likely to advise antiretroviral therapy (ART). This involves taking antiretroviral drugs (ARVs). Antiretrovirals are a life-long treatment that helps the body to build up its CD4 cells again and control the HI virus.

Eating a nutritious diet and staying fit strengthens the immune system. Anything that reduces the risk of getting infections, such as the hygienic use of clean water, also helps to protect the immune system.

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 breast milk.

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 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.

If reliable supplies of clean water are not available, it may be safer to breastfeed. Mixing breastfeeding with feeding the baby formula milk or other food may increase the risk of HIV getting into a baby's body from the breast milk. (Coovadia et al., 2007)

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 a single 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.

A person who is 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

A person who is HIV-negative:

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

3. Water and Sanitation Services and 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.

The provision of water and sanitation services must address the needs of people with HIV/AIDS and their caregivers. 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

Water and sanitation facilities need to be nearby for people too weak to walk long distances. It is particularly important for people with HIV/AIDS to have access to clean water so that their immune systems are not further compromised by water-related diseases. It is also important that they have access to sufficient quantities of water. A minimum of 6000 litres per month is recommended.

The provision of home-based care for people with AIDS requires water for washing patients, clothes and bed sheets, as well as facilities for the safe disposal of human waste. This is important not only for the dignity of the patients, but also to prevent the spread of disease. When people's immune systems are compromised they are very susceptible to infection by opportunistic diseases. Having sufficient quantities of water as well as clean water, helps them to maintain hygiene and avoid some of these diseases such as diarrhoea.

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

The health and hygiene education activities 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 include measures that can be taken 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.

The unequal power relations between men and women in society increase the vulnerability of women to HIV. Women carry the main burden of AIDS care and are more susceptible to infection. Improved water supply and sanitation can strengthen women's livelihoods, reduce the time and monetary costs of care and treatment, and reduce the risk of HIV infection as a result of rape while collecting water or using communal toilets.

4. 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 these infections can make HIV-positive people very sick and shorten the progression from HIV to AIDS.

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.

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.

How harmful germs in faeces are spread (the faecal-oral transmission route)

Germs pass out of the body in the faeces. A person can get sick if the germs get back into their body through their mouth. The main ways in which this happens are shown below. 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.



Germs pass out of the body in faeces



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

Parasitic worms live in the body's intestines and rob the body of nutrients. A person with HIV is less able to control a worm infection.



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:

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



Break the cycle of infection:

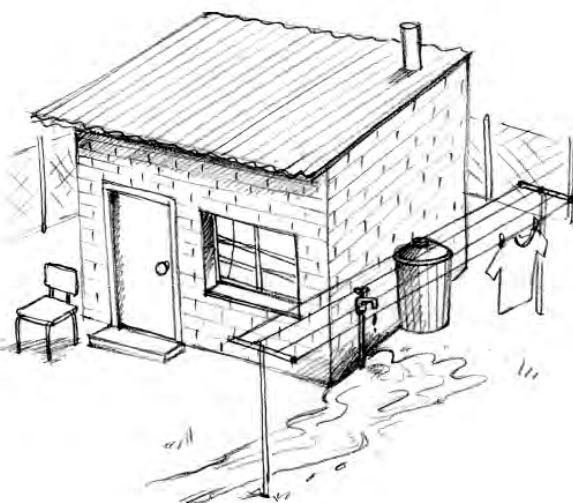
- cover food to protect it from flies
- keep water containers covered to keep out flies
- use a toilet rather than the veld.



Other diseases related to water and sanitation

Throwing waste 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 practices

- wash hands after going to the toilet and before eating or cooking
- use clean containers with lids 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
- sterilize dirty drinking water by boiling it, or adding a teaspoon of bleach (e.g. jik) to a 25 litre container, or leaving a closed, transparent water container outside for 24 hours in a place where the sun can shine on it (solar disinfection)
- 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

Facilities needed to support safe hygiene practices

- 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 (ventilated improved pit latrines) 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

To change their health and hygiene practices, householders need to understand:

- how diseases related to water and sanitation are spread and why people with HIV are particularly at risk
- what can be done to stop the spread of diseases and reduce the risk of infection
- how water and sanitation facilities should be used and maintained so that they keep working properly.



Photograph: Richard Holden

5. Water and Sanitation Needs of People with HIV/AIDS

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.

5.1 Water quality – the provision of clean water

Water for taking medication

HIV-positive people who are on antiretroviral treatment need clean water to take their medication. It is important that ARV medication is taken at the same times each day, so the water supply and storage needs to be reliable and safe.

Water for preventing diarrhoea

People with HIV are vulnerable to infections that cause diarrhoea. They need clean drinking water to reduce the risk of diarrhoeal diseases.

Water for baby's milk

Clean drinking water is needed for mixing formula milk, the alternative to breast milk.

Babies who breastfeed from HIV positive mothers have a 10%-20% chance of becoming infected. However, babies who do not breastfeed are six times more likely to die from diarrhoea or respiratory infections than babies who are breastfed. The World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) therefore promote exclusive breastfeeding for the first six months. Aside from needing access to safe water, formula feeding is expensive and often not culturally accepted. Whether breastfeeding or not, clean water is crucial for HIV positive mothers and their babies.

5.2 Water quantity – the amount of available water

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 small-scale production

Access to water for productive use increases food security and nutrition levels, and contributes to keeping people healthy for longer. People who are weakened by AIDS can still grow vegetables when sufficient quantities of water are accessible. The same applies to keeping livestock and income-generating activities such as beer brewing.

In Livingstone, Zambia, the home-based care volunteers are growing vegetables as an income-generating activity. Of the produce, part is used as a food supplement for their patients, part is used by the women themselves for their own food security, and the rest is sold. One major problem they face is lack of a reliable water supply near their fields. (Maramba HBC group, Zambia)



Photograph: Suzy Bernstein

5.3 Toilet facilities

People who are weakened by AIDS need toilet facilities that are nearby as they may not be able 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 and 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, Nkomazi, Mpumalanga.

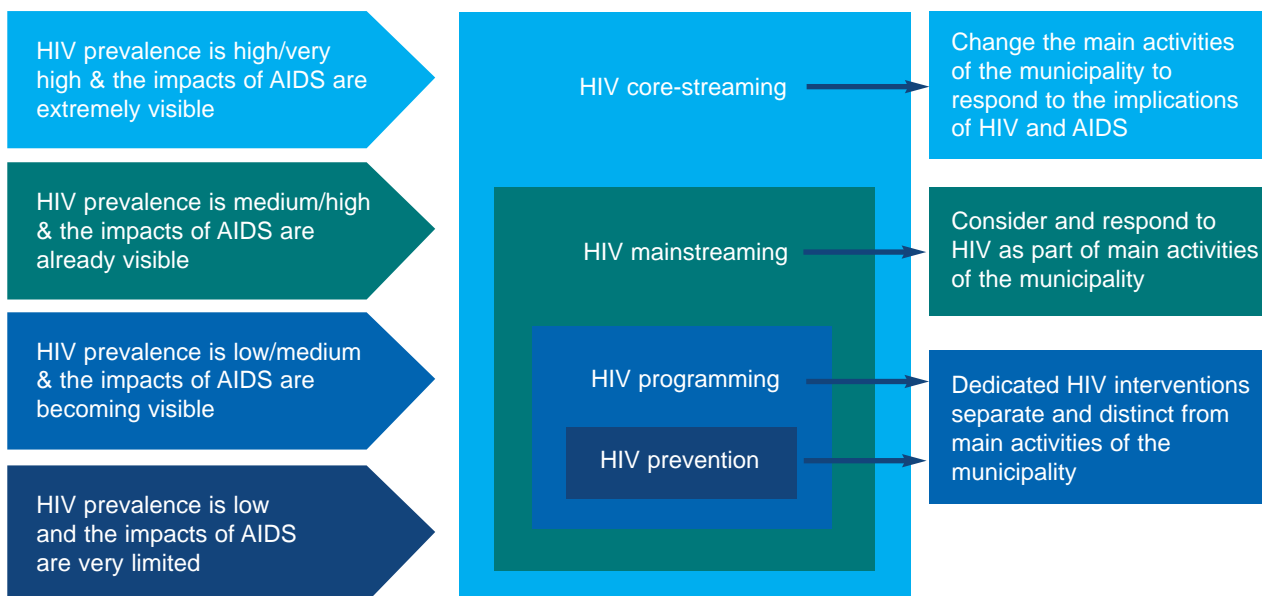
6. Municipal Responses to HIV/AIDS

6.1 Four levels of response

The Department of Provincial and Local Government (DPLG) has set out a *Framework for Developmental Local Governance Responses to HIV/AIDS* (2005:13). The Framework identifies four levels of municipal responses to HIV and AIDS:

- Prevention
- Programming
- Mainstreaming
- Core-streaming

The Framework notes that a combination of approaches is needed for different settlements and communities within a municipal area. It distinguishes these settlements/ communities based on the prevalence of HIV and impacts of AIDS.



HIV prevention

Prevention responses are a minimum requirement for all municipalities. They need to be focused and ongoing and not limited to awareness campaigns. Effective prevention efforts challenge the underlying conditions which make specific socio-economic groups more susceptible to HIV infection and ensure that everyone knows the facts of HIV and AIDS and how to prevent and manage it.

HIV programming

HIV programming means developing and implementing a dedicated HIV and AIDS programme aimed at:

- Reversing the spread of HIV infection
- Providing care and treatment to the infected and affected
- Seeking to mitigate and alleviate the negative impacts of HIV and AIDS

The necessary human and financial resources need to be accounted for in the core strategic and operational plan, organogram and budget of the municipality.

HIV mainstreaming

Mainstreaming HIV and AIDS means understanding how the core business of an organisation is impacted on and affects the spread of HIV and AIDS.

Mainstreaming³ is concerned with viewing programmes and projects with an HIV/AIDS lens and refocusing planning, implementation and learning to take into account the causes and effects of HIV and AIDS.

HIV/AIDS mainstreaming is **not**:

- Only providing support to the Department of Health's HIV/AIDS programmes
- Trying to take over specialist health-related functions
- Changing core functions and responsibilities (instead it is viewing them from a different perspective and refocusing them)
- Business as usual - some things must change

HIV core-streaming

Core-streaming HIV and AIDS means reviewing the definition of the core business of the organisation or institution to ensure that it is aligned with the context of extremely high HIV prevalence and impacts of AIDS. It requires willingness and ability to change what the organisation does and how it does it.

For municipalities this means that the strategic priorities of the Integrated Development Plan (IDP) be revised to ensure that they respond proactively to the drivers of HIV susceptibility and of vulnerability to impacts.

Alongside review of the IDP, the municipal budget, organogram and municipal systems must be revised to respond to the implications of HIV and AIDS challenges.

Essentially this means ensuring that developmental local governance proactively tackles conditions of marginalisation and vulnerability in the municipal area.

6.2 Mainstreaming HIV and AIDS into development planning and implementation

Mainstreaming means integrating the challenges of HIV and AIDS into municipal planning and service delivery. This is needed so that the outcomes of development planning result in communities having greater coping mechanisms in the face of HIV, poverty and other social and economic setbacks.

According to DPLG's *Draft Handbook for Facilitating Development and Governance Responses to HIV and AIDS* (2006:15-16), HIV and AIDS have been mainstreamed into a municipality when:

- existing plans, programmes and projects can demonstrate how they increase the HIV and AIDS competence of the municipality and the community it serves
- HIV and AIDS concerns are introduced at the beginning of the service delivery planning process
- HIV and AIDS responses are woven into all the stages of planning and implementation - from mobilising the voices of people with HIV and AIDS, to developing strategies, gaining approval, implementation, monitoring and evaluation
- HIV mainstreaming complements HIV programming, so the development and governance interventions support biomedical and behaviour change interventions

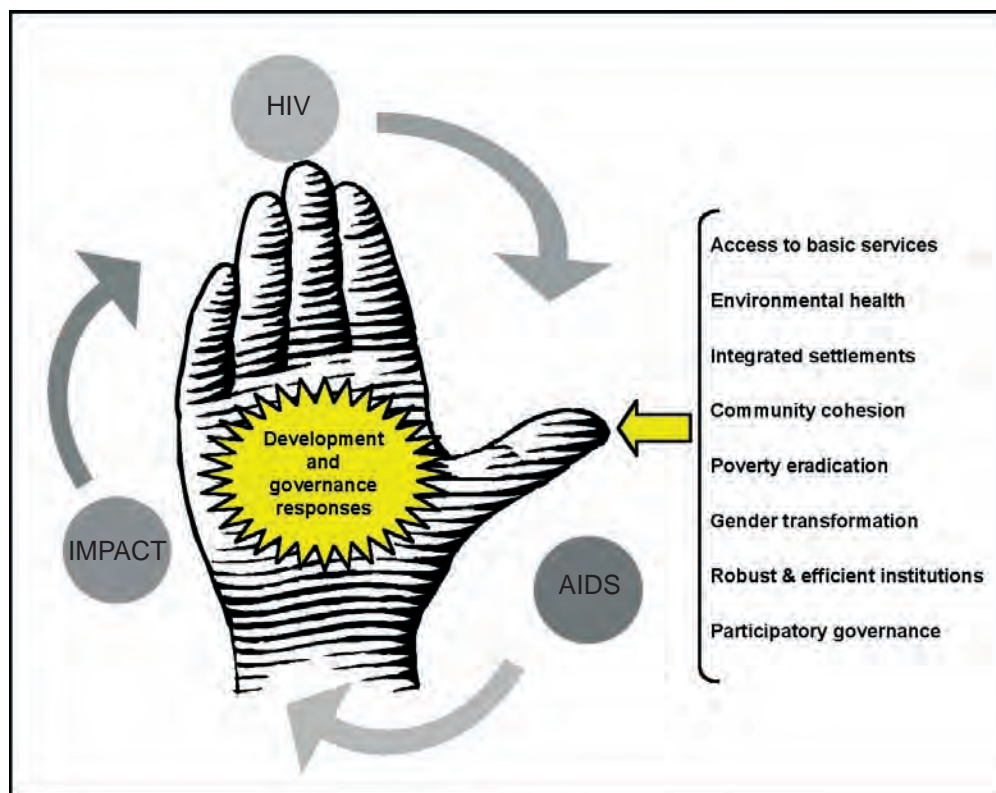
³ This description focuses on the work of an organisation (external mainstreaming) rather than within the organisation itself (internal mainstreaming).

People, households and communities are in a stronger position to reduce the spread of HIV and alleviate the impacts of HIV and AIDS when they:

- make informed and active decisions in their households and communities
- support each other for the greater good of the community
- have access to life sustaining goods and infrastructure through effective service delivery

The illustration below shows that developmental local government is the central point for responses to HIV and AIDS and its impacts. For example safe, affordable, reliable and accessible water provision is key to maintaining environmentally safe living conditions. This helps people with HIV and AIDS, as clean water will not impact negatively on their immune systems, they will not have to fight off water-borne infections, nor will they have to spend energy and time on fetching and boiling water to make it safe.

Ensuring that HIV and AIDS are mainstreamed is the responsibility of the IDP manager.



From DPLG's Handbook for facilitating development and governance responses to HIV and AIDS, Draft (2006: 14)

6.3 Key Performance Areas

The Framework (2005: 16) gives effect to mainstreaming HIV and AIDS through ten Key Performance Areas (KPA's). These KPAs are imperatives of developmental local governance, Batho Pele and the socio-economic transformation agenda. Getting the KPAs right is a way to make sure HIV and AIDS are being integrated across sectors, all departments, and into the day-to-day business and longer term planning of municipalities.

These Key Performance Areas are:

1. All within municipal area of jurisdiction have safe, reliable, sufficient, accessible and affordable access to the following municipal services:
 - Water supply and sanitation
 - Environmental health
 - Energy services
 - Solid waste management
2. Municipal standards and regulations in respect of land use management and land development are affordable and accessible to users and accommodate informality as a livelihood strategy in the face of socio-economic hardship;
3. Municipal systems and procedures are made increasingly accessible to users and constituents. This can be supported by establishing effective and empowering planning and implementation linkages with communities on the ground through Community Development Workers and ward committees;
4. Management and governance systems are made more accessible to users within the municipality, and that institutional knowledge is retained in local government;
5. Role-players active in the provision of social safety nets (such as welfare grants, etc.) are effectively performing their roles throughout the municipal area;
6. Efforts are made to foster practices of partnership-driven development, in planning and implementation, where partners include community members, CBOs, NGOs, the private sector and other spheres of government;
7. Development interventions acknowledge place-specific development priorities while ensuring that adequate balance is achieved in respect of the coverage of development intervention between rural and urban areas;
8. Effective interventions are pursued to address gender inequity and inequality beyond prioritising access to development interventions for women;
9. The interests of the youth and the aged are adequately reflected in all municipal planning and implementation activities; and
10. Access by NGOs and CBOs as well as other role-players involved in the provision of HIV and AIDS-specific interventions of physical infrastructure and other operational resources must be supported and facilitated.

There are various activities that municipalities with the powers and functions for water services can undertake to implement these KPAs. These activities are set out in the next section.

7. What Water Services Authorities can do to Reduce the Impact of HIV/AIDS

7.1 Ensure access to water and sanitation services

Lack of access to water supply and sanitation constrains opportunities to escape poverty and exacerbates the problems of vulnerable groups, especially those affected by HIV/AIDS and other diseases. A key focus of South Africa's water policy should be on ensuring access of the poor to adequate, affordable and sustainable levels of defined basic water supply and sanitation services (the first step up the ladder)

(Strategic Framework for Water Services, 2003:1).

Infrastructure development and HIV/AIDS: WSAs need to use the Municipal Infrastructure Grant (MIG) to make sure that investments are made in *appropriate water and sanitation services infrastructure*.

Field research⁴ shows that 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 where possible, 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

Arrangements must be made to either increase or supplement funds from the MIG so that higher levels of service can be provided for communities with HIV/AIDS.

7.2 Develop appropriate water services policies and by-laws

The *Strategic Framework for Water Services* (2003) sets the national policy for the delivery of water and sanitation infrastructure and for the provision of water and sanitation services. Within this framework, each WSA must develop its own policies and bylaws that take into account the challenges and conditions within its municipal area. In developing water and sanitation services policy, particularly policy related to free basic services, WSAs need to consider critical policy objectives and outcomes that need to be achieved in addressing HIV and AIDS challenges.

Key questions to address in a water services policy:

- What is the prevalence of HIV likely to be over the next ten to fifteen years?
- What is the impact of HIV/AIDS likely to be over the next ten to fifteen years?
- What policy objectives need to be put in place to address these impacts?
- What targets need to be set to ensure that there is adequate water and sanitation services provision for people affected with HIV/AIDS?
- In which areas are the service levels for water insufficient to address the needs of households affected by HIV/AIDS?
- What can be done to provide higher levels of services in those areas?

⁴ References to field research are to work done in the Integrated Health and Hygiene Education (K5/1634) project that this report forms a part of. Field research was undertaken with environmental health, primary health and community health practitioners and home-based care groups in

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 water and sanitation by-laws that enforce policy will need to be aligned to any new policies that have been developed to take into account the needs of communities affected by HIV/AIDS. Alternatively, if new policy has not been developed, by-laws can still be amended by Councils to create special conditions for communities that are affected by HIV/AIDS.

7.3 Set tariffs to subsidise services for the most vulnerable

Households affected by HIV/AIDS will need a higher level of service than a basic level of service. WSAs will need to consider subsidising these households or communities, for example through setting tariffs cross-subsidies and where possible through higher allocations of equitable share.

Water and sanitation tariffs and subsidy mechanisms should be pro poor and consider households affected by HIV/AIDS.

7.4 Plan water services in the context of HIV/AIDS

A key part of development planning, both in terms of Integrated Development Plans (IDPs) and Water Services Development Plans (WSDPs) is understanding the status quo. WSAs need to ensure that the status quo in both the IDP and the WSDP reflects the current and predicted prevalence of HIV so that development plans accommodate the current and future needs of communities affected by HIV/AIDS. Planning needs to take into account not only the impacts for service provision, but also the economic impacts on households so as to make provision for adequate financing of water and sanitation services.

The Strategic Framework for Water Services (2003) says that municipalities must take into account the impact of HIV/AIDS on water demand.

The Department of Provincial and Local Government (DPLG) has developed tools to ensure HIV/AIDS is mainstreamed in municipal IDPs. This set of tools includes a short checklist of questions for considering susceptibility and vulnerability to HIV and AIDS impacts through the IDP planning process as follows:

- Are consultation and participation mechanisms for planning and implementation accessible to affected and infected individuals?
- Are the water, sanitation, energy, solid waste, transport and environmental management services provided within the municipality suitable in terms of quantity, reliability, accessibility, quality and affordability⁵?
- What are the implication of widespread municipal service gaps for affected households and communities?
- How affordable are municipal levies, property taxes and service charges for employers and users affected by HIV and AIDS?
- What are implications of long-term socio-demographic transformation, increasing informality, new patterns of migration and the emergence of chronically vulnerable households and communities within the municipal area of jurisdiction, for the core developmental mandate of the municipality?

⁵ For instance caring for a person in the terminal stages of AIDS illness requires more than the 6 kℓ currently contained within the ambit of free basic water. However, not all the water needed for such purpose must be of potable quality as most of it will be for washing the person, clothes and sheets as well as the homestead.

7.5 Regulate water services provision and water services providers

As the authority for water services, WSAs have a responsibility to ensure that the rights of people with HIV/AIDS are protected and that they have access to the water and sanitation services set out in the municipality's policies and by-laws. WSAs need to ensure that contractors and water services providers uphold these by-laws and that vulnerable communities have access to adequate and affordable levels of water and sanitation services. This includes mechanisms for monitoring service delivery in areas most affected by HIV and AIDS.

Customer relations and communication are key functions in providing water and sanitation services. WSAs should ensure that their providers facilitate ongoing user education and health and hygiene education as part of their core functions.

7.6 Facilitate water and sanitation for growth and development

By piloting the implementation of multiple use systems and forging partnerships with the Department of Agriculture, WSAs can make inroads to providing water beyond domestic consumption to support local economic development and the livelihoods of vulnerable groups.

Water and sanitation projects can also directly support skills development and job creation, e.g. through training and creating careers as part of the Extended Public Works Programme:

- community health and hygiene practitioners who are trained on an infrastructure project can then 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. Most Antiretroviral medicines need to be taken with food.



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



Simple additions to infrastructure can help people to save water.

7.7 Ensure health and hygiene education as part of basic water and sanitation provision

Health and hygiene education are particularly important in the context of greater vulnerabilities of individuals and groups affected by HIV/AIDS

(Strategic Framework for Water Services, 2003: 22).

Water supply and sanitation facilities will only result in improved health and economic benefits if they are used effectively and hygienically. Health and hygiene education⁶ is therefore a part of the definition of basic services and falls within the ambit of municipalities responsible for ensuring and providing water and sanitation services, i.e. Water Services Authorities.

A basic water supply service is *the provision of a basic water supply facility, the sustainable operation of the facility **and the communication** of good water use, hygiene and related practices* (Strategic Framework for Water Services 2003, Section 6.3).

A basic sanitation service is *the provision of a basic sanitation facility which is easily accessible to a household, the sustainable operation of the facility, including safe removal of human waste and waste water from the premises where appropriate and necessary, **and the communication** of good sanitation, hygiene and related services* (Strategic Framework for Water Services, 2003 Section 6.3).

Water Services Authorities should therefore lead health and hygiene education through water and sanitation infrastructure development. Given the inextricable linkages between water, sanitation and HIV/AIDS, health and hygiene education linked to infrastructure provision must incorporate HIV/AIDS.



Photograph: Jonathan Timm

⁶ 'Health and hygiene education' is the term used in the National Health and Hygiene Education Strategy (2004) and incorporates user education, sanitation promotion and hygiene promotion.

8. Education for Health and Hygiene

Research indicates that most water and sanitation-related health and hygiene programmes do not address HIV/AIDS, and most HIV/AIDS prevention and treatment programmes do not address the role of water, sanitation and hygiene. There is rarely any integration between the two and the potential impacts on health, dignity and quality of life are compromised (Kgalushi, Smits and Eales, 2004).

HIV/AIDS is seen as a health issue, and most initiatives focus on prevention and treatment. Public health messages around 'healthy living' for HIV infected people focus on nutrition and exercise, without reference to the role of water, sanitation and hygiene in minimising exposure to pathogens and safeguarding health.

There is currently no integrated approach to health and hygiene education and water services, which means important basic health messages are not reaching those who need them most.

There is also a lack of integration in health and hygiene education in water and sanitation projects. Water projects often have no health and hygiene education component, while sanitation projects often fail to address constraints to hygiene improvement caused by inadequate water supply.

This lack of integration is not unique to the South African context. From research conducted in a range of African countries (Ministry of Local Government, Public Works and Housing, Zimbabwe 2003: 13):

Issues of HIV/AIDS have not to date been included as part of the water and sanitation sector programme. Several sector organisations indicated they have separate departments dealing with HIV/AIDS, but they were not properly co-ordinated with the water and sanitation sector.

Messages on HIV/AIDS were considered of peripheral importance when compared with other health and hygiene messages that promote behaviour change relating to accessing and using potable water and safe sanitation.

The important role of clean water and safe sanitation in the care of those infected and affected was significantly downplayed. As with the pandemic itself, the importance of safe water and sanitation in the context of HIV/AIDS suffered from stigma associated with the disease.

The technologies employed to improve access to safe water and sanitation were for a completely different environment - an environment of the 'fit' who can operate, maintain and even walk to the facility when required.

An effective water and sanitation delivery programme does more than provide infrastructure. It also:

- 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
- take care of water and sanitation facilities
- use water wisely

An effective health and hygiene education programme:

- uses a combination of different approaches and tools, including printed materials, participatory focus group sessions and tools such as **P**articipatory **H**ygien and **S**anitation **T**ransformation (PHAST), awareness raising campaigns and household visits
- provides information that is relevant and accepted in the local context
- takes place over a period of time

- is practical and action oriented
- makes use of local communication methods
- is integrated within all phases of a water and sanitation project

For effective health and hygiene education it is not sufficient to only raise awareness of health and hygiene practices at community meetings or other events. Changing personal hygiene behaviour is not something that happens in 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 with the project planning stage and continue after the handover of the facilities.

Project-related health and hygiene education also needs to be linked to ongoing health and hygiene education programmes in order to result in sustainable behaviour change, e.g. in the school curriculum.

Health and hygiene education within a water and sanitation delivery project

Information collected during the **Project Feasibility Study** is used for the **Project Business Plan** and for budgeting. 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

Community meetings and, where necessary, household surveys, can be used to gather accurate information about the community's needs and preferences.

Key outcomes of the community awareness and participation initiatives

- identification of householders' needs
- increased awareness amongst community members of the link between disease and inadequate water and sanitation facilities
- a show of 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.

It is recommended that there are at least five visits to each household during the project.

Household visit before construction to cover:

- how the project will work, and its benefits
- advantages and disadvantages of available infrastructure options, such as the cost and benefits of different types of toilet structure

Household visits during construction to cover:

- how water and sanitation-related diseases are spread, the need for hand washing and personal hygiene, including the safe disposal of babies' faeces
- how the facilities should be used and maintained
- solid waste management (the safe disposal of faeces)
- how good health and hygiene behaviour is needed to reduce the spread of disease
- the disposal of waste washing water

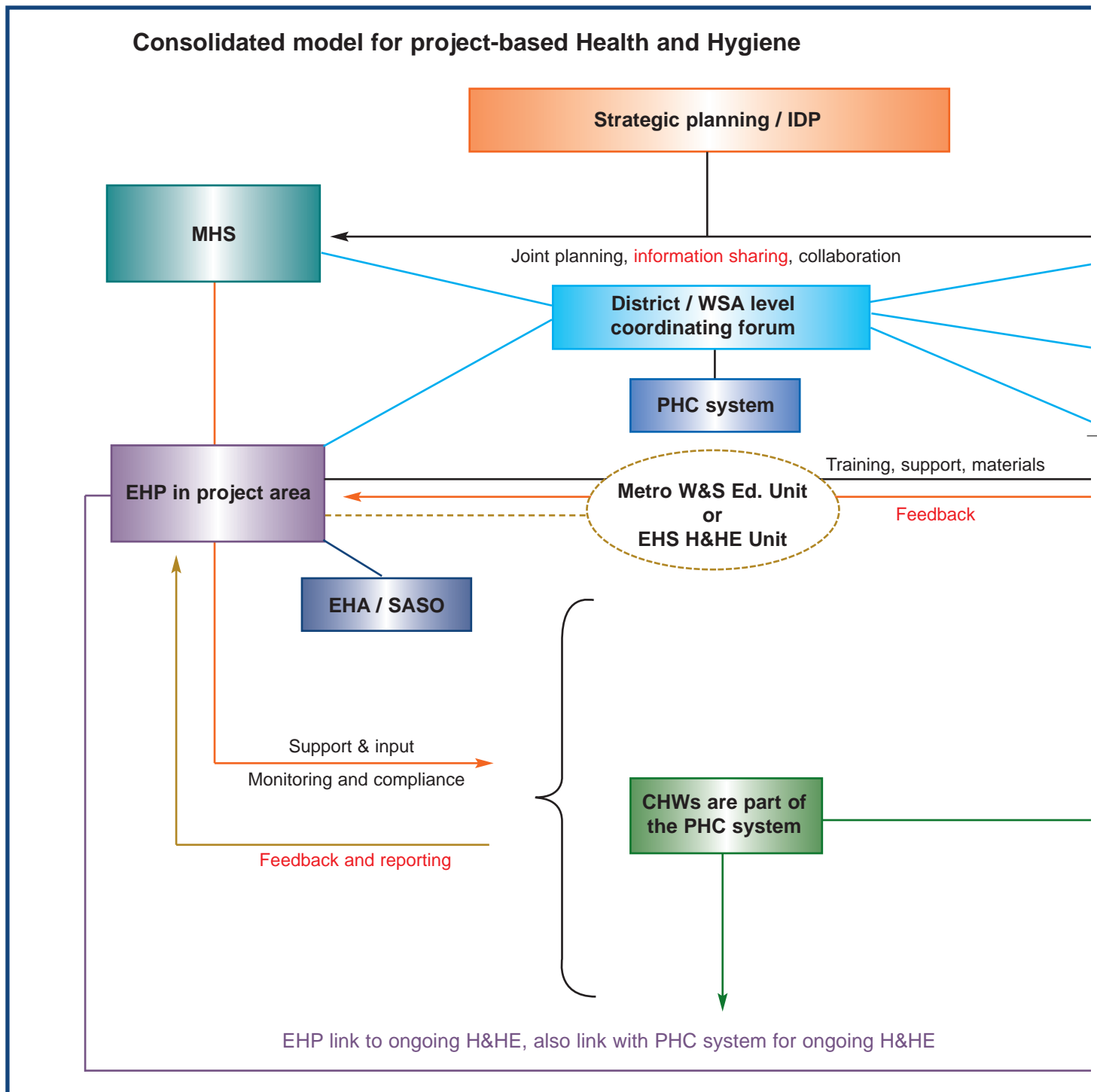
Household visits after construction provide an opportunity to:

- 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

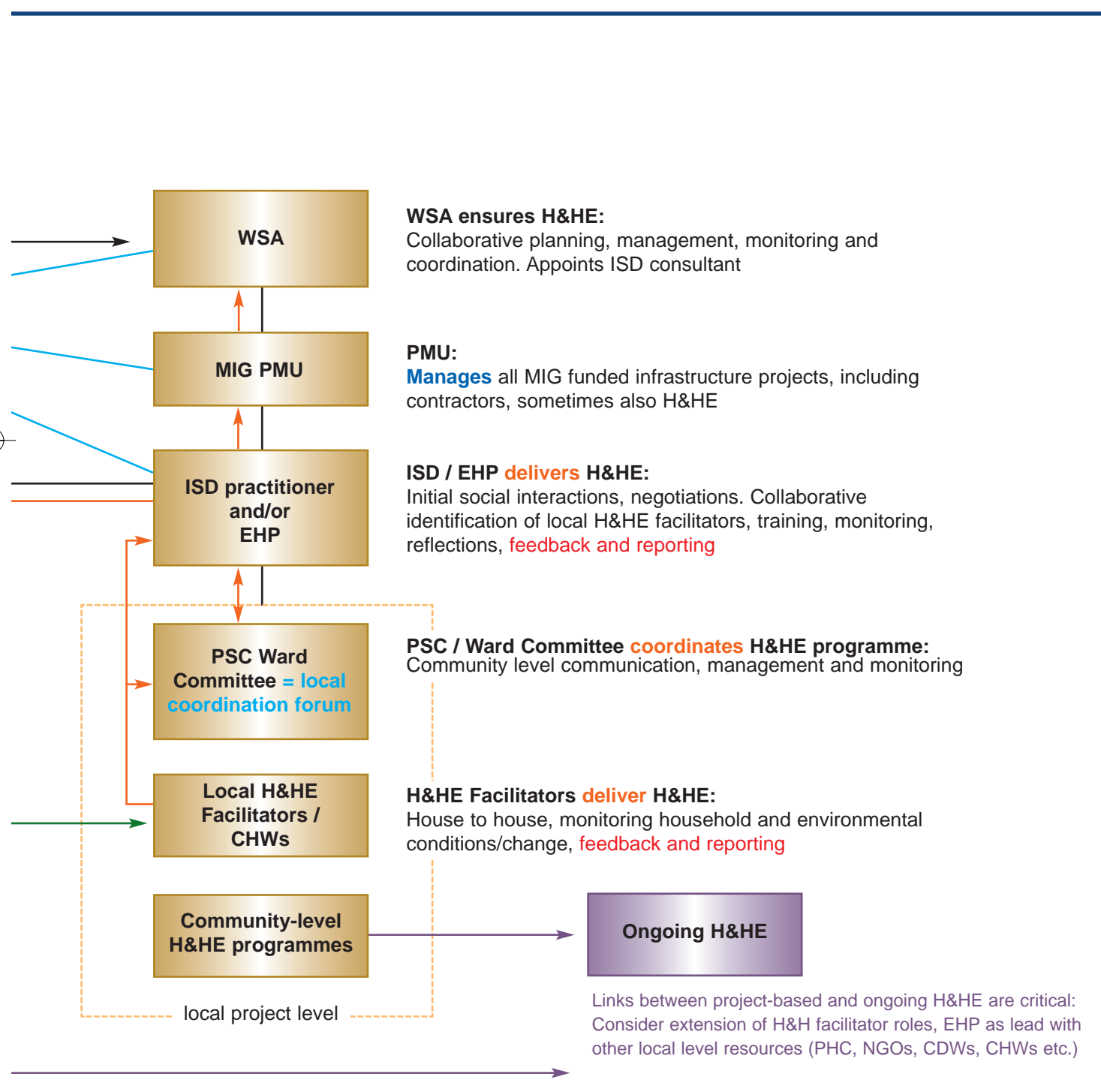
9. A Model for Water and Sanitation-related Health and Hygiene Education

In our field research, municipalities pointed to a lack of clarity about institutional roles and responsibilities and a lack of resources as the main constraints to municipal health and hygiene education.

Through a review of current legislation and policy and in depth interviews and focus groups with municipal and health officials in three provinces, a consolidated model for municipal health and hygiene education was developed.



The model⁷ shown on this page depicts the main roles and functions of the core role players and the linkages between them. It focuses on project-based health and hygiene education, i.e. health and hygiene education linked to water and sanitation infrastructure development, but makes the crucial link between this and ongoing health and hygiene education.



⁷ For a detailed description of the recommended model, see Clacherty A and Potter A (2007) *Water Services and HIV/AIDS: Integrating health and hygiene education in the water and sanitation sector in the context of HIV/AIDS*. WRC TT report number: TT 316/07, Pretoria.

9.1 Main roles and functions

The core role-players are listed in boxes down the right side of the flowchart.

The **WSA** ensures the delivery and ongoing provision of water services and plays an important planning, regulatory, management and monitoring role. Health and hygiene education is a part of water and sanitation infrastructure delivery.

To ensure effective basic service delivery, WSAs have set up **MIG Project Management Units (PMUs)**. MIG PMUs either implement or appoint **Implementing Agents** to implement water and sanitation infrastructure projects in keeping with the Water Services Development Plan (sector plan of the IDP).

In most cases an **ISD practitioner** (or sometimes an in-house ISD officer) co-ordinates and facilitates community participation and awareness (including health and hygiene education) of the water or sanitation project in collaboration with a Project Steering Committee (PSC) or **Ward Committee**.

The ISD practitioner establishes the PSC and collaborates with the **Environmental Health Practitioners (EHPs)** in the project area. The PSC identifies local health and hygiene education facilitators (e.g. local people identified for this purpose or Community Health Workers), who implement the health and hygiene and user education programme at household and community level. The ISD practitioner provides health and hygiene education training and materials.

Many **Community Health Workers** are also involved in supporting Home-Based Care initiatives and undertaking HIV/AIDS programmes as part of their Primary Health Care functions. They are an important point of integration between project-related health and hygiene education and HIV/AIDS education.

9.2 Co-ordination and collaboration

Given the intersectoral nature of water and sanitation-related health and hygiene education in mainstreaming HIV/AIDS, collaborative forums at all levels have a crucial role to play.

At national level, the National Health and Hygiene Education Task Team (a sub-committee of the National Sanitation Task Team/ NSTT) has been tasked with developing and rolling out the national health and hygiene education strategy related to water and sanitation.

Provincial Sanitation Task Teams play an important intersectoral and inter-governmental co-ordination function and include representatives from the Regional Offices of the Department of Water Affairs and Forestry (DWAF), and the Provincial Departments of Education, Health and Housing and Local Government as well as municipalities, service providers and other key stakeholders.

The delivery of municipal environmental health services and water services at district level highlights the importance of district-based forums as a mechanism for co-ordination, liaison, monitoring, lesson learning, communication, collaboration and problem solving. The forums also monitor MIG project planning, implementation and expenditure.

The pattern that emerged from our research is that where:

- capacity challenges require the sharing of resources, and
- there is a commitment to collaboration,

... then collaborative approaches are more effective.

The ideal is for a team-based approach to health and hygiene education linked to water and sanitation delivery and mainstreaming HIV/AIDS at district and provincial levels.

This requires not only institutional links between health and infrastructure functions and divisions within the municipality, but also the involvement of the relevant role-players in provincial and district co-ordinating forums for joint planning with operational collaboration.

Operational collaboration should happen through a co-ordinating forum at WSA, district or programme level. At local level the ward committee or PSC is an appropriate co-ordinating forum provided that it is run in a collaborative manner.

10. Strategies for Implementing Municipal Health and Hygiene Education

One of the main problems with implementing project-related health and hygiene education (H&HE) is the lack of alignment in those municipalities that do not have the authority for both water services and environmental health services.

All District and Metro municipalities have the authority for environmental health services and are called Health Districts. At this point in time no Local Municipality has the authority for environmental health services, even though they may still have some health-related staff from prior to the promulgation of the National Health Act.

The picture for water services is different, however. While all Metros have the authority for water services, not all District Municipalities are WSAs. Where a district is not a WSA, the Local Municipalities have been authorised for water services⁸.

10.1 Where a District Municipality is the Water Services Authority (WSA)

As designated Health Districts, District Municipalities (DMs) are responsible for municipal environmental health services. Where the DM is also the WSA, it is responsible for water services policy, by-laws, planning, infrastructure development, tariff setting and regulating the provision of water and sanitation services.

As part of developing water services infrastructure, WSAs are also responsible for ensuring health and hygiene education. DMs as Health Districts have a similar planning, monitoring regulatory and oversight role for environmental health services as they have as WSAs for water services.

Planning health and hygiene education:

- Ensure synergies between the WSDP and the District Health Plan by improved co-ordination and joint planning between health and infrastructure divisions and functions of the municipality.
- Participate in district and provincial planning and co-ordinating forums and ensure joint planning with HIV/AIDS programmes in the area.

Delivering health and hygiene education:

- Engage with ISD practitioners to co-ordinate and deliver H&HE in the short to medium term.
- As the DM's environmental health services become established (noting that the devolution process should be finalised by 1 July 2007), the DM's Environmental Health Practitioners (EHPs) should become increasingly involved in implementing H&HE either in parallel or in collaboration with ISD practitioners, with an increased role into the future.
- By means of Memorandums of Understanding (MoUs), make use of provincial primary health care staff, specifically Community Health Workers (CHWs) in cases where municipal staff or local residents are not available or do not have appropriate skills. CHWs require training in the water services aspects of health and the linkages between these and HIV/AIDS.
- Where DMs have the capacity and/or the commitment, DM-level units tasked specifically with H&HE (broadly defined) should be considered. These overcome the shortcomings associated with project-based H&HE, which is relatively short-term, is not developmental in nature and ceases once the project is handed over.
- Links must be made between HIV/AIDS mainstreamed health and hygiene education and national and provincial HIV/AIDS programmes.

⁸ In keeping with the Water Services Act (108 of 1997) water services refers to both water and sanitation.

Funding health and hygiene education:

- Funding for ISD will come primarily from the MIG
- Funding for EHPs will come from normal DM budgets, and supplemented to a large degree by an extension of the Equitable Share to provide for the newly devolved EHPs. This extended component of the Equitable Share will be a conditional portion specifically for EHPs.

Monitor health and hygiene education implementation through feedback from ISD practitioners and ward councillors. DM WSAs can be proactive by providing appropriate baseline and monitoring forms or checklists and requiring feedback against health and HIV/AIDS-related indicators in keeping with municipal reporting requirements. EHPs have a primary responsibility for monitoring and ensuring compliance in the model, and this is one of the roles expected of them once they are operating at DM level.

10.2 Where a Metropolitan Municipality (Metro) is the WSA

As designated Health Districts, Metro municipalities are responsible for municipal environmental health services. Metros are also WSAs, and have the same WSA responsibilities as those outlined for District Municipalities.

Metros generally have more capacity than LMs or DMs, and are more able to provide effective H&HE service with 'added value' in the form of pilot projects, new approaches and the like.

The implementation strategy for H&HE in Metros is not dissimilar to DMs, with the exception that Metros should have the capacity to establish dedicated Water and Sanitation Community Education Units, e.g. eThekweni Metro.

Given the much greater size and levels of departmental capacity, the challenge for Metros is to engage in inter-departmental collaborative planning and in WSA co-ordination forums. Links must be made between HIV/AIDS - mainstreamed health and hygiene education and national and provincial HIV/AIDS programmes.

10.3 Where a Local Municipality is the Water Services Authority (WSA)

Local Municipalities (LMs) that have been authorised for water services are required to fulfil all the WSA functions as outlined for District and Metro municipalities, including developing water services infrastructure and ensuring project-related health and hygiene education. However Local Municipalities are currently not responsible for municipal environmental health services.

Planning health and hygiene education:

- Ensure that the LM's integrated (IDP) and water services development planning (WSDP) processes align with district health planning (DHP) processes undertaken by the District Municipality.
- Participate in district and provincial co-ordinating forums and task teams and ensure joint planning with environmental health and HIV/AIDS programmes.

Delivering health and hygiene education:

- Engage ISD practitioners to co-ordinate and deliver health and hygiene education on water and sanitation projects as part of community participation and awareness.
- Noting that environmental health services and staff will be transferred to District and Metro municipalities as part of the devolution of municipal health services to district level, the LM will need to negotiate a support service agreement with the District Municipality (DM) to access environmental health services and facilitate project-related health and hygiene education.
- Links must be made between HIV/AIDS mainstreamed health and hygiene education and national and provincial HIV/AIDS programmes.

Funding for health and hygiene education will come from the Municipal Infrastructure Grant (MIG) and the DM's municipal health services budget in keeping with the support services agreement.

Monitor health and hygiene education implementation through feedback from ISD practitioners and ward councillors. LM WSAs can be proactive by providing appropriate baseline and monitoring feedback forms or checklists and requiring feedback against health and HIV/AIDS-related indicators in keeping with municipal reporting requirements.

10.4 Municipalities that are not Water Services Authorities (WSAs)

District Municipalities:

Although DMs that are not Water Services Authorities are not responsible for project-related health and hygiene education, District and Metro municipalities are responsible for ensuring municipal environmental health services.

As designated Health Districts, they can either perform this function themselves, or appoint a service provider to undertake it. They will need to ensure that environmental health services (EHS) are incorporated into the LM's water and sanitation delivery programmes through support service agreements.

Local municipalities:

Since the promulgation of the National Health Act (no. 61 of 2003), LMs no longer have environmental health functions. The devolution of environmental health staff and functions to Health Districts will be finalised in July 2007. If they are also not WSAs, LMs will not be responsible for ensuring water and sanitation service delivery.

They may however be contracted as Water Services Providers (WSPs). The main roles and functions of water services provision include operation and maintenance, financial management (including revenue collection), water services business planning, monitoring, and customer relations and communication. User education, including health and hygiene education, is a key component of customer relations and communication and therefore an important part of the WSP's ongoing responsibilities.

11. Monitoring and Evaluation

Effective monitoring of health and hygiene education is needed in order to:

- Document and share successes and good practices
- Measure the outcomes of health and hygiene investments
- Ensure that health and hygiene education is properly prioritised and resourced
- Learn lessons and take corrective action as appropriate

What to measure – health or hygiene?

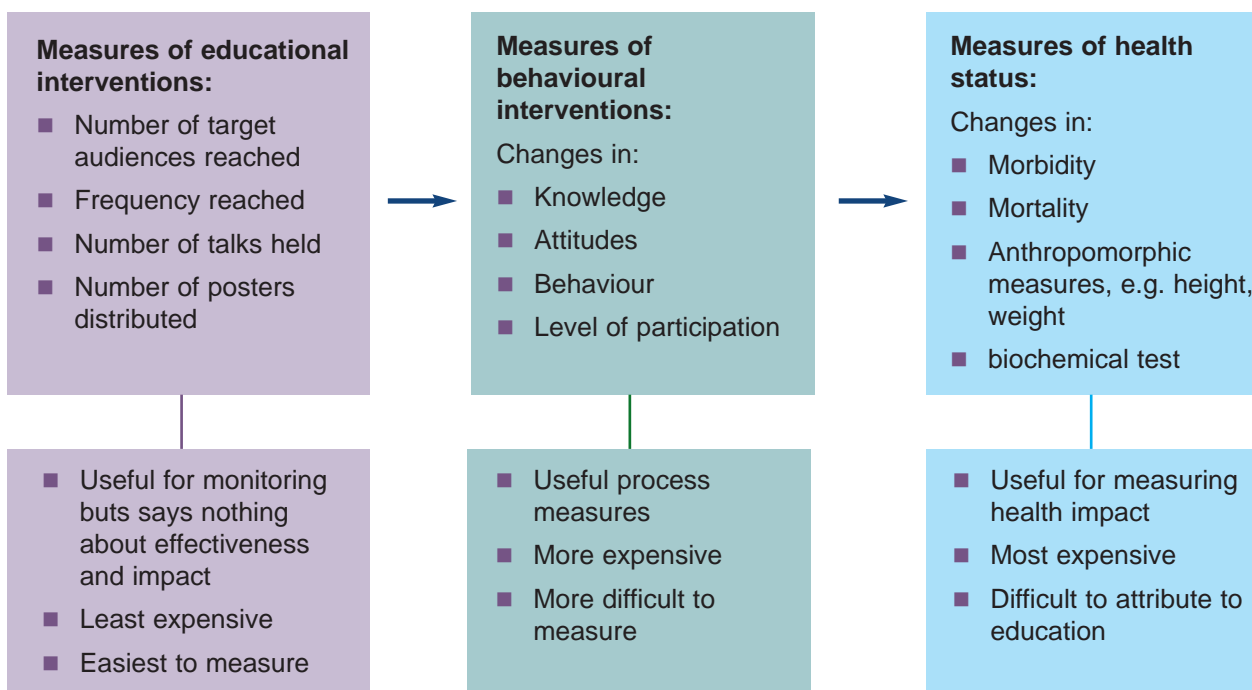
There is often confusion about whether to monitor health impacts of improved hygiene practices, or to monitor hygiene practices themselves; changes in which indicate the effectiveness of health and hygiene education.

It is widely accepted that the hygienic and effective use of adequate water and sanitation services has a positive impact on health. Health impact studies (i.e. measuring the reduction in water and sanitation-related diseases) can provide important information about the linkages between water, sanitation and health.

However, it is not easy to establish a direct or causal relationship due to a range of extraneous influencing factors. For example, there may be a reduction in water and sanitation-related diseases as a result of improved water and sanitation provision together with improved rainfall and food supply. The determinants of health also include individual characteristics such as biological and genetic factors, lifestyle and behavioural factors and more complex determinants such as socio-economic status.

As a result, project-specific health impact studies are seldom recommended. It is more important to know whether water supply and sanitation facilities are functioning well, being used effectively and hygienically, and whether these improvements are being sustained over time.

This issue is illustrated in the figure below (IRC, 1991:141):



Through a literature review and field research, a set of 'best practice' objectives and indicators for monitoring health and hygiene education was identified as follows:

Objectives	Indicators
General use of safe water sources for drinking	Availability of sufficient quantities of safe, accessible drinking water
Households store and use water hygienically	Cover for container, raised platform for container, long handled dipper to draw water, absence of flies around container, no communal drinking cup
Users keep area around place of water collection in a sanitary condition	Adequate drainage, presence/ condition of a fence, absence of garbage around water point
Safe disposal of wastewater	Presence of soakaways for drainage, no pools of stagnant water, run offs into garden, garden cooperatives, etc.
All household members have and use an adequate toilet	Presence of latrine, absence of soiling, presence of cleaning agents (water, paper in latrine), flies, no excreta in the yard or on the floor of the toilet
Hand washing with cleansing agent after toilet use and before cooking and eating	Presence of water for hand washing in or near toilet, presence of soap, ash of cleansing agent near latrine
Solid waste disposal	Surrounding environment clear of rubbish, rubbish pit covered or burned

All of these hygiene and user practices will contribute to supporting people living with or caring for people living with HIV/AIDS. Where water and sanitation-related hygiene education integrates an HIV/AIDS focus, the only additional indicators could include the presence of a food garden or healthy foods at household level and the presence of antiretroviral drugs and regime, and of immune supporting agents.

In addition to the above indicators, the following key performance indicators in the National Health and Hygiene Education Strategy (2004:67-68) are useful for monitoring health and hygiene education programmes across a number of categories. If these key performance indicators are used properly, the impact of water and sanitation infrastructure development and associated health and hygiene education will increase significantly (page 28).

Outcome	Key Performance Indicators
Delivery of health and hygiene education	<p>Number of households reached as part of project-based H&HE programmes</p> <hr/> <p>Number of households reached as part of ongoing H&HE programmes</p> <hr/> <p>Number of workshops completed as part of ongoing H&HE initiatives</p> <hr/> <p>Number of schools where staff are educated in H&HE</p> <hr/> <p>Number of clinics where staff conduct H&HE</p> <hr/> <p>Provinces where health and hygiene issues are included in the school curriculum</p>
Impact of HHE programmes on community health	<p>Funding specifically for H&HE programmes</p> <hr/> <p>% of population using sanitation facilities that are safe and hygienic</p> <hr/> <p>Number of deaths due to sanitation-related diseases</p> <hr/> <p>Effectiveness of H&HE programmes measured in post project assessment</p> <hr/> <p>Clinic records of % of children under 36 months with diarrhoea</p> <hr/> <p>% of children caregivers and food preparers with appropriate hand washing behaviour</p> <hr/> <p>Number and severity of sanitation-related contamination of groundwater and surface water</p>
HHE programme efficiency	<p>Budget = % expenditure</p> <hr/> <p>H&HE activities = number of activities vs planned activities</p> <hr/> <p>Targets = progress against planned targets</p>
Monitoring impact of HHE programmes on knowledge, attitudes and practices	<p>Knowledge = Interview results and participatory exercises findings</p> <hr/> <p>Observation of sanitary practices</p> <hr/> <p>Observation of levels of hygiene practices</p> <hr/> <p>Observation of the availability of items such as hand washing facilities, soap, toilet paper, etc.</p> <hr/> <p>Observation of the availability of clean water</p> <hr/> <p>Participatory exercises findings</p> <hr/> <p>Interview findings</p>

12. Conclusion

Unless improved water supply and safe sanitation facilities are used effectively and hygienically, the intended health and socio-economic benefits will not be achieved, and the sustainability of these services will be undermined. As municipalities work towards achieving service delivery targets, the role of user education, particularly in health and hygiene, needs to be prioritised so that the benefits of these services are maximised.

It is hoped that this report will promote greater commitment within municipalities to implementing effective health and hygiene education, and that the strategies outlined in the report assist municipalities to put effective institutional arrangements in place.

Careful consideration of the implications of HIV/AIDS for water services policy, planning, regulation, delivery and provision, together with effective health and hygiene education, will contribute to integrated water and environmental health services that address the needs of people living with HIV/AIDS, and reduce the impact of the disease.

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