THE IMPLEMENTATION OF HYGIENE EDUCATION PROGRAMMES IN INFORMAL SETTLEMENTS

Report to the

Water Research Commission

by

N NAIDOO, C CHIDLEY AND A McNAMARA

on behalf of

Nemai Consulting

NOVEMBER 2008

Obtainable from:

Water Research Commission
Private Bag X03
Gezina
0031

orders@wrc.org.za

EXECUTIVE SUMMARY

The need for this research study was largely informed by the outcomes of the Naidoo et al. (2007) research study, "*The Effectiveness of Sanitation Education and Awareness Programmes in Informal Areas*". Although, the current research programme aims to address the findings of the previous study, the need for effective implementation of hygiene education programmes in informal settlements is supported by the global trend to address sanitation challenges of informal settlements. Rapid urbanisation in South Africa has resulted in the mushrooming of numerous informal settlements. However, the provision of services, especially sanitation services, has not kept pace.

According to the National Sanitation Task Team most water and sanitation projects carried out by local authorities have lacked significantly in the aspect of health and hygiene awareness. National and international experience has shown that the most successful sanitation initiatives have been those in which emphasis was placed on generating a high level of health and hygiene awareness rather than producing a large number of latrines. In addition, hygiene education programmes lay the foundation for an integrated approach to the provision of a wider set of environmental services.

Although the study examines the linkages between health and hygiene education and hygiene education, the study is based only on hygiene education in informal settlements and advocates that the health and hygiene education and hygiene education programmes should be seen as separate and independent programmes.

The research unpacks and provides direction on the following key issues associated with the implementation of hygiene education programmes in informal settlements:
- Key issues and approaches to hygiene education programmes;
- Policy issues around the implementation of hygiene education programmes in an informal area;
- Different types of informal settlements, including the means for characterising different settlement type;
- Different types of hygiene education approaches that have been developed;
- Roles and responsibilities for hygiene education between environmental health and water and sanitation departments;
- Financial resources that are required for the implementation of each type of hygiene education programme;
- Human resources that are required for the implementation of each type of hygiene education programme; and
- The monitoring and evaluation requirements of hygiene education programme to ensure the sustainability of the education programme.

The benefits of effective and sustainable hygiene education programmes in informal settlements are numerous and include reduced infant mortality from diarrhoea, reduced environmental pollution, reduced health care costs, improved conditions of living, reduced operations and maintenance, etc. Hygiene education programmes are among the most cost effective ways of lowering health costs especially in high density settlements were residents are at greater risks to poor sanitation related diseases.

The key findings of the research report has shown that hygiene education programmes should be seen as a service as it is an integral component of the function provided by the Water Service Authority (WSA). As such, hygiene education can no longer be linked to only new sanitation infrastructure programmes. Instead, hygiene education should be a continuous function, like operations and maintenance, which is an ongoing function of local

government. This approach will ensure that the message of good hygiene practice is continuously re-enforced and the approach is supported by existing policy and legislation.

The success of the hygiene education programme is dependent on a bottom-up approach where on the ground community-based concerns inform the messages of the education programme. The education message must be clear, concise and consistent, detailed project planning must be undertaken, there must be effective stakeholder engagement, the education programme must be aligned to the technology options, messages must be gender and culture sensitive and finally, given that education is the only way that behavior change can be effected, the hygiene education programme must be continuous and ongoing.

Currently, roles and responsibilities of stakeholders are based on short-term projects and ongoing health and hygiene education. Project-based hygiene education refers to the work undertaken by DWAF, the Department of Housing and by Water Service Authorities in providing hygiene education as part of the roll-out of water and sanitation infrastructure. Ongoing health and hygiene education is provided primarily by District and Metropolitan Municipalities in fulfillment of its environmental health services function and is achieved through Municipal Health Services.

The recommended approach is to separate the functions of Water Service Authorities and MHS in terms of health and hygiene education, as Water Service Authorities and Municipal Health Services have different objectives of the education programme. While Municipal Health Service is responsible for all aspects of health and hygiene education programmes of which hygiene education is a part, Water Service Authorities are responsible for only hygiene education. Hence, if hygiene education is a service, there is no scope for project-based hygiene education and ongoing hygiene education. The separation of health and hygiene education into health education and hygiene education is an international accepted approach.

It is further recommended that hygiene education is implemented in two phases. Phase One of the hygiene education should target the initial project phase, that is when water and sanitation facilities are being installed. Phase Two of the hygiene education programme should focus on the continuous education component. The reasoning behind separating the hygiene education programme into two phases is due to the different messages and education approaches for each project phase. Phase Two of the hygiene education programme will evolve as the communities' understanding of hygiene practices evolve.

It is essential that the planning phase of an HE programme considers and accounts for all factors that could influence project costs, on a case by case basis, including the identification of any issues that could result in additional costs being incurred.

Finally, all hygiene education programmes should be monitored and evaluated against pre-determined criteria to ensure that the programme can adapt to changes in environment and to prevent the programme from becoming irrelevant in the light of a dynamic environment.

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

ACKNOWLEDGEMENTS

DEFINITIONS

ABLUTION BLOCK	Ablution blocks include toilets and bathing facilities, usually showers. Ablution blocks are normally found in high density settlements and sited on the outer perimeter of the settlement. Ablution facilities are often used by the general public depending on the level of control exercised by community members.
AWARENESS and EDUCATION	Awareness is defined as the state of being conscious of, acquainted with or mindful of a topic or issue while education is defined as the process of imparting knowledge and/or skills. For the purpose of this document, education refers to imparting knowledge to support behaviour change.
	For the purposes of this study education is the primary focus to effect behaviour change.
COMMUNAL TOILETS	Communal toilets are designed for use by community members only. The toilets are found amongst informal houses.
	Very often the term communal toilets and ablution blocks are used interchangeably. However, communal toilets do not have bathing facilities.
HEALTH AND HYGIENE EDUCATION	Health and Hygiene education is defined as education on diseases and behavioural practices that can affect the health and well-being of people.
HYGIENE EDUCATION	Hygiene education is defined as education that relates to all activities that aim to increase an individual's knowledge about issues relating to personal habits and practices, particularly in relation to sanitation, that affect one's health (Ukhuthula Development Services (2004)). Therefore hygiene education is aimed at encouraging behaviour which will help to prevent water- and sanitation-related diseases.
INFORMAL SETTLEMENTS	Informal settlements are settlements of communities housed in self-constructed shelters under conditions of informal land tenure (often referred to as 'squatter camps' or 'shanty towns'). Although informal settlements are considered dense settlements in urban areas, informal settlements can also occur in rural and peri-urban areas where the density of shacks is low. Finally, informal settlements include shack farming.
SANITATION SERVICES	The definition of sanitation services is taken from the Strategic Framework for Water Services, 2003.
	Sanitation services are the collection, removal, disposal or treatment of human excreta and domestic wastewater, and the collection, treatment and disposal of industrial wastewater. This includes all the organisational arrangements necessary to ensure the provision of sanitation services including, amongst others, appropriate health, hygiene and sanitation-related awareness, the measurement of the quantity and quality of discharges where appropriate, and the associated billing, collection of revenue and consumer care. Water services

authorities have a right but not an obligation to accept industrial wastewater from industries within their area of jurisdiction.

SHACK FARMING   Shack farming refers to the informal sub-division of a stand to include many self-constructed shelters for rental purposes.

WATER SERVICES   Water services include water supply and sanitation services as defined in the Water Services Act (Act No. 108 of 1997).

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AMREF	African Medical and Research Foundation
CBO	Community Based Organisation
CHAST	Children's Hygiene and Sanitation Training
CHW	Community Health Worker
CTC	Child-to-Child
DHP	District Health Plan
DHS	District Health System
DM	District Municipality
DoH	Department of Health
DWAF	Department of Water Affairs and Forestry
EHP	Environmental Health Practitioner
HE	Hygiene Education
HHE	Health and Hygiene Education
HHFW	Health and Hygiene Field Worker
HIV	Human Immunodeficiency Virus
HVWSHE	Human Values in Water, Sanitation and Hygiene Education
IA	Implementing Agent
IDP	Integrated Development Plan
IRC	International Water and Sanitation Centre
ISD	Institutional and Social Development
LM	Local Municipality
MHS	Municipal Health Services
MHS: EHS	Municipal Health Services: Environmental Health Services
MIG	Municipal Infrastructure Grant
MOU	Memorandum of Understanding
NGO	Non-Governmental Organisation
NSTT	National Sanitation Chapter Team
O&M	Operation and Maintenance
PHASE	Personal Hygiene and Sanitation Education
PHAST	Participatory Hygiene and Sanitation Transformation
PHC	Primary Health Care
PSC	Project Steering Committee
SA	South Africa
SALGA	South African Local Government Association
SAQA	South African Qualifications Authority
SARAR	Self-esteem, Associative strengths, Resourcefulness, Action-planning and Responsibility

SEAP	Sanitation Education and/or Awareness Programme
SESI	Slums Environmental Sanitation Initiative
SFWS	Strategic Framework for Water Services
SPIP	Sanitation Project Implementation Plan
SPSC	Sanitation Project Steering Committee
SSP	Slum Sanitation Program
UDS	Urinary Diversion System
VIP	Ventilated Improved Pit
WEDC	Water Engineering and Development Centre
WHO	World Health Organisation
WRC	Water Research Commission
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSP	Water Services Provider
WSSCC	Water Supply and Sanitation Collaborative Council

1 CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

The need for this research study is largely informed by the outcomes of the Naidoo et al. (2007) research report, 'The Effectiveness of Sanitation Education and Awareness Programmes in Informal Areas'. The findings of the previous study were both comprehensive and alarming, below is a summary of the key findings of the study:

- Municipalities do not address the issues of hygiene education (HE) in informal areas in a meaningful and sustainable manner. Most sanitation, health and hygiene education (HHE) programmes are driven by Environmental Health Units because of the health issues associated with poor sanitation;
- Informal areas in general are not given the attention they deserve because it is believed that informal settlements are temporary in nature;
- Communities are not involved in the planning of sanitation services or the accompanying HE programmes;
- The design of sanitation hygiene awareness and education material do not effectively address the constraints of sanitation programmes in informal settlements;
- The implementation of awareness and education programmes are flawed mainly due to ineffective planning which results in unclear roles and responsibilities of the relevant parties, inadequate budget allocation and inappropriate education techniques; and
- Awareness and education programmes are not monitored or evaluated therefore the effectiveness of the programmes cannot be assessed.

Although, the current research programme aims to address the findings of the previous study, the need for effective implementation of HE programmes in informal settlements is supported by the global trend to address sanitation challenges of informal settlements. It has commonly been accepted that rural areas are the largest unserved and underserved settlements however, in recent times a formidable number of people have migrated from rural to urban areas in search of better opportunities. Rapid urbanisation has resulted in the mushrooming of numerous informal settlements, however the provision of services especially sanitation services has not kept pace. Also, people living in poor urban areas face a greater risk to health problems due to higher population densities than people living in rural areas.

In South Africa (SA) the number of households below the Reconstruction and Development Programme standard for sanitation services decreased by 31% between 1994 and 2007. Although government has made some inroads to achieving the service delivery targets set by the Strategic Framework for Water Services (SFWS) and the Millennium Development Goals (MDGs), some might argue that not enough has been done to address the service delivery backlogs. Service delivery to informal settlements is usually given the least priority while HE is often neglected.

According to the National Sanitation Task Team (2003a), most water and sanitation projects carried out by local authorities have lacked significantly in the aspect of health and hygiene awareness. National and international experience has shown that the most successful sanitation initiatives have been those in which emphasis was placed on generating a high level of health and hygiene awareness rather than producing a large number of latrines. In addition, studies in Mumbia, India have demonstrated that HE has laid the foundation for an

integrated approach to the provision of a wider set of environmental service such as solid waste disposal and grey water management.

This report aims to revolutionise the approach to HE in informal settlements. In SA, HHE is combined. However, in this report HHE is defined as education on diseases that can affect the health and well-being of people while HE is aimed at encouraging behaviour which will help to prevent water and sanitation related diseases.

The report focuses on education and not awareness where awareness is defined as the state of being conscious of, acquainted with or mindful of a topic or issue while education is defined as the process of imparting knowledge and/or skills to support behaviour change.

Although the study examines the linkages between HHE and HE, the study is based only on HE in informal settlements. In terms of HE, the study focuses only on sanitation issues. The principles can however be extended to included issues on water.

In addition, it is proposed that HE programmes should be seen as a service as it an integral component of the function provided by the Water Service Authority (WSA). As such, HE can no longer be linked to only new sanitation infrastructure programmes. Instead, HE should be a continuous function, like operations and maintenance, which is an ongoing function of local government. If it is accepted that HE is a service it will ensure that the message of good hygiene practice is continuously re-enforced. This report will demonstrate that existing legislation and policies are in support of the proposed approach to HE programmes. This approach is likely to have an impact on existing institutional structures.

With these principles in mind, this research report presents the way forward in the implementation of HE programmes in informal settlements.

For the purposes of this document informal settlements are defined as, "settlements of communities housed in self-constructed shelters under conditions of informal land tenure (often referred to as 'squatter camps' or 'shanty towns')". Although informal settlements are considered dense settlements in urban areas, informal settlements can also occur in rural and peri-urban areas where the density of shacks is low. Finally, informal settlements include shack farming, the informal sub-division of a stand to include many self constructed shelters for rental purposes.

The research unpacks and provides direction on the following key issues associated with the implementation of HE programmes in informal settlements:

- Key issues and approaches to HE programmes;
- Policy issues around the implementation of HE programmes in an informal area;
- Different types of informal settlements, including the means for characterising different settlement type;
- Different types of HE approaches that have been developed;
- Roles and responsibilities for HE between environmental health and water and sanitation departments;
- Financial resources that are required for the implementation of each type of HE programme;
- Human resources that are required for the implementation of each type of HE programme; and
- The monitoring and evaluation requirements of HE programme to ensure the sustainability of the education programme.

1.2 AIMS OF THE RESEARCH

The aim of the research study is to facilitate the implementation of HE programmes in informal settlements. The research is structured such that this report will inform the development of a guideline document WRC report, to be used by municipalities and other stakeholders within the water and sanitation sector, in the successful implementation of HE programmes in informal settlements. The original aims of the study changed in line with the outcome of the research.

Further aims include:

- To demonstrate the importance of accepting HE as a service therefore HE programmes require the same level of importance as other services provided by local government. It is imperative for this document to change mindsets from seeing HE as an add on function to sanitation infrastructure programmes to acknowledging that HE is a part of service delivery;
- To promote sanitation education and awareness best practices that address the specific needs of informal settlements, taking into account the different characteristics, socio-economic standing and types of informal settlements in South Africa;
- To allow role-players to efficiently plan thereby ensuring that adequate financial and human resources are available for the implementation of a sustainable and successful HE programme in informal areas, while taking into account all policy and legislative requirements;
- To investigate and recommend the most appropriate education programmes linked to sanitation technologies for informal settlements; and
- To present a monitoring and evaluation system that will result in the sustainability of the programme.

1.3 STRUCTURE OF THE DOCUMENT

The report includes the following chapters:

Chapter	Details
Chapter One	Introduction
Chapter Two	Literature Review
Chapter Three	Policy Review
Chapter Four	Characterisation of Informal Settlements
Chapter Five	Types of Health and HE Programmes
Chapter Six	Education Programmes Suitable for Technology Options
Chapter Seven	Roles and Responsibilities
Chapter Eight	Financial Resources Required for the Implementation of HE Programmes
Chapter Nine	Human Resources Required for the Implementation of HE Programmes
Chapter Ten	Sustainability of Each Option: Constraints and Opportunities concerning HE Programmes
Chapter Twelve	Monitoring and Evaluation Programme

Each Chapter is structured such that it can be read as a stand alone document in isolation of the remaining chapters. This report provides the background to the WRC Report, "Guideline for the Implementation of HE Programmes in Informal Settlements" which provides a step by step approach for the implementation of HE programmes in informal settlements.

The Reader is advised to read this document prior to reading the Guideline document.

1.4 BENEFITS OF HE PROGRAMMES IN INFORMAL SETTLEMENTS

The benefits of effective and sustainable HE programmes in informal settlements are numerous and include reduced infant mortality from diarrhoea, reduced environmental pollution, reduced health care costs, improved conditions of living, reduced operations and maintenance etc.

According to the National Sanitation Task Team (1996), sanitation facilities will only achieve a parallel reduction in diarrhoeal diseases if developed alongside hygiene programmes. Both locally and internationally it was been shown that the effectiveness of sanitation facilities could only be realised if supported by an appropriate HE programme.

HE programmes are among the most cost effective ways of lowering health costs especially in high density settlements were residents are at greater risks to poor sanitation related diseases. The Central American Hand washing Initiative found that by implementing hand washing campaigns diarrhoea could be prevented for less than US$10 per case verses a cost per DALY of US$ 91.30.

HE programmes are not limited to hand washing or hygiene related topics instead HE programmes provides the platform to address risks associated with improper use of the sanitation facility and the linkages between good sanitation and a healthy environmental. For instance, the disposal of the wrong material down the toilet may result in blockages and spillages which will have a catastrophic impact on the environment and increase health risks. Education on the proper use of the toilet will result in lower operations and maintenance costs. This level of education is imperative when there are shared toilets as is the case in many informal settlements.

Finally, it is well accepted that there are many benefits to implementing HE programmes in informal settlements.

1.5 RESEARCH METHODOLOGY

The research methodology was limited to extensive literature review. International and national literature was reviewed to identify best practices and trends in the field of HE programmes in informal settlements. The 2007 WRC project, "The Effectiveness of Sanitation Awareness and Education Programmes in Informal Settlements", documented the findings of 7 case studies across the country. The outcome of this research project created the foundation for the current study.

2 CHAPTER TWO – LITERATURE REVIEW

Below, is a summary of the review of various international and national literature on HE programmes in informal areas.

2.1 IMPORTANCE OF ADDRESSING THE HEALTH CONCERNS OF URBAN INFORMAL SETTLEMENTS

Across the globe, close to a third of all urban residents live in informal settlements (also known as 'slums', 'squatter camps' and 'shack settlements'). This represents approximately a billion people residing in areas characterised by conditions that aid in the spread of disease, namely:

- Poor water and sanitation services ('water services');
- Poor understanding of effective hygiene and hygienic practice;
- Overcrowded housing and insufficient drainage systems;
- Lack of access to refuse removal.

The above characteristics of informal settlements render them a key focus for HE, given that 'communicable diseases are a major problem in urban populations in general and slum populations in particular' (Sclar et al., 2005 p901). Mutevu (2002) further maintains that morbidity and mortality rates related to environmental conditions are significantly higher in informal settlements than other urban areas.

The International Water and Sanitation Centre (IRC) has also argued that poor access to water and sanitation services (a predominant characteristic of informal areas) provides sufficient basis to prioritise health and HE in these underserviced areas. This is particularly the case if the underserviced area also suffers from overcrowded conditions, a general feature of informal areas (IRC, 2005).

Inadequate water and sanitation facilities, insufficient hygienic practices and poor environmental conditions in the vast majority of informal settlements result in a multitude of negative impacts, most notably the impact on human health. The most common problems associated with poor sanitation and hygiene are diarrhoea, dysentery, cholera, bilharzia, typhoid, malaria, worms, eye infections including trachoma and skin disease (Burke, 2002). The incidence of poliomyelitis and hepatitis are also related to hygiene, water supply and sanitation (CSIR Boutek, 1999). The provision of adequate water services and health and HE in informal settlements can therefore be considered a key development intervention.

2.2 APPROACHES TO HEALTH AND HE

2.2.1 Distinguishing between Hygiene Awareness, Education and Promotion

It is important to draw distinction between the terms 'hygiene awareness', 'HE' and 'hygiene promotion'. Hygiene awareness implies that receiving communities are made conscious or aware of issues relating to hygienic behaviour. Hygiene awareness is considered to occupy the lowest rung in ensuring effective development of hygienic practices.

HE goes further than hygiene awareness, with HE described as imparting knowledge and/or skills to participant communities on health risks and effective hygiene practices. By means of education, communities are not simply aware of health and hygiene issues, but have the ability to respond to these concerns and adapt their behaviour accordingly.

For certain water related institutions; however, hygiene promotion is considered the most desired practice for realising health gains. Hygiene promotion implies that the development of hygienic behaviour is actively achieved through participatory learning and the uptake of hygienic practices. A common definition of hygiene promotion is provided below:

> "Hygiene Promotion can be taken to mean a structured, systematic approach to achieving widespread uptake of hand washing and faeces disposal practices that are likely to limit the transmission of intestinal pathogens and parasites" (Biran and Hagard, August 2003 p1).

Nevertheless, it should be noted that HE can form an important component or subset of hygiene promotion activities. HE is therefore generally recognised as a critical gap between water supply and sanitation on the one side, and improved health on the other (Mvula Trust, 1997).

For the purposes of this document, emphasis will be placed on HE. HE is considered in its capacity as a suitable means to promote improved hygiene related knowledge and behaviour.

2.2.2 Access to Water Services and Hygienic Practices

It has been argued above that insufficient access to water and sanitation services is an important reason to place emphasis on health and HE in underserviced areas, due to increased health risks. Education efforts can also result in certain heath improvements, even without corresponding infrastructure investment (IRC, 2005); (Biran and Hagard, August 2003). However, the supply of improved water and sanitation services does play a vital role in ensuring the widespread uptake of good hygiene behaviours. For example, access to adequate and safe water is considered essential for the maintenance of personal and domestic hygiene, whilst proper sanitation helps to prevent open defecation and excreta being left in the open (IRC, 2005).

In practice, appropriate investment in water services provided in tandem with health and HE is considered to be the most effective method to ensure heath gains. On the one hand, the supply of clean water and better sanitation systems does not automatically reduce disease or improve health. According to Duncker (2000), HE is an indispensable part of water and sanitation projects, and is necessary to ensure improved health and system sustainability after technical assistance has been withdrawn. The importance of user education when introducing a new sanitation technology is considered critical (Scott, 1998). On the other hand, without a sufficient supply of clean water, recommended hygiene practices, e.g. hand-washing, often become impossible and impractical. In addition, where water is scarce, people will prefer to use the resource for drinking and cooking, rather than washing and personal hygiene (Ward et al., 2001). Sufficient access to water services, offered in conjunction with suitable health and HE, is therefore critical to the achievement of significant health gains. As IRC argue:

> "A water supply, sanitation facilities and hygiene behaviour work together as an integrated package, and the quality of the approach in all components determines the outcome" (IRC, 2005 p11).

This statement is backed by statistics assembled and validated by the Water Supply and Sanitation Collaborative Council (WSSCC). According to WSSCC figures, improved water quality reduces childhood diarrhoea by 15-20%. However, better hygiene through hand-washing and safe food handling reduces the incidence by 35% and the addition of safe disposal of children's faeces leads to a reduction of nearly 40% in childhood diarrhoea.

2.2.3 Approaches to Sanitation, Health and HE

The purpose of this section is to outline trends and key issues in current approaches to the provision of health and HE.

It is not the intention of this section to outline typical methods and techniques used in the provision of health and HE. Types of health and HE are discussed in detail in Chapter 4 (section 5) and as such are not repeated here. Where reference is made to the different types of health and HE within this literature review, readers are referred to Chapter 4 for further information.

A key concern of current approaches in Sanitation, Health and Hygiene Education (SHHE) is that one-way health information campaigns could in many instances prove to be a waste of resources, with an interactive community level approach more likely to produce meaningful health gains. Thus, technology needs to be complemented by user education that considers the values, behaviours and knowledge of community members, including the different community responsibilities for hygiene management (WEDC, 1999). It is also important that a health and hygiene programme is culture and gender sensitive, as these issues can have a significant bearing on hygiene behaviour. Respect should be shown to local beliefs and practices in the rollout of health and HE (Water Aid, 2006).

In terms of technologies (an issue considered in more detail in section 2.3 below) Ventilated Improved Pits (VIPs) have proven successful as a suitable sanitation facility in many contexts, given that they are relatively easy to build and maintain and are able to tackle flies and odours. However, the suitability of VIPs to high population density areas is of concern. This has direct bearing on informal settlements, where water-borne approaches and other technologies may be preferable to VIP installation.

In cases where communal facilities are to be installed, it is important that responsibilities for operation and maintenance (O&M) are clearly outlined, and that only a set number of households are able to use each facility (Manase et al., 2001).

Regardless of the sanitation technology used, current approaches emphasise that the preferred option should be chosen and tested in partnership with community members. The selected technology should be understood by the community, address their needs and affordability concerns, as well as align with their socio-cultural conditions (Manase et al., 2001). In order to achieve this outcome, communities need to make informed decisions regarding their choice of technology:

> "Users need to understand the implications of each choice in terms of costs, durability, feasibility and the benefits and limitations for socio-economic development and health. Local capacities for maintenance and management must be developed" (IRC, 2005 p11-12).

Sufficient training on operation and maintenance is also required, in order to empower communities to conduct maintenance themselves, particularly in cases where geographical access is difficult or municipalities lack the necessary capacity.

A further key aspect to current approaches to SHHE is that examples of good hygiene practice should relate to the lives of beneficiaries and build on their current understanding of hygiene issues, rather than relying on the imposition of ideas (WEDC, 1999). Unless participants can relate to the issues discussed and perceive benefits in their lives from practising what they have learnt, behaviour change is unlikely to occur. This also highlights current approaches that emphasise the social and economic benefits of improved hygiene, in order to raise the appeal and support for good hygiene practice.

Examples of non-health related benefits that can be promoted are (WEDC, 1999 p76):

- Less time off work;
- Less need to buy medicines;
- Less likelihood of premature deaths in the family;
- Improved status and privacy; and
- Economic benefits.

Innovative means to encourage attendance at HE sessions have also been proposed, including the issuing of free soap or food at sessions (WEDC, 1999). The use of respected locals as trainers and session leaders, and the process of learning through peer education or use of existing health clubs, are also methods that are expected to enhance programme uptake. Division of training programmes by age and gender can lead to a more inclusive process (WEDC, 1999).

Opportunities to link health and HE with income generation and job creation initiatives, as well as to stimulate demand for suitable water and sanitation services, should also be pursued where appropriate (Manase et al., 2001).

2.2.4 Key Messages and Principles for Health and HE

2.2.4.1 Key Messages

There are a number of key messages that should be relayed within a health and HE programme, if the critical risk factors are to be addressed. The appropriate disposal of excreta and hand washing after excretion are key interventions that are required. The safe disposal of children's faeces, the avoidance of contaminated water and safe drinking water storage are also important hygiene practices.

Examples of good practices are listed below (WEDC, 1999); (WaterAid, undated); (IRC, 2005):

- Cleaning latrines regularly;
- Disposing of all excreta properly, preferably in a latrine;
- Washing hands after excreting, before eating and preparing food, and after cleaning the bottoms of babies and toddlers. Soap or ash to be used where possible;
- Going to the toilet at a safe distance from water sources that are used for drinking, cooking or other household purposes;
- Ensuring animals are kept away from houses, water sources and latrines;
- Avoiding open defecation/urination;
- Avoiding flies and contaminated water;
- Ensuring that toilets and drains are not blocked;
- Wearing shoes in latrines to help prevent hookworms penetrating the skin on feet.

In order to accommodate these best practices, the United Nations Children's Fund (UNICEF) 'Facts for Life' has developed seven key messages for hygiene, outlined below (IRC, 2005 p18-19):

- All faeces should be disposed of safely. Using a toilet or latrine is the best way;
- All family members, including children, need to wash their hands thoroughly with soap and water or ash and water after contact with faeces, before touching food, and before feeding children;
- Washing the face with soap and water every day helps to prevent eye infections. In some parts of the world, eye infections can lead to trachoma, which can cause blindness (make sure soap is available at least for this purpose);
- Only use water that is from a safe source or has been purified. Water containers need to be kept covered to keep the water clean;
- Raw or leftover food can be dangerous. Raw food should be washed or cooked. Cooked food should be eaten without delay or thoroughly reheated;
- Food, utensils and food preparation surfaces should be kept clean. Food should be stored in covered containers;
- Safe disposal of all household refuse helps prevent illness.

An important finding to emerge in health and HE is that focusing on and repeating a few core messages in a variety of forums can have the most impact (Biran and Hagard, August 2003). To this end, it has been argued that the 'safe disposal of faecal material and the adequate washing of hands after contact with stools should be the priorities' (Biran and Hagard, August 2003 p6).

Nevertheless, it has been proposed that issues particularly pertinent to the lives of urban informal settlement dwellers such as injuries, violence, mental health issues, sexually transmitted diseases, HIV and AIDS, tuberculosis, and reproductive health issues should be addressed in health education programmes (Sclar et al., 2005).

Regardless of the scope of the information conveyed, the messages used should provide realistic solutions to the problems affecting communities, which are sensitive to their socio-cultural conditions.

2.2.4.2 Key Principles

Key principles for the successful implementation of health and HE programmes have also been developed. A synthesis of these principles is provided below (WEDC, 1999 p75-6); (IRC, 2005); (UNICEF, 2006 p58).

1. Community-wide understanding of the importance of hygiene and the benefits that it can bring should be developed;
2. Non-health benefits of proper hygiene should be emphasised to raise programme appeal;
3. Examples of good hygiene practice must be clearly understood, build on people's existing understanding of hygiene, relate to everyday lives and be culturally and gender sensitive;
4. Focus should be placed on a small number of risk practices;
5. Specific groups such as fathers, mothers, children, local leaders and other influential persons/groups in the affected community should be involved during the different stages of the programme;
6. Community motives for adopting positive hygiene behaviours should be identified with participant groups. These motives can then be used appropriately as part of wider initiatives;

7. Hygiene messages should be kept positive, and opportunities for entertainment and humour emphasised. "Do's and don'ts" messages and discussions of death should be avoided;
8. The will and financial and managerial capacity within the community to undertake system operation and maintenance should be fostered;
9. Specific requirements for the effective practice of female hygiene should be taken into consideration.

2.3 INTERNATIONAL EFFORTS IN THE IMPLEMENTATION OF HEALTH AND HE IN INFORMAL SETTLEMENTS

The purpose of this section is to review major initiatives to combat the sanitation and hygiene needs of informal settlement dwellers, including the approaches adopted and lessons learnt from these programmes.

2.3.1 Slums Environmental Sanitation Initiative (India)

The Slums Environmental Sanitation Initiative (SESI) is a joint partnership between Water Aid India, UN-HABITAT, the relevant Municipal Corporations and a variety of local NGOs to improve the environmental sanitation of slums in 4 Indian cities, namely Bhopal, Indore, Gwalior and Jabalpur. The project was launched in October 2005, concentrating on five informal settlement areas (slums) within each city, with a total of 5000 households assisted per city.

The approach adopted includes the following (UN-HABITAT, 2007):

- Ensuring total open defecation-free slums by constructing low cost individual household latrines, community managed sanitation complexes and school sanitation blocks;
- Formation of self-help groups, training and capacity building of the community;
- Value-based water and sanitation education and hygiene promotion;
- Demonstration of infrastructure facilities including solid waste management, rain water harvesting, individual toilets and community sanitary complexes;
- Creation of a revolving Sanitation Fund for construction of individual latrines.

Within the project emphasis is placed on developing community capacity for facility management, operation and maintenance, whilst a value based education and hygiene promotion campaign is being utilised. Community management includes the development of a Community Water & Sanitation Committee and self-help groups within selected areas.

The approach to health and HE has been comprehensive and includes:

- The rollout of a Participatory Hygiene and Sanitation Transformation (PHAST) programme within communities;
- A schools sanitation and hygiene initiative including the use of the Child to Child (CTC) method in both formal and informal schools, and incorporating a schools competition;
- The construction of demonstration toilets for households within each city, designed to display effective toilet use to relevant communities;
- The construction of demonstration toilet blocks for schools within each city;
- The involvement of selected representatives from each city in relevant workshops;

- Mass awareness campaigns through exhibition, rallies, campaigns and camps;
- Clean slum competitions.

The promotion of health and HE has therefore made use of a variety of methods in order to get across the hygiene message, based primarily on PHAST, CTC, demonstration and mass campaigns.

The technology used includes the construction of individual household latrines, however, where these are not financially feasible via the Sanitation Fund, twenty community managed sanitation complexes have been developed per city. Community sanitation blocks are considered to have notable differences when compared with public toilets or ablution blocks. The reasons for this are that community facilities are maintained by community members, who has strengthened the upkeep of facilities and reduced the drain on municipal budgets, and are designed to provide water points, privacy and access to community services for male and female users (Nitti and Sarkar, January 2003).

2.3.2 Mumbai Slum Sanitation Programme (India)

The Slum Sanitation Programme (SSP) is a World Bank funded project operated in Mumbai in partnership with community slum dwellers and the local municipality. The SSP has provided sanitation to over a quarter of a million informal settlement residents via the use of community sanitation blocks. According to the programme, the key aspect of community toilets is that:

> "Community toilets are meant for a specific community of users and not for the general public. For this reason, users develop a sense of ownership of the assets and are willing to take full charge of their management" (World Bank, March 2006 p1).

A key feature of the programme is that health and HE is integrated into the rollout of the sanitation programme as part of a single contract to design, construct and provide for community management of facilities.

Hygiene concerns have also lead to the adoption of community toilet blocks versus public toilet blocks in Mumbai given concerns regarding the design of public toilet blocks. Public toilet blocks are considered to retard effective hygiene practice in the following ways in Mumbai (Nitti and Sarkar, January 2003):

- The design of public blocks does not provide for water and electricity connections. Lack of water availability in the toilet premises creates obvious health hazards;
- Men's and women's toilets face each without any separation. This reduces the sense of privacy and discourages the practising of effective female hygiene;
- There is no provision for children toilets, which could result in children opting or being instructed to make use of open areas instead.

The community toilets are equipped with a twenty four hour water and electricity supply, to encourage residents to use the facility and to facilitate good hygiene practice (Nitti and Sarkar, January 2003). Health and HE is therefore considered an important aspect of the rollout of the programme, however, this is provided in tandem with a technology (community managed sanitation facilities) that is able to promote health gains.

2.3.3 Water Aid Bangladesh Urban Programme

As of 2001 the Water Aid Bangladesh Urban Programme consisted of seven NGOs involved in implementing Water Aid supported sanitation projects in roughly 150 informal areas. Projects are implemented in the Bangladeshi cities of Dhaka and Chittagong.

HE is provided by NGO field staff that are first trained by the Water Aid team. The partner NGOs provide a variety of additional services, including the construction of community managed sanitation blocks that incorporate water points (hand pumps), bathing stalls and hygienic latrines that can cater for up to 500 people. Household and cluster latrine systems are also built for a maximum of 10 and 50 households respectively.

It is important to note that programme activities in any informal area start with HHE. The HHE is expected to raise the demand for water and sanitation and increase the willingness to pay for services.

HE is focused on the delivery of a number of simple messages. Having focused on key messages related to high risk practices, the greatest hygiene improvements have been found in relation to hand-washing, understanding the spread of worm infections, using safe water and covering of food (Hanchett et al., 2003).

Nevertheless, difficulties have been reported by settlement dwellers in implementing what they have learnt, with key problems cited as 'not having the space for hygienic facilities or not having the space for soap in latrines' (Hanchett et al., 2003 p52). Soap is also considered to be relatively expensive, so it is not necessarily used for post-defecation hand-washing.

An additional constraint to the promotion of good hygiene, as identified within the programme, is the working conditions of many informal settlement dwellers, particularly women. A number of Bangladeshi slum resident's work 12 hour days and do not have days off, meaning that children are often cared for by older children and little time is devoted to house and child cleaning (Hanchett et al., 2003). This situation applies particularly to household latrines, where individual household members remain responsible for maintaining cleanliness.

A key area of responsibility for ensuring effective hygiene could thereby be delegated to the unemployed, older children and the elderly, who can then be expected to have increased responsibility for house, latrine and child cleaning. These groups therefore need to be targeted in HHE programmes in which similar working conditions or problems are found. Concerns related to HIV and AIDS, and the subsequent experience of sick or absent parents, further highlight the need to target the unemployed, elderly and children for health and HE.

2.3.4 Community Management and Training Services – East Africa: Programme on the Implementation of Health and HE in Kenyan Informal Settlements

This programme, implemented by Community Management and Training Services – East Africa (CMTS-EA), is involved in the delivery of health and HE to selected informal settlements in the Kenyan cities of Nairobi and Mombasa. Key aims of the programme are to promote safe handling and protection of drinking water, and the appropriate use of sanitation facilities (Mutevu, 2002). Attempts were also made to identify and co-ordinate with existing hygiene initiatives, where these were already occurring.

A total of 5 key messages for water and 5 key messages for sanitation were communicated. The messages for water and sanitation are outlined in the table below:

Table 1: Key Water and Sanitation Messages – Kenyan Informal Settlements HHE Programme

Water Messages	Sanitation Messages
1. Draw water from a safe/protected source; 2. Draw and transport water using a clean and covered container; 3. Draw water from the storage facility safely using a clean cup with a handle; 4. Avoid dipping fingers into the water during collection, transportation and drawing from a storage container; 5. Use water for all purposes from protected sources.	All household members to: 1. Use a latrine; 2. Wash hands after visiting the latrine; 3. Clean latrines every day; 4. Dispose of the faecal matter of children under two years in the latrine; 5. Train children of two years and above on how to use the latrine.

Key programme findings were that provision of HE was generally lacking in sanitation infrastructure projects to date, whilst knowledge of good hygiene practices was high but practice was poor. Possible reasons for poor uptake despite knowledge could be that:

- Behaviour change is a difficult outcome to achieve and takes time to realise;
- Adults may have insufficient time to engage fully in hygienic practices as in the case of the Bangladeshi settlement residents;
- Further infrastructure investments such as water points, sanitation and solid waste disposal facilities are needed to aid good hygiene, given the grossly inadequate nature of the current facilities.

A further finding of the project was that communities tended to contaminate drinking water during collection, transportation and storage. This finding implies that a survey or observation of current hygiene practices was undertaken prior to the rollout of the HHE programme. The purpose of this method is to tailor educational materials to risk practices within the community on a participatory basis, whilst keeping to a few clear messages. This process assists in ensuring that hygiene materials are relevant to communities and take into account their hygiene related activities, a key recommendation within the literature as described in section 2.2.3 above.

2.3.5 Water for Africa: Child to Child Programme in Kisumu, Kenya

Water for Africa is a joint initiative of Water for People and the United States Environmental Protection Agency (EPA). The Child-to-Child (CTC) HE programme was implemented by Africa Now, a local NGO, within 12 schools in the informal settlement of Kisumu. A lack of access to water services was a key criterion for deciding which schools were prioritised for participation.

According to the Water for Africa programme, CTC is a:

"School-based, interactive education program that empowers youth to become agents of change in their families and communities with respect to health and hygiene behaviours" (Water for Africa, p1).

CTC health education activities were primarily orchestrated through the development of school health clubs, which encouraged social interaction and participatory learning. PHAST toolkits adopted for urban environments and CTC readers formed the basis for the education programme. Teachers made use of the readers to ensure that key issues and concepts in hygiene were learnt by students, whilst the PHAST toolkits were used to identify health problems in schools and surrounding communities (Water for Africa, undated).

Approximately 8% of the total student population were enrolled in the health clubs as of December 2001 (Water for Africa, undated p4). Club members were encouraged and supported in actively educating their peers, families and wider community members on health and hygiene issues. This included the hosting of community health festivals by CTC clubs and the use of drama and art to express health messages to a wider audience.

Key interventions to emerge form the health clubs were (Water for Africa, undated p5):

- Education through dramas, songs, and dances;
- The creation of hand washing stations at schools;
- Environmental sanitation activities such as trash collection and disposal, as well as latrine cleanup.

CTC programmes were most successful where they received strong backing from teachers, parents and municipalities, as well as where access to water services was improved or sufficient. On the whole, the large enrolment on clubs and sponsored events and the good backing received from teachers, illustrated the appeal and overall success of the initiative. Improvements in hygiene behaviour were also identified:

"Positive changes in youth behaviours regarding hand washing and environmental sanitation were common across most schools, and many schools now have formal systems for ensuring that latrines are cleaned and hand washing occurs regularly" (Water for Africa, undated p10).

2.3.6 Maili Saba PHAST

This project, implemented by the Intermediate Technology Development Group (ITDG), aims to address the health and hygiene needs of informal settlements through the use of PHAST techniques. The project was implemented in the Maili Saba informal settlement of Nairobi, Kenya, between 2001 and 2002. The approach to the project was to make use of interactive learning methods with community members, targeting women and children where possible.

The Maili Saba PHAST initiative is in turn to form part of the Nairobi Urban Poverty Partnership Project (NUPPP). The Nairobi Urban Poverty Partnership has adopted an inclusive approach to informal settlements, recognising informal areas as an integral part of the city and areas that present important opportunities for socio-economic upliftment.

The HHE project was implemented in 5 phases, namely (ITDG, undated):

1. Participatory baseline survey of existing hygiene knowledge, attitudes and practices. Focus on identifying the learning needs of urban poor families;
2. Design and development of interactive learning programmes;
3. Implementation of non-formal and value-based learning sessions in schools and with community groups;
4. Monitoring and evaluation;
5. Developing strategies for scaling up and following through on the experiences and lessons learnt.

In keeping with PHAST approaches, the Maili Sabi initiative places emphasis on identifying current community understanding of hygiene issues and practices. Learning programmes are then tailored to fit with the issues and socio-cultural conditions encountered. Less formal approaches to learning are also encouraged. The programme therefore adopts a number of the principles and approaches currently promoted in health and HE.

3 CHAPTER THREE – CHARACTERISATION OF INFORMAL SETTLEMENTS

3.1 DEFINITION OF INFORMAL SETTLEMENTS

The comprehensive UN-HABITAT study, 'The Challenge of Slums', defines informal settlements as a form of slum area (UN-HABITAT, 2003). According to UN-HABITAT, the definition of slum includes the widespread informal settlements that are now an important expression of urban poverty in developing countries.

Slums, for their part, are described as a 'wide range of low-income settlements and/or poor human living conditions' (UN-HABITAT, 2003 p18). A recommended operational definition of slums for international usage is:

"An area that combines, to various extents, the following characteristics:

- Inadequate access to safe water;
- Inadequate access to sanitation and other infrastructure;
- Poor structural quality of housing;
- Overcrowding;
- Insecure residential status" (UN-HABITAT, 2003 p12).

An area can therefore be considered an informal settlement where it combines, to different degrees, the above characteristics of slum areas.

As a whole, informal settlements are considered to be 'slums of hope', in contrast to 'slums of despair' (UN-HABITAT, 2003). In other words, informal settlements are considered progressing settlements in that they are newly developed, consolidated or upgraded and are formed based on the desire and expectation of improved livelihoods. This stands in contrast to inner city slums, which primarily have eclipsed their period of stature and have gradually degenerated with time.

For the purposes of this document, informal settlements are defined as settlements of communities housed in self-constructed shelters under conditions of informal land tenure (often referred to as 'squatter camps' or 'shanty towns'). Although informal settlements are considered dense settlements in urban areas, informal settlements can also occur in rural and peri-urban areas where the density of shacks is low. Finally, informal settlements include shack farming which is the informal sub-division of a stand to include many self constructed shelters for rental purposes

3.2 CHARACTERISTICS OF INFORMAL SETTLEMENTS

Informal settlements are generally characterised by three major conditions: high population densities, low standards of housing (structure and services) and the experience of squalor (UN-HABITAT, 2003). Nevertheless the quality of dwellings and materials used, and the variety of tenure arrangements practised, within informal settlements can vary significantly.

Despite the above variations, it is possible to outline the key characteristics that describe a typical informal settlement. These are[1]:

- **Lack of access to basic services**
  Lack of access to sanitation facilities and safe water sources is critical in this regard, sometimes supplemented by the absence of waste collection systems, electricity supply, surfaced roads and footpaths, street lighting and rainwater drainage.

- **Substandard housing or illegal and inadequate building structures**
  Informal areas are associated with a high number of substandard housing structures, often built with non-permanent materials unsuitable for housing given local conditions of climate and location.

- **Overcrowding and high density**
  Overcrowding is associated with a low space per person, high occupancy rates, cohabitation by different families and a high number of single-room units.

- **Unhealthy living conditions and hazardous locations**
  Unhealthy living conditions are the result of a lack of basic services, with visible, open sewers, lack of pathways, uncontrolled dumping of waste, polluted environments, etc. Houses may be built on hazardous locations or land unsuitable for settlement, such as floodplains, in proximity to industrial plants with toxic emissions or waste disposal sites, and on areas subject to landslip.

- **Insecure tenure**
  A lack of security of tenure is often considered a central characteristic of informal settlements.

- **Poverty and social exclusion**
  Poverty is viewed as a cause (and, to a large extent, a consequence) of informal settlement conditions. Informal settlements are also areas of social exclusion that are often perceived to have high levels of crime and other measures of social dislocation.

- **Minimum settlement size**
  A minimum settlement size is generally required for an area to be considered an informal settlement, so that the settlement constitutes a distinct precinct and is not a single dwelling.

The extent to which an informal settlement exhibits these different characteristics will vary based on their location within a city, their geographical region and the country in question.

3.3   TYPES OF INFORMAL SETTLEMENTS

This section of the report details three major types of informal settlements of relevance to a South African context. These are:

1. Informal settlements (large-scale and concentrated);
2. Informal settlements (scattered pockets);
3. Illegal settlements and subdivisions (shack farming).

---

[1] Derived from UN-HABITAT, 2003 p11.

Other slum areas such as inner city slums and slum estates (including public housing estates that have deteriorated and hostel accommodation) are not considered.

3.3.1 Informal Settlements (Large-scale, Concentrated)

'Informal settlements' also known as 'squatter settlements', are reflective of a process whereby residents illegally occupy predominantly public land and erect makeshift homes. The key aspect of this settlement is that occupation takes place without the permission of the landowner.

A number of areas characterised by such land invasions have become recognised and formalised with time, and provided access to suitable services. The formalisation of informal settlements can lead to their consideration as upgraded areas no longer characterised by slum conditions.

On the whole within a South African context, informal settlements are taken to mean large settlement areas, situated without owner permission on the urban periphery, with homes characterized by self made structures of corrugated iron, tin, plastic and other recycled products. The settlements are often of a relatively recent origin and located on marginal land previously regarded as existing outside of the city boundary. These settlements would provide a strong display of the characteristics of informal areas described in section 4.2 above, with the quality of housing structures improving the more secure and consolidated the settlement becomes.

3.3.2 Informal Settlements (Scattered Pockets)

A further category of informal settlement in which self made structures are erected without landowner permission can be found in the development of disparate and scattered informal settlement pockets.

This category of settlement includes people who have erected dwellings in areas not considered suitable for human habitation, such as flood prone land, steep slopes and garbage landfill sites, as well as areas not usually reserved for residential occupancy, such as under bridges and on pavements. This particular type of informal settlement tends to be geographically spread and made up of fewer households.

These informal settlements are primarily surrounded by other formal housing and officially authorised land developments. Given that the settlements are generally small, they are not able to support their own social infrastructure (schools, clinics etc) and therefore make use of neighbouring facilities, provided that they are not denied access.

3.3.3 Illegal Settlements and Subdivisions

Illegal settlements and subdivisions refer to settlements in which a legal owner of land subdivides, rents or resells sections of their land or property to additional residents, without obtaining formal permission. Illegal settlements and subdivisions are therefore essentially land developments and subdivision for which authorisation has not been granted, although permission for occupancy has been provided by the landowner (UN-HABITAT, 2003).

These forms of development often occur on the outskirts of cities and in rural areas. Included in this category is the erection of shack dwellings in backyards of properties. Peri-urban farm land has also been used for this purpose as a form of revenue generation for farmers. In this

latter case agricultural land is divided into plots for housing, without obtaining the proper authorisations.

These forms of illegal settlement and subdivision are often unrecognised by the state and local authorities, and therefore generally do not have adequate access to basic infrastructure. As with other informal settlements, much of the land that is leased or sold is on marginal land and deemed unsafe for residential development (UN-HABITAT, 2003). Housing structures can be made of more durable materials, given the landowner permission to build, however access to facilities such as schools and clinics may be poor. Internationally attempts have been made to both remove and upgrade this type of informal settlement.

In contrast to residents of informal settlements (section 4.3.1), income levels are often higher in these settlement types with more employed persons and improved opportunities for settlement upgrading.

3.4 DISTINGUISHING BETWEEN DIFFERENT TYPES OF INFORMAL SETTLEMENTS

The table below provides a reference point for distinguishing between different types of informal settlements, based on a number of key criteria.

Table 2: Distinguishing Between Different Types of Informal Settlements

Criteria	Settlement Type		
	Informal Settlement (Large-scale)	Informal Settlement (Pockets)	Illegal Settlement/ Subdivision
1. Age and Origin	Recent in comparison to many other slum areas (a few years or a decade). A settlement of hope.	Recent in comparison to many other slum areas (a few years or a decade). A settlement of hope.	Recent in comparison to many other slum areas, however, informal tenure may have been granted many decades ago by landowner or traditional authority. A settlement of hope.
2. Location	Urban periphery.	Marginal land and land unsuitable for residential development. Generally made up of scattered, pocket settlements.	Urban periphery, marginal farmlands. Can also be located on tribal land (predominantly KwaZulu-Natal).
3. Scale	Large-scale, concentrated and dense settlements.	Generally smaller, scattered settlements. Dense settlements. However, could amount to only a	Settlement size varies. Could be made up of smaller scattered settlements or large settlements, given that peripheral land is less

Criteria	Settlement Type		
	Informal Settlement (Large-scale)	Informal Settlement (Pockets)	Illegal Settlement/ Subdivision
		handful of households.	constrained by other developments.
4. Legality/Permission	No landowner permission to occupy. Continued presence provides a *de facto* right to exist and develop.	No landowner permission to occupy. Usually temporary with a transitory population. Continued presence provides a *de facto* right to exist and develop.	Landowner permission to occupy. No formal authorisation obtained by landowner for subdivision or land development. Continued presence provides a *de facto* right to exist and develop.
5. Income levels	Very low. Current or potential large commercial markets.	Very low	Low
6. Access to Facilities	Poor access to basic household services. May engage in long commutes to obtain services. Often have access to own facilities, schools, clinics etc. within settlement area.	Poor access to basic household services. Generally make use of facilities in surrounding communities, outside of settlement area, unless discrimination restricts access.	Poor access to basic household services. Either make use of facilities in surrounding communities, outside of settlement area, or engage in long commutes to obtain services.

3.5   ADDRESSING THE SANITATION, HEALTH AND HE NEEDS OF INFORMAL SETTLEMENTS

3.5.1   Defining the Minimum Size of an Informal Settlement

It is important to define the minimum number of households (dwellings) required in order to classify a group of households as a settlement. The choice as to the number of dwellings required can be solely at the discretion of the relevant local authority, taking into account localised conditions, or based on national directives. However, previous initiatives can also provide insight. For example, the Bangladesh Bureau of Statistics defines an informal settlement as a grouping of 5 or more households. Further, the City of Johannesburg has compiled a list of all informal settlements within the Municipality, with sites containing as few as 6 dwellings being classified as informal settlements (Hanchett et al., 2003); (Naidoo et al., 2007).

A reasonable measure could thus be that where 5 or more dwellings have been constructed illegally or informally, a form of informal settlement is in existence.

3.5.2 Formalisation versus Relocation/Resettlement

It is possible for all three types of informal settlements identified in section 4.3 to be classified as either in the process of formalization, or as temporary locations. Nevertheless, of the three settlement types identified, the scattered pocket informal settlements are most likely to be regard as temporary with a transitory population. On the other hand, large-scale informal settlements on the urban fringe are often upgraded and formalised over time, as are those in which informal tenure rights were granted some time ago, despite the legal permission of the authorities not being obtained.

Whether a settlement is to be formalized or relocated is particularly important given that the approach to Sanitation, Health and HE will differ. It is therefore critical that the status of all settlements is known before SHHE work is undertaken.

For example, the City of Johannesburg has classified all informal settlements within the Municipality according to those that are temporary in nature and should not be developed, and those that are more permanent in nature and could be developed (Naidoo et al., 2007). Engagements with the Department of Housing (see section 3.2.6.2) regarding the process of informal settlement upgrade should be pursued.

3.5.3 Access to Facilities

Access to facilities within the different types of informal settlements must also be considered in the rollout of HHE.

In large-scale settlements, social and health facilities are either located within the settlement area or should be developed within the settlement, given the size and density of these locations. As a result, it is possible to engage directly with the community through the conducting of HE within settlement schools and clinics. Child-to-Child approaches, which can be extended to wider community initiatives, present an important opportunity to achieve gains in hygiene practice through use of the local school system. See section 5 for a description of the different types of health and HE approaches.

In addition, given the size of large-scale settlements, international experience has shown that it is possible to establish viable markets in the maintenance of sanitation facilities from within the informal settlement community itself. Implemented correctly, overall responsibility for operation and maintenance can therefore be transferred to communities, with the potential to increase programme sustainability.

In contrast, pocket size scattered settlements are generally too small to sustain their own social services and therefore make us of neighbouring facilities, assuming that they are not denied access. In such instances, it may be necessary to prioritise facilities that are known to draw a number of persons from these informal settlement areas, during the rollout of HHE. Educational materials and key health and hygiene messages in these cases will need to take into account the wide spectrum of participants, and make allowance for residents that have lower educational levels and may not have access to soap or basic water services.

3.5.4 Types of HE Required

In settlements that are earmarked for (or in the process of) formalisation, project based HE programmes can often be successful, as it is easier to foster a sense of ownership for facilities amongst permanent residents. Fewer repetitions of education and awareness activities are therefore required.

Community involvement in HE programmes, linked to the improvement of water and sanitation infrastructure, should therefore be encouraged in such settlements to maximise on potential good hygiene practices. Investment in initiatives such as Participatory Hygiene and Sanitation Transformation (PHAST), Child to Child and Human Values Based HHE programmes, programmes that often develop into a wider settlement initiative, can also be expected to provide important benefits. The provision of project based HHE in the rollout of water services infrastructure forms part of the responsibilities of Water Services Authorities, the Department of Housing and DWAF.

For scattered pocket settlements, however, a continuous HE programme is essential, as new residents need to be educated as they move in. It is more difficult to create a sense of responsibility for sanitation facilities in these settlements, as these facilities are often ablution blocks used by a large number of people or shared dry sanitation latrines. Ongoing HHE requires the continued involvement of District and Metropolitan Municipalities, through the operation of their environmental health function.

Regardless of settlement type, the types of HE messages imparted will need to take cognisance of local understandings of hygiene, the sanitation technology being used or promoted, and the proximity of the settlement site to sensitive areas such as rivers.

HE programmes must also take cognisance of the fact that people maybe exposed to more than one type of facility for instance children living in informal settlements may have VIPs while at school they use flush toilets. Similarly adults may use VIPs at home but at work are exposed to flush toilets.

3.5.5 Target Groups and Community Involvement

Within an informal settlement a number of target groups can be expected to found. These range from key facilities such as clinics and schools, through to key local role-players including women, men, children and local leaders.

In terms of facilities, HE programmes implemented within schools will obviously target a younger age group and should consider the use of Child-to-Child approaches. Child-to-Child methods encourage the use of socially interactive school based health clubs, schools competitions and strong learner involvement, in order to put across the hygiene message. Clinics, local forums and places of worship on the other hand will need to consider the use of other participatory hygiene methods such as PHAST, whilst ensuring that community needs and issues regarding health and hygiene are understood, and that the education process remains interactive.

In terms of community members, regardless of the settlement type it is generally necessary to target a number of different members of a settlement population, as each member group may have an important bearing on water services use and hygiene practices. For example, mother in laws and men may often have an influential role over for what purposes water is used, and whether certain hygienic practices are considered affordable or not.

Regardless of the settlement type in question, it is essential that HHE programmes commence by obtaining an understanding of local knowledge and issues concerning health and hygiene. In this way, the key target groups and behaviours to be addressed within the programme can be identified and effectively incorporated into the process. Support from community and local leaders, through an interactive learning programme, should also be encouraged to promote wider support and sustainability of HE initiatives.

Finally, consideration of the key messages and principles of health and HE (section 2.2.4) should occur for *all* HHE programmes, in conjunction with a thorough understanding of local hygiene issues and behaviour.

4 CHAPTER FOUR – TYPES OF HE PROGRAMMES

Chapter Five discusses the different types/approaches to HE programmes. Although there are numerous different approaches to the implementation of HE programmes only five key types are discussed below namely:

- Participatory Hygiene and Sanitation Transformation (PHAST);
- Child to Child (CTC);
- Personal Hygiene and Sanitation Education (PHASE);
- Nali Kali;
- Human Values in Water, Sanitation and Hygiene Education (HVWSHE); and
- Health Clubs.

To date, the PHAST approach has been the preferred approach for HE in informal settlements in South Africa. This applies to both project based and ongoing HHE initiatives. However, in cases where schools are located within, or in close proximity to, an informal settlement, the Child-to-Child method is preferred for the school environment, to ensure that children are effectively incorporated into a health and HE programme.

Although the PHAST and the CTC programmes have proven to be the most popular approach to HE, all five types of HE are considered important for the following reasons:
- Each approach is applicable and appropriate for the specific educational needs of informal settlements;
- Each approach is well documented and educational material is readily available;
- Each approach or at least a variation thereof has been implemented in SA previously with documented lessons learnt;
- The programmes are not resource intensive and can therefore be easily implemented within current HE grant allocations;
- Each programme has an education focus rather than awareness creation which is essential to effect behaviour change; and
- Each approach embraces the principles of participatory engagement.

4.1 PARTICIPATORY HYGIENE AND SANITATION TRANSFORMATION (PHAST)

Participatory Hygiene and Sanitation Transformation (PHAST) was first developed by the World Health Organisation (WHO) in the 1990s for use in Africa. PHAST is an innovative means to promote good hygiene practice and community management of water and sanitation facilities, through the use of participatory methods.

Fundamental to the PHAST approach is assisting communities to identify for themselves the faecal-oral routes of disease, asses their hygiene practices and modify or adapt their behaviour accordingly (WHO, 1997a). Emphasis is placed on involving all members of the target community - young and old, female and male, higher and lower status, in the learning process. The key steps in the PHAST approach (engaged with by communities) are[2]:

- Assessing their knowledge base;
- Investigating their environmental situation;
- Visualising a future scenario;

---

[2] Adapted from WHO (1997a) p2 and World Bank (2005).

- Analysing constraints to change;
- Planning for change;
- Implementing change;
- Monitoring and evaluation.

PHAST was initially piloted in the rural and urban areas of Botswana, Kenya, Uganda and Zimbabwe, with encouraging results. According to the WHO, programme participants:

> "Planned ways to improve hygiene behaviours in the community, to build or improve facilities and they made plans for operation and maintenance of facilities" (WHO, 1997a v).

PHAST has proven popular in Africa, with the advantage that in many countries a number of hygiene promoters are already in existence that are able to train on the PHAST method. The programme relies heavily on graphic materials (collectively known as tool kits) which are required to be adapted for the specific cultural and physical attributes of the community being assisted.

The PHAST approach builds on the Self-esteem, Associative strengths, Resourcefulness, Action-planning and Responsibility (SARAR) method. This method emphasises people's innate ability to understand and resolve their own problems. Under SARAR, participatory groups are utilised to encourage learning and ensure that sufficient skills and experience are at hand to resolve community based issues (WHO, 1997a).

The PHAST approach allows for an understanding of local conditions and practices with regards to hygiene and then builds on this knowledge and behaviour. The PHAST method can also be used both within a community environment and an institutional setting such as a hospital, clinic, community forum or place of worship.

Furthermore, participatory approaches such as PHAST help to instill a sense of ownership over facilities. This sense of ownership helps to ensure that proper operation and maintenance occurs, an aspect that is vital to ensuring that disease spread is minimised and that facilities remain hygienic.

Drawing on the SARAR approach, the key principles for community based development under PHAST are as follows[3]:

- Communities can and should determine their own priorities for disease prevention;
- People within a community collectively possess an enormous depth and breadth of health-related experience and knowledge. This rich knowledge base can include both traditional and modern wisdom;
- Communities are capable of arriving at a consensus regarding the hygiene behaviours and sanitation systems most appropriate to their specific ecological and cultural environment;
- When people understand why improved sanitation is to their advantage, they will act;
- All people, regardless of their educational backgrounds, are capable of understanding that faeces carry disease and can be harmful, and can learn to trace and describe the faecal-oral route of this disease transmission within their own environment;
- There is a manageable set of barriers that can help to block this transmission. Communities can identify appropriate barriers, based on their own perception of effectiveness and according to local resources.

---

[3] Adapted from WHO (1997a) p3.

In addition, the health promotion principles built into the PHAST methodology argue that[4]:

- An incremental approach to improving hygiene behaviour in communities is the best means to achieve recurrent gains;
- Sustainable improvements in hygiene require a community understanding of the complex interactions between technology options and behavioural practices;
- Improved hygiene practices alone can result in health gains; however, the ideal scenario is where improvements in behaviour and infrastructure take place simultaneously.

A version of PHAST known as Children's Hygiene and Sanitation Training (CHAST) has also been developed, by modifying the methods and materials for a younger age group. Learning techniques better suited to children such as colouring drawings, puppet shows and playing games are incorporated within the CHAST programme.

4.2 CHILD-TO-CHILD

Child-to-Child (CTC) was developed by the WHO in 1979 and has since been implemented in over 80 countries across the globe. The CTC approach sees children as important agents of change, who can have a significant bearing on the hygiene practices of their peers, families and community. CTC methods are generally incorporated within existing or planned HE initiatives, however, in the case of CTC children are the key participants and bearers of the hygiene message.

CTC programmes are divided into six steps, namely[5]:

1. Identifying local health issues and understanding them well;
2. Finding out more about these health issues;
3. Discussing what's been found out and planning action;
4. Taking action. This step includes planning specific actions at school and home that prevent illness, spreading information to others at school and home, and practicing good hygiene behaviours;
5. Discussing results;
6. Discussing how we can be more effective next time and sustain action.

Key to the success of the programme is the linking of lessons to children's normal activities, the linking of what is done in the class with that which takes place in the home, and ensuring that lessons are reinforced over a longer period of time (World Bank, 2005).

Experience in developing countries with CTC has shown that the method can be an effective tool to promote improved hygiene behaviours, with programme success enhanced by strong support from teachers, education departments and local leaders, as well as the involvement of children in decision-making. The use of school based health clubs has also proven successful, with relatively high enrolment of learners given the social nature of the clubs. Children are encouraged to attend the extra-curricular health clubs and use them as a vehicle to spread the hygiene message.

CTC training materials consist primarily of (Water for Africa, undated):

- Activity sheets, which act as sources of health information and inspiration for projects;

---

[4] Adapted from WHO (1997a) p4.
[5] Adapted from World Bank (2005) and Water for Africa (undated).

- Readers, easily read community relevant stories that impart key health messages; and
- A teacher's guide to ensure that the key lessons are conveyed.

4.3 PERSONAL HYGIENE AND SANITATION EDUCATION (PHASE)

The Personal Hygiene and Sanitation Education (PHASE) programme commenced in 1998 as a joint initiative of the international NGO, Plan International, and the corporation, GlaxoSmithKline (GSK). The programme now also includes the involvement of two additional NGOs, the African Medical and Research Foundation (AMREF) and Save The Children.

PHASE aims to enhance hygiene awareness and improve health, targeting children between the ages of 6 and 13. Emphasis is placed on appropriate behaviours related to water, sanitation and waste disposal, specifically targeting a reduction in the incidence of diarrhoea.

As of 2007 the programme has been active in 10 countries within the developing world including Indonesia, Peru, Mexico, Zambia, Kenya, Tajikistan and Bangladesh. Teachers and community leaders are given specialist training in order to implement the programme (GSK, 2007).

The PHASE programme has 4 focus areas, which recognise the interrelated nature of access to basic water services and good hygiene practice. As a result, HE is also matched by attempts to improve infrastructure. The focus areas are (World Bank, 2005):

1. Water: Improvement of available water sources to ensure provision of safe and adequate water for school children for drinking, hand washing, cleaning and other uses;
2. Sanitation: Improvement or development of school sanitation infrastructure that includes pit latrines, urinals, soak pits, and refuse pits to facilitate acceptable standards of hygiene within the school environment, taking into consideration the specific needs of girls and boys;
3. Food: Development of a mechanism for safeguarding against contamination and possible poisoning focusing on school feeding and children's families;
4. Personal Hygiene: Development of appropriate behaviour, construction/ improvement of hand washing facilities, and promotion of protective gear such as shoes or sandals.

The educational materials used in PHASE (cloth books, story cards) have a strong visual component and have been designed and refined using the inputs of children and teachers from participating countries, to ensure that these are user friendly and culturally relevant.

It is possible to combine the PHASE programme with a Child-to-Child initiative, as has occurred in Nicaragua. As with CTC, the PHASE method is expected to work best when it includes the support and involvement of teachers, field workers, local committees and community groups, health units, municipalities, and the national departments for health and education (World Bank, 2005).

As a result of PHASE, a number of hygiene related improvements have been achieved. These include sanitation upgrades in Kenya, where hand-washing facilities and separate toilet facilities for boys and girls have generally been developed, and the use of empty vegetable oil cans as water containers, referred to as 'leaky tins'. Leaky tins provide convenient water points for hand washing that also help to manage limited water supplies. In

2003 the Peru Ministry of Health decided to extent the PHASE programme to all primary schools in the country. In addition, AMREF is currently involved in the rollout of PHASE into the first urban informal settlement tackled by the programme, namely Kiberia, Kenya.

4.4 NALI KALI

Nali Kali is an Indian term which means 'joyful learning'. The Nali Kali approach is very similar to the CTC method, and includes an emphasis on child-centred activities. This method promotes discussion, listening, reading, acting, singing and playing games to both encourage learning and monitor progress (World Bank, 2005). Emphasis is placed on ensuring that the fundamental concepts and practices are mastered, starting with children first grappling with and exploring the issues for themselves.

Nali Kali adopts the following approach (World Bank, 2005):

- Exploration: children are given an opportunity to conduct surveys and outdoor activities for prescribed topics;
- Experience: before expanding on the theoretical part of any subject, children are given ample chance to have personal experiences;
- Expansion: based upon the knowledge that the child has acquired through survey and personal experiences, discussions with the peer group and teacher help in the expansion and sharing of knowledge;
- Evaluation: to know whether the child has gained an understanding of the subject, continuous evaluation is done through games.

4.5 HUMAN VALUES IN WATER, SANITATION AND HYGIENE EDUCATION

The Human Values in Water, Sanitation and Hygiene Education (HVWSHE) Initiative is currently being implemented in select schools within Madhya Pradesh and underprivileged settlements within Gujarat, as part of UN-HABITAT's Water for African and Asian Cities programme.

The initiative includes value based learning on issues related to water, sanitation and hygiene. These lessons are conducted both within the school curriculum and in extra-curricula activities. The ultimate intention of the programme is to assist in promoting a 'positive and lasting change in attitude and behavior regarding water at all levels of society' (Water for African and Asian Cities Programme, undated p2). As UN-HABITAT argue:

> "Value-based water education is an innovative approach that not only seeks to impart information on water, sanitation and hygiene but also inspires and motivates learners to change their behaviour, with a view to promote wise and sustainable use of water and sanitation" (Water for Asian Cities Programme, undated).

A key method used in the rollout of the programme is the use of water and sanitation (WATSAN) HVWSHE classrooms. The development of these classrooms is facilitated by water utilities in partnership with the HVWSHE team. The purpose of WATSAN classrooms is to provide a suitable location for education programmes on water, sanitation and hygiene to take place. The classrooms are well equipped with materials, equipment and models to facilitate interactive sessions and learning by doing. Issues such as safe sanitary practices and disposal of domestic waste are covered. The HVWSHE classroom activities are complemented by learning through the normal curriculum, which is also adapted to consider these issues.

Key HVWSHE programme activities include (Water for African and Asian Cities Programme, undated):

- Development of suitable resource materials for the school curriculum;
- Development of teacher training guides for teacher colleges and schools;
- Integration of HVWSHE into the school curriculum and into teacher training colleges, by the Ministry of Education;
- Resource materials developed and piloted for the extra-curricular (non-formal) education sector;
- Collaboration between the water and sanitation sector and education sector, regarding suitable investments in water services at schools;
- Promoting HVWSHE classrooms with water utilities;
- Training on HVWSHE classrooms with utilities.

4.6 HEALTH CLUBS

A growing trend in SA it to develop health clubs to promote and monitor health related issues. The approach of health clubs have been effectively implemented in African countries including Uganda and Zimbabwe. The clubs create a platform to spread knowledge on health issues.

4.7 HE CONSTRAINTS AND OPPORTUNITIES OF EACH TYPE OF HE PROGRAMME

4.7.1 Participatory Hygiene and Sanitation Transformation

Participatory Hygiene and Sanitation Transformation (PHAST) presents a number of opportunities for effective HHE. The participatory methods used are designed to maximise on community involvement, crucial for encouraging learning and developing a sense of community ownership regarding the HHE programme. PHAST messages are more likely to be taken in by participants on a deeper and more sustained basis, as a result of the methods employed, thereby increasing the chances for positive behaviour change. The promotion of the involvement of a wide network of community members can also assist in the uptake of good hygiene, given that a variety of different community role-players can influence hygiene behaviour.

Additional benefits of PHAST are its proven track record within African countries, and the general availability of PHAST facilitators in developing countries. Given that a PHAST method build on community knowledge and are tailored to community conditions, implies that the PHAST approach can be implemented in all communities and settings, including informal settlements. Where PHAST is implemented in large-scale concentrated informal settlements, longer-term hygiene gains can be achieved, particularly if complemented by improvements in access to water services. This is given the general upgrading and formalisation of this type of informal settlement over time. Where PHAST is implemented in more transitory pocket informal settlements, there is good potential for hygiene messages to be spread geographically as residents relocate.

Given that the PHAST approach is not superficial and can result in lasting knowledge gains, where programme participants move off from their current location, the knowledge and practices gained are able to be transferred with them. This provides the opportunity for participants to influence behaviour and practice within their new settlement area. PHAST can

also be used in a variety of different contexts from community forums and projects through to clinics, given that it facilitates participants identifying and solving their unique hygiene challenges. A version suitable for use with children in schools (CHAST) has also been developed.

PHAST methods, by encouraging community involvement can assist in user understanding of the technologies being employed, thereby contributing to improved user maintenance. Nevertheless, it may be difficult for PHAST participants to implement the key lessons learnt in cases where household or communal latrines are not provided, but rather where access is unrestricted in the form of open access toilet blocks. If access is not restricted, community members may take little ownership over the assets, vandalism may occur and the sustainability of the facilities become jeopardised. Despite these concerns, methods such as PHAST have the potential to improve hygiene practice even where corresponding improvements in infrastructure have yet to take place.

The sustainability of the PHAST programme can be enhanced by emphasising the non-health related benefits (e.g. economic benefits) of HHE to the target audience, thereby appealing to other important drivers of behaviour.

The use of PHAST toolkits, adapted for the specific cultural and physical attributes of the community being assisted, provides the opportunity to tailor HHE to the needs and resources of informal settlement dwellers. The key constraint with PHAST, however, is that the graphic materials (toolkits) used need to be customised to the community in question. This process can take some time, requires the involvement of suitable artists, and is one of the more expensive aspects of the programme rollout. However, once developed for a particular informal settlement context, these graphic materials may well be suitable for use in a variety of other locations in the country. Translation of materials into the local language may also be needed.

Project based initiatives are most likely to be successful and enduring where they are linked to and can be built upon by similar follow up initiatives conducted through ongoing HHE programmes as co-ordinated by the MHS. Regular follow ups and ongoing HHE are required in all settlements that tend to have high resident turnover, such as scattered pocket informal settlements.

4.7.2 Child-to-Child

Child-to-Child (CTC) approaches offer the excellent opportunity of imparting health and hygiene messages to participants at an early age and assisting in providing lifelong lessons on good hygiene. The use of socially interactive CTC health clubs has also proven effective in Africa for spreading the hygiene message.

CTC approaches are particularly useful in large-scale informal settlements, as these may often have access to their own educational facilities within or adjacent to the settlement area, thereby creating the opportunity for the long-term development of good hygiene practice within an informal settlement. These settlements tend to be formalised and upgraded with time, so knowledge developed can be entrenched within the project area.

In cases where children are living in scattered pocket informal settlements, the means to implement HHE in neighbouring schools where they are found to be enrolled is required. A fairly simple means to assess whether residents of informal settlements are attending surrounding schools is therefore needed for this approach to be effective. Pocket settlements tend to be more transitory in nature, with the result that children trained in CTC methods are able to transfer the knowledge and practices gained to their new settlement

area upon relocation, especially as the lessons learnt are likely to be well internalised using CTC methods.

CTC can also form the basis for influencing the hygiene behaviour of parents, family members and wider communities, as evidence from other African initiatives indicates. Innovative technology approaches, such as the use of 'leaky tins' for hand washing, have also arisen out of the implementation of this programme.

Whilst generally focused on imparting the key hygiene messages, such a programme is flexible enough to discuss key hygiene practices in relation to different sanitation technology options. Successful programmes have also managed to involved health clubs and scholars in the upkeep of sanitation facilities, thereby alleviating some of the maintenance burden for municipalities.

Methods such as CTC have the potential to improve hygiene practice even where corresponding improvements in school infrastructure have yet to take place. However, a CTC programme is most likely to be successful and enduring where it is linked to schools' water services upgrading and a corresponding PHAST or other suitable initiative within the wider informal settlement community. This process could include the contribution of ongoing HHE programmes in informal settlements, as co-ordinated by the MHS.

The key constraint to this sort of programme is the need for the support of teachers, education departments and local leaders in project rollout. The CTC activity sheets, readers and teachers' guides will also need to be tailored to the social and cultural conditions of the target community, with related costs and time constraints for graphic material development. Translation of the materials into the local language may also be needed. Once developed for a particular informal settlement context, however, these visual materials may well be suitable for use in a variety of other locations in the country.

A means to promote the involvement of boys in CTC health clubs, where these are used, is required as experience has shown that it is generally girls that are most widely involved in these clubs.

The degree to which scholars are able to practice the lessons provided can be expected to be constrained by whether appropriate water services are provided at schools. Municipalities that follow a strong CTC approach should take cognisance of the water and sanitation infrastructure available to these schools and plan for the upgrading of these facilities where possible.

4.7.3 Personal Hygiene and Sanitation Education

Personal Hygiene and Sanitation Education (PHASE) provides a viable tool for implementing HHE in a school based context. However, at present this GSK initiative is not active in South Africa, with the result that it is unlikely to be used in the near future. At a later stage municipalities may be able to collaborate with GSK and its partners in the rollout of PHASE within schools, as and when entrance of the programme into South Africa occurs. Until that point, Children's Hygiene and Sanitation Training (CHAST) and Child-to-Child (CTC) present a more viable means for the implementation of HHE within a schools sanitation programme within informal settlements or neighbouring areas.

4.7.4 Nali Kali

Nali Kali methods, as adopted in parts of India, are similar to those of CTC and PHASE, with corresponding opportunities and constraints. The key lesson that can be derived from this

type of HHE is that the use of games as both learning tools and a means for monitoring progress should be embraced. These lessons can be incorporated within a CHAST or CTC approach, customised for South African conditions, and as such the Nali Kali method is not considered further here.

4.7.5 Human Values in Water, Sanitation and Hygiene Education

The Human Values in Water, Sanitation and Hygiene Education (HVWSHE) initiative offers the opportunity for lasting gains to be achieved in the means whereby children approach water, sanitation and hygiene. Implemented effectively, fundamental shifts in thinking are possible given the scope of the programme and the nature of the interaction promoted.

The major constraint, however, is that HVWSHE is currently only active in India through the strong support of UN-HABITAT and a number of additional supporting agencies. The costs of replicating such a programme within individual informal settlements is likely to be prohibitive for municipalities in South Africa, particularly given the costs required for the equipping of the WATSAN classrooms. If the scope of this project is expanded to include developing countries such as South Africa, municipalities can look to it as a comprehensive means to involve both users and water utilities in addressing hygiene issues, amongst other concerns. This initiative is not solely focused upon hygiene issues, examining a wide array of concerns, with the result that attempts at a more intensified HE programme should rather look towards methods such as PHAST and CTC.

5 CHAPTER FIVE– POLICY REVIEW

The first aim of this section is to outline the legislative and policy context in which the provision of HE occurs, especially in relation to informal settlements. This context is provided per government department, taking into account those departments that have an important bearing on the provision of Hygiene Education and the management of informal settlements. An understanding of this context can assist in ensuring that HE programmes have a positive impact on informal settlements. In this Chapter the general perception that infrastructure development cannot occur on privately owned land is addressed.

The second aim is to consider key policy issues in the provision of HE, with emphasis on informal settlements where applicable, in order to consider the implications for HE programmes.

5.1 LEGISLATIVE AND POLICY CONTEXT

5.1.1 Republic of South Africa

5.1.1.1 The Constitution (Act No. 108 of 1996)

The Constitution contains a number of elements of relevance to the provision of sanitation and HHE.

Firstly, the roles of national, provincial and local government regarding sanitation provision are allocated in the Constitution. According to the Constitution, local government is responsible for the provision of sustainable services to communities, with the support of provincial and national government. As stated in the Constitution (Chapter 7: Section 152) the objects of local government are to:

    a. Provide democratic and accountable government for local communities;
    b. *Ensure the provision of services to communities in a sustainable manner;*
    c. Promote social and economic development;
    d. Promote a safe and healthy environment; and
    e. Encourage the involvement of communities and community organizations in the matters of local government.

In addition, Part B of Schedule 4 of the Constitution indicates that the specific functions of local government include:

- The provision of municipal health services;
- The provision of water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposal systems.

Municipal health services include the facilitation of ongoing HE within communities. The provision of health and HE in conjunction with service delivery can also play a significant role in not only addressing service backlogs but in contributing to a safe and healthy environment. As such, local government (assisted by provincial and national government) has a central role to play in the supply of sanitation services and health and HE.

Secondly, the importance of providing adequate sanitation and HE to the people of South Africa is enhanced by the provisions contained within the Bill of Rights. The Constitution

indicates that all citizens have the right 'to an environment that is not harmful to their health or well-being' (Chapter 2: Section 24) and that 'everyone has the right to have access to health care services' (Section 27). The right to life (Section 10) and dignity (Section 11) are also asserted. The Constitution thus places a clear mandate on the various government structures to assist in the achievement of these rights.

The Constitution does not differentiate between types of settlements and the levels of service provided, however, this matter is taken up within the Strategic Framework for Water Services (SFWS). See section 3.2.3.4 below.

5.1.2 Department of Provincial and Local Government

5.1.2.1 Municipal Structures Act (Act No. 117 of 1998)

This Act authorises District Municipalities with the powers and functions for municipal health services (MHSs), including health and HE and environmental health. The Act also places the authority for water and sanitation services with District Municipalities, in the form of WSA's. However, a Local Municipality can be recognized as a WSA following authorisation by the Minister for Provincial and Local Government, under Section 84 of the Act.

District Municipalities therefore carry the primary responsibility in the provision of HE. This responsibility is outlined in detail in the National Health and Hygiene Education Strategy (section 3.2.5.3) which clearly identifies the roles of MHSs and WSAs in HHE.

5.1.2.2 Municipal Systems Act (Act No. 32 of 2000)

This act identifies the formulation, use and review of a five year Integrated Development Plan (IDP) within each municipality. The IDP acts as the principal planning and development related instrument within municipalities and should inform all decision making.

An important component of an IDP is a Water Services Development Plan (WSDP). The function of the WSDP is to review service delivery levels and set clear objectives for the provision of water services, based on quantifiable performance indicators. A domestic sanitation business plan is also developed as part of the WSDP.

IDPs, and in particular WSDPs, provide an important means whereby a local authority can prioritise certain services, including HHE. It is therefore critical that WSDPs recognise the role of HHE and budget accordingly for the rollout of suitable HHE programmes within water and sanitation projects.

It is also vital that Councillors and local government officials are engaged with, for the purpose of understanding the importance of effective HHE, as these officials play a key role in identifying the priorities to be adopted within both IDPs and WSDPs.

5.1.2.3 Municipal Infrastructure Grant Policy Framework (2004 - 2007)

The Municipal Infrastructure Grant (MIG) Policy Framework provides the framework for the implementation of the MIG programme. The MIG programme aims to assist the poor to gain access to infrastructure, ensuring that all South Africans have at least a basic level of service by 2013. MIG objectives are to be achieved primarily through the provision of a consolidated capital grant to cover the cost of basic municipal infrastructure for poor households.

MIG funds can only be used to build new infrastructure, or to upgrade existing infrastructure to basic levels of service, for the poor (Municipal Infrastructure Chapter Team, 2004).

Although a portion of MIG funds are ring fenced for water services, these funds are for infrastructure delivery and do not address issues such as operation and maintenance (O&M). Costs associated with the provision of HE in water and sanitation projects have traditionally not been included within the MIG framework. This has previously been cited as a key omission within municipal policy (NSTT, 2004). More recently, however, the MIG programme has come to recognise the role of HHE in water services provision, as discussed in section 3.2.2.4 below.

The MIG Policy Framework also indicates that MIG funds can be used for residential water services and municipal health services, opening the door to the use of these funds for continuous HE related activities.

5.1.2.4 Municipal Infrastructure Grant: Basic Level of Services and Unit Costs - A Guide for Municipalities (2005)

The Municipal Infrastructure Grant report entitled 'Basic Level of Services and Unit Costs - A Guide for Municipalities' (DPLG, 2005) does provide a cost estimation for HHE as part of the supply of basic water and sanitation services.

This report indicates that the cost of health education should be estimated at R300 per household at 2005 prices. Alternative funding sources can also be sourced in order to top up these allocated amounts. Financial allocations for project based HHE are discussed in more detail in section 8.1.

5.1.3 Department of Water Affairs and Forestry

5.1.3.1 National Sanitation Programme (1996 onwards)

DWAF, supported and assisted by sanitation role-players, first launched the National Sanitation Programme in 1996. The programme focuses on the eradication of the sanitation backlog in rural, peri-urban and informal settlement areas by the year 2010. In addition, eradication of the bucket system is to be achieved by 2007. These targets have since been incorporated into the SFWS (section 3.2.3.4).

The targets are to be met through the provision of 2 key deliverables. The primary deliverables consist of the promotion of sanitation, health and hygiene awareness and the provision of a basic toilet facility. Secondary deliverables necessary to create an enabling environment include training and capacity building elements. Projects are to be implemented using a community-based approach.

Highest priority is given to those communities that face the greatest health risk due to inadequate sanitation and who cannot afford to meet their own requirements. Further, in order to maximise collaborative efforts, areas prioritised for intervention are aligned with the poverty nodes identified within the Integrated Sustainable Rural Development Programme.
The National Sanitation Programme places strong emphasis on tackling areas of high poverty characterised by the greatest need and health risk. Rather than being left unattended, this clearly identifies addressing the sanitation requirements of informal settlements as a vital area for intervention. The original emphasis on 'health and hygiene awareness', as opposed to 'health and hygiene education', is an area of concern with the programme, however, given that awareness is less likely to affect behaviour change, particularly amongst less educated communities.

The National Sanitation Programme now plays an important role in the implementation of the National Health and Hygiene Education Strategy (NSTT, 2004). The Health and Hygiene

Education Strategy places its key focus on rural and informal areas, and is concerned with ensuring the effective implementation of HHE and not simply raising awareness.

5.1.3.2 Water Services Act (No. 108 of 1997)

The major objectives of the Water Services Act (Chapter I, Section 2) are to provide for:

- The right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being;
- The setting of national norms and standards for tariffs in respect of water services;
- The preparation and adoption of Water Services Development Plans (WSDPs) by Water Services Authorities (WSAs);
- The development of a regulatory framework for water services institutions and water services authorities.

The Act distinguishes between the roles and functions of Water Services Authorities (WSAs) and Water Services Providers (WSPs). According to the Act, the actual delivery of services is undertaken by Water Services Providers (WSP). A WSA may act as a WSP or it may utilise municipal entities (e.g. Johannesburg Water), water boards or other contracted service providers (e.g. community based organisations) as their WSP.

The Water Services Act contains limited information relating to health and hygiene. The definition of a basic sanitation service in the Act does not incorporate either hygiene awareness or education; however, this definition has subsequently been revised and expanded upon in the White Paper on Basic Household Sanitation and the Strategic Framework for Water Services (see below). Nevertheless, the Act does recognise the need for all households, specifically including informal households, to have access to adequate water to facilitate personal hygiene (Chapter I, Section 1). The right of access of informal settlements to basic water supply, in order to facilitate personal hygiene, is therefore asserted (Chapter I, Section 1).

5.1.3.3 White Paper on Basic Household Sanitation (2001)

The White Paper on Basic Household Sanitation (DWAF, 2001) emphasises the provision of a basic level of household sanitation to those areas with the greatest need, namely rural areas and informal settlements. The motivation for this is that 'these are the areas with the greatest need and the areas where intervention can have the greatest beneficial impact on health' (DWAF, 2001).

According to the White Paper, the minimum acceptable basic level of household sanitation is:

a. Appropriate health and hygiene awareness and behaviour;
b. A system for disposing of human excreta, household waste water and refuse that is:
   - Acceptable and affordable to users;
   - Safe;
   - Hygienic;
   - Easily accessible; and
   - Does not have an unacceptable impact on the environment.
c. A toilet facility for each household (DWAF, 2002a).

The White Paper is clear that health and hygiene awareness is an integral part of sanitation service delivery and as such presents the platform to recognise HE as a service to be provided by local government.

The White Paper therefore clearly indicates the importance of providing at least a basic level of sanitation to informal areas, whilst recognising that this sanitation service should include 'health and hygiene awareness and behaviour'.

As such, the White Paper emphasises that informal settlements should not be discounted in the provision of Sanitation Health and Hygiene Education (SHHE), but rather, should act as a focal point for initiatives, given their level of need and the potentially significant gains for human health.

In addition, the White Paper now extends the requirements for health and hygiene programmes to include not only awareness but also 'behaviour', highlighting the fact that programmes should influence daily practices. A trend towards a more developed and effective health and hygiene programme can therefore be discerned in the progress of government policy related to SHHE.

Two of the White Paper's principles have particular relevance for this study. Firstly, 'Sanitation improvement must be responsive to the demands of the people and supported by an intensive Health and Hygiene Programme' (DWAF, 2002). In other words, the choice of sanitation technology should not be prescriptive, but take into account the specific needs of households. Furthermore, in order to derive maximum benefit, users must understand the links between their own health, good hygiene and toilet facilities. A suitable health and hygiene programme is therefore required, which is considered to be *intensive* in nature.

Secondly, 'Community Participation' is an important principle that allows communities to be fully involved in projects that relate to their health and wellbeing (DWAF, 2002). Communities must participate in decision-making, contribute to implementation and share in programme benefits. Community participation extends to their understanding of and involvement in health and hygiene programmes.

The roles and responsibilities of the three spheres of government in the provision of basic household sanitation have also been identified in the White Paper on Basic Household Sanitation. However, these institutional arrangements are clarified and spelt out in more detail within the National Health and Hygiene Education Strategy (NSTT, 2004), discussed in section 3.2.5.3.

5.1.3.4 Strategic Framework for Water Services (2003)

The Strategic Framework for Water Services (SFWS) provides the overriding strategic direction for the provision of water and sanitation services in South Africa. The main objective of the SFWS is to ensure that the vision for the water services sector is achieved.

This vision is to be achieved primarily through the clarification of roles and responsibilities and financial arrangements, the development of service delivery targets and the use of suitable progress indicators.

The SFWS includes a number of water services delivery targets of relevance to SHHE.

These include:

- All people in South Africa have access to a functioning basic water supply facility by 2008;
- All people in South Africa have access to a functioning basic sanitation facility by 2010;
- HE and the wise use of water are taught in all schools by 2005;
- 100% of households with access to at least a basic sanitation facility know how to practice safe sanitation by 2010.

It is important to note that the definition of a 'basic water supply' or 'basic sanitation service' includes the provision of HHE. This continues on from the approach adopted within the White Paper on Basic Household Sanitation, which emphasises the importance of health and hygiene awareness and behaviour. As such, the subsidy provided for a basic sanitation service must include the cost for a suitable health and hygiene programme. A basic sanitation service is defined in the SFWS 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"* (DWAF et al., 2003 p46 emphasis added).

Nevertheless, it should be understood that the choice of technology for a basic sanitation service is not defined. Rather the option chosen is at the discretion of the relevant WSA and is expected to differ primarily in terms of *settlement type*. Thus, in urban areas with higher residential densities waterborne sanitation is generally considered the appropriate basic level of service, whereas in rural areas with lower housing densities and few businesses, on site solutions such as Ventilated Improved Pits (VIPs) are considered suitable. In peri-urban areas on site sanitation is likely to provide the desired solution. Regardless of the sanitation technology chosen, emphasis is placed on ensuring that the service provided is financially viable and sustainable, including considering any operation and maintenance costs.

The mandate for HHE within the SFWS is contained not only in the definition of a basic sanitation service, but is also provided by assertions that physical infrastructure alone is insufficient to ensure health gains. The SFWS argues that infrastructure must be matched by gender sensitive HHE, in order to combat water related diseases and reduce the vulnerability of HIV infected individuals.

The SFWS also highlights the need for a collaborative approach between the water and health sectors in the rollout of HHE:

"Health and hygiene promotion must be provided in a co-ordinated manner and must be properly managed and adequately funded if free basic sanitation is to become a reality. This requires close collaboration between the district municipality responsible for environmental health, the water services authority and the water services provider" (DWAF et al., 2003 p30).

The SFWS does make specific reference to informal settlements in one instance, arguing that WSAs should address security of tenure issues promptly, whilst providing 'interim basic water and sanitation services that are appropriate, affordable, and practical in accordance with a progressive plan that addresses both land tenure and basic services' (DWAF et al., 2003 p43). The supply of interim basic water and sanitation services to informal settlements also implies that health and hygiene promotion is required in these areas. By clearly stating

that all citizens are entitled to a basic level of service implies that government funds can be used to provide infrastructure on privately owned land. It is with this in mind that DWAF developed a guideline to assist municipalities in providing services to people living on privately owned land.

It should also be noted that the service delivery targets for basic water and sanitation (as highlighted above) apply to all South Africans. Hence it is a requirement of WSAs, supported by national and provincial partners, to facilitate health and hygiene promotion for all residents, including those living in informal settlements. This is complemented by the purpose of the SFWS, which is to set out a comprehensive approach to the provision of water services for all types of communities and settlement areas.

Given that informal settlements are amongst the least serviced areas, it can be expected that they should be amongst the highest beneficiaries of basic sanitation services, and with that, of a corresponding health and hygiene programme.

5.1.3.5 Guideline for Ensuring Water Services to Residents on Privately Owned Land (2005)

Residents on private land are often extremely disadvantaged and comprise of a significant portion of the rural community. The National Sanitation Strategy attempts to address the issue of sanitation provision for people living on private land. A key aim of the strategy is that these residents should be able to benefit from current programmes to provide sanitation, whilst there should be no undue advantage to the farmer through the provision of such facilities (DWAF, 2002c).

In 2005 DWAF produced a document entitled 'Ensuring Water Services to Residents on Privately Owned Land'. This document facilitates the practical application of the intentions of the National Sanitation Strategy. This guideline document was compiled to provide policy and strategy guidance to municipalities responsible for providing access to water services to all their residents, including those living on privately owned land (DWAF, 2005a).

The purpose of the guideline document is to ensure that all South Africans are offered the opportunity to access basic water services, which by definition includes health and hygiene promotion, in line with the aspirations of the SFWS.

5.1.4 Department of Health

5.1.4.1 National Health Act (Act No. 61 of 2003)

A key component of the National Health Act is to delineate responsibility for municipal health services to District and Metropolitan Municipalities. District Municipalities and Metropolitan Municipalities are to ensure that municipal health services are adequately addressed via a district health plan (DHP). The municipal health service consists of 47 District Municipalities and 6 Metropolitan Municipalities.

District and Metropolitan Municipalities are tasked, via their responsibility for municipal health services, with ensuring the provision of ongoing HHE to communities. They are also tasked with the long-term monitoring of these HHE programmes.

The Act also makes provision for Environmental Health Practitioners (EHPs) to operate at District or Metropolitan Municipality level. EHPs are prescribed a key role in the co-ordination of ongoing, as opposed to project based, HHE programmes.

5.1.5 National Sanitation Task Team

The National Sanitation Task Team (NSTT) is an interdepartmental initiative comprised of 6 government departments (Health, Education, Water Affairs and Forestry, Environmental Affairs and Tourism, Housing, Provincial and Local Government) as well as the NGO sector and SALGA.

The NSTT was established in 1995 with the purpose of providing a coherent framework for addressing the sanitation backlog facing the nation. The NSTT facilitated the development of the National Sanitation Policy, also known as the Draft White Paper on Sanitation (NSTT, 1996). The National Sanitation Policy formed the basis for the DWAF National Sanitation Programme (section 3.2.3.1). In 2001, the updating of the National Sanitation Policy was completed with the development of the White Paper on Basic Household Sanitation (section 3.2.3.3.).

Key policies and strategies developed by the Task Team will now be considered.

5.1.5.1 National Sanitation Policy (White Paper) (1996)

This White Paper indicates that in addition to existing conventional municipal arrangements, there is a need for a new programme with the goal of achieving a situation in which all South Africans have access to adequate sanitation.

To this end, four specific objectives were set in the White Paper that must be met:

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

Section C of the National Sanitation Policy considers HHE and promotion. The aims of this section are to:

- Raise awareness of the diseases caused by unhealthy behaviour and practices;
- Support and provide HHE that will enable people to improve their health through correct hygienic practices;
- Lead to an increased demand and willingness to pay for appropriate sanitation facilities (National Sanitation Task Team, 1996).

The White Paper places a strong emphasis on HHE, exemplified by the following extract: "Because healthy and hygienic practices are so important for achieving lasting health benefits, sanitation improvement programmes can never be confined to the provision of toilets by government agencies. People must be convinced of the need for sanitation improvements so much, that they will invest their own resources into those improvements and spontaneously encourage the practice of good hygiene" (Still and Holden, 1997).

5.1.5.2 Strategy for Sanitation Services to Informal Settlements (2003)

This document aims at providing a strategy for the development of action plans at local, provincial and national level for the National Sanitation Task Team member departments, taking into account the policy principles of the Policy on Basic Household Sanitation (National Sanitation Task Team, 2003a).

This document states that the White Paper on Basic Household Sanitation (DWAF, 2001) places its focus on rural areas. However, this statement is incorrect as illustrated in section 3.2.3.3 above, whereby it is illustrated that the White Paper on Basic Household Sanitation focuses on both informal and rural areas.

The strategy gives a breakdown of eight strategic objectives, each of these objectives are then looked at in terms of monitoring using suitable indicators.

The Strategy for Sanitation Services to Informal Settlements has a vision that ensures alignment with the national sanitation values and objectives and ensures 'Health and Dignity for All'. The key mission is to:

> "Maximally promote the health and quality of life of people in informal settlements by ensuring that services and management practices for the participative provision of sanitation promote correct hygienic practices as well as the provision and ongoing operation and maintenance of acceptable, affordable, safe, hygienic and easily accessible systems of disposing of human excreta, waste water and household refuse without compromise to the environmental, financial and institutional sustainability of services" (National Sanitation Task Team, 2003a).

The Strategy clearly states that health and hygiene promotion should serve as the main overarching focus of sanitation provision. The Strategy goes further to state that sanitation delivery should include three specific areas of activities namely, (i) health awareness, (ii) promotion of hygienic practices and (III) hardware delivery.

A guideline document for the implementation of this strategy was also completed in June 2003. The guideline aims at providing a basis for the implementation at local government level of the Strategy for Sanitation Services to Informal Settlements, taking into account the policy principles of the White Paper on Basic Household Sanitation (National Sanitation Task Team, 2003b).

5.1.5.3 National Health and Hygiene Education Strategy (2005)

The National Health and Hygiene Education Strategy provides a comprehensive approach to the delivery of effective and sustainable HHE in South Africa. The Strategy includes consideration of institutional arrangements, target groups, required resources, minimum standards and planning requirements for the rollout of HHE initiatives.

According to the Strategy, the purpose of HHE is to increase knowledge and positively impact both attitudes and practices related to water and sanitation services. In addition, in order to be effective, these education programmes must be sustained over the long-term.

The Strategy highlights the importance of addressing the health and hygiene challenges impacting rural and informal areas, arguing that:

> "The strategy focuses on the provision of basic sanitation health and hygiene awareness promotion, with emphasis on the facing of our rural and informal areas

where issues are of critical importance due to the lack of resources and capacity" (NSTT, 2004 p3).

The Strategy proposes the following in terms of the rollout of national HHE related to water and sanitation services:

- The Department of Health is the custodian for HHE;
- WSAs and Municipal Health Services (MHSs) are responsible for the delivery of HHE;
- Short-term project based HHE is to be conducted by WSAs as part of the provision of water and sanitation services. Ongoing HHE is to be provided by Municipal Health Services at District Municipality level;
- WSAs need to take the lead in ensuring HHE through water and sanitation implementation by ensuring collaborative planning with municipal health services and effective management and monitoring;
- Water Services Providers (WSPs) are responsible for ongoing HHE as part of operations, maintenance and customer relations activities.

As a result of the combined responsibilities of WSAs, WSPs and MHSs in the provision of HHE, focus is paced within the Strategy on ensuring that these institutions adopt a collaborative and co-ordinated approach in order to ensure effective planning. This planning is required to link to IDP, WSDP and District Health Plan (DHP) processes, in order to facilitate effective implementation.

The various target groups identified within the Strategy will be reached through the following key interventions:

- HHE as a component of water and sanitation projects;
- HHE modules as part of primary health care programmes. This forms the principal basis for ongoing HHE;
- HHE as part of the school curriculum through partnership with Department of Education;
- National mass media programs such as the WASH program;
- Provincial and District Health and Hygiene education programs.

A key target group identified for assistance within the Strategy are those individuals affected by HIV and AIDS. HIV and AIDS prevalence rates have been found to be highest within informal settlements (DoH, 2007). This situation only serves to emphasise the need to implement long-term and ongoing HHE in informal areas. This will require the work not only of WSAs for project related activities, but, in particular, the work of WSPs and MHSs for ongoing education.

Departmental roles and responsibilities for all spheres of government concerning HHE are outlined in detail within the Strategy (Table 2).

Key responsibilities for national departments and local level institutions concerning the facilitation of HHE include the following (NSTT, 2004):

Table 3: National and Local Level Responsibilities for HHE

Department/ Institution	Key Responsibilities in Relation to HHE
National Departments	
Department of Water Affairs and Forestry	➢ Provide support to Water Services Authorities; ➢ Promote and advocate for sustainable HHE delivery in all water services programmes; ➢ Ensure that HHE is an integral component of all water services projects; ➢ Implement health and hygiene promotion as the main objective of WASH campaigns; ➢ Interpret and provide feedback on monitoring indicators.
Department of Health	➢ Provide support to Municipal Health Services; ➢ Ensure Traditional Health Practitioners are involved with HHE; ➢ Support HHE programmes through: • Materials development and distribution; • Integrating HHE into health promotion training; • Sharing of lessons and knowledge. ➢ Interpret and provide feedback on monitoring indicators.
Department of Education	➢ Ensure health and hygiene curricula is appropriately taught at all schools; ➢ Provide guidelines and promote additional health and hygiene activities at schools.
Department of Public Works	➢ Implement school sanitation infrastructure projects for the Department of Education.
Department of Housing	➢ Provide sanitation infrastructure as part of housing projects; ➢ Ensure the inclusion of HHE as part of their customer relations in the provision of housing.
Department of Provincial and Local Government	➢ Promote HHE as part of service delivery projects relating to water, sanitation and waste disposal.
SALGA	➢ Capacity building focusing on developing skills within the District and Local Municipalities to effectively plan and implement HHE.
Local Level Institutions	
Municipal Health Services (MHSs)	➢ Assume the primary responsibility for HHE; ➢ Liaise with WSA technical and social facilitation services in planning sanitation projects; ➢ Plan and identify options for implementing ongoing HHE programmes as part of MHS and District Health System (DHS) primary health care programmes; ➢ Monitor and support Community Health Workers (CHWs); ➢ Ensure co-ordination with and support to health related NGOs.

Department/ Institution	Key Responsibilities in Relation to HHE
Water Services Authorities (WSAs)	➢ Ensure adequate planning and implementation of HHE as part of all water services delivery projects; ➢ Ensure collaborative planning with other key role-players particularly the MHS and Water Service Providers; ➢ Prioritise sanitation and HHE projects in the planning processes (WSDP and IDP); ➢ Investigate scenarios for ensuring ongoing HHE as part of water service provider functions; ➢ Adopt HHE implementation guidelines and standard approaches and materials based on the HHE minimum standards; ➢ Identify training and capacity building needs in relation to HHE and schedule the delivery of this training; ➢ Monitor the health and hygiene status of communities and compliance with regulations.

A monitoring and evaluation framework for the evaluation of the Strategy is also included within the document, with evaluation of strategy outcomes to be conducted by the NSTT. Long-term monitoring of HHE programmes remains the primary responsibility of Municipal Health Services, given their mandate to implement ongoing HHE.

5.1.5.4 National Sanitation Strategy (2005)

The National Sanitation Strategy takes documents such as the White Paper on Basic Household Sanitation (2001) and the Strategic Framework for Water Services (2003) into consideration and provides a coherent approach to sanitation service delivery in South Africa. The strategy provides 'clear approaches to sanitation services delivery including factors to consider in the choice of technical options in order to facilitate the elimination of the sanitation backlog by 2010' (National Sanitation Task Team, 2005a).

The National Sanitation Strategy strongly advocates for the inclusion of HHE as a key component of water and sanitation infrastructure delivery. The strategy also points to the increased role of Environmental Health Practitioners (EHPs) from the Department of Health (to be located at District or Metropolitan Municipality level) in the provision of HHE.

Emphasis is also placed on HHE forming an integral part of all sanitation projects, regardless of who the project is implemented by. The Strategy states that HHE must not be seen as an add-on item, but as important to the delivery of sanitation as the delivery of actual infrastructure (National Sanitation Task Team, 2005a).

5.1.6 Department of Housing

5.1.6.1 Housing Act (Act No. 107 of 1997)

The Government's primary housing objective is to undertake housing development, which Section 1 of the Housing Act defines as being:

"The establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities in areas allowing convenient access to economic opportunities, and to health,

educational and social amenities in which all citizens and permanent residents of the Republic will, on a progressive basis, have access to:

- Permanent residential structures with secure tenure, ensuring internal and external privacy, and providing adequate protection against the elements; and
- Potable water, adequate sanitary facilities and domestic energy supply" (National Department of Housing, 2004).

5.1.6.2 National Housing Programme: Upgrading of Informal Settlements (2004)

The current housing subsidy programme was not specifically designed and geared for informal settlement upgrading. As a result, a new programme is being instituted in terms of section 3(4) (g) of the Housing Act, referred to as the National Housing Programme: In Situ Upgrading of Informal Settlements.

The assistance within this programme takes the form of grants to municipalities to enable them to respond rapidly to informal settlement upgrading needs, by means of the provision of land, municipal services infrastructure and social amenities. It includes the possible relocation and resettlement of people on a voluntary and co-operative basis in appropriate cases as a result of upgrading projects.

The main objective of this Programme is to facilitate the structured upgrading of informal settlements. This Programme promotes the upgrading of informal settlements to achieve the following policy objectives:

- Tenure security;
- Health and safety; and
- Empowerment through social, economic development and social capital.

The vision and objective of the Department of Housing is clearly to facilitate the upgrading of informal areas. This process includes the provision of municipal services and promotion of improved health for inhabitants. As a result of this gradual formalisation, a clear mandate exists for informal areas to be provided with municipal services and HHE, given the definition of a basic sanitation service.

Whilst the Upgrading Programme does allow for the relocation of informal communities in particular circumstances, the health and hygiene needs of these settlements will nevertheless still need to be considered within their new locations.

It is therefore vital that HHE is incorporated as part of the Department of Housing's Upgrading Programme, since the allocation of government subsidised housing includes the provision of basic water and sanitation services. In addition, in cases where municipalities are to ensure the upgrading of settlements and provision of services, responsibility for facilitating HHE falls onto the local authority. Collaboration between WSAs and District Health Services will be required in this regard.

The District Health Services will also have an ongoing role with regards to conducting long term HHE education within upgraded informal areas.

5.1.6.3 Comprehensive Housing Plan for the Development of Integrated Sustainable Human Settlements (2004)

This plan has earmarked additional funding such that all informal settlements can be upgraded by 2014.

The Department is therefore clearly of the intent that informal settlements should be upgraded, with funds made available for the provision of housing and basic services. This throws into question the consideration of informal settlements as temporary communities. In the majority of cases, informal areas can be expected to be upgraded within their current location, acquiring security of tenure and requiring service provision. This further implies the need to plan for and rollout suitable HHE programmes within informal areas, as and when these are upgraded.

Co-ordination and collaborative efforts are required between Municipal Health Services, WSAs if applicable, and the Department of Housing regarding settlements that have been upgraded, or are in the process of being upgraded. This will ensure the effective rollout of both project based and ongoing HHE programmes to upgraded areas.

5.1.6.4 Farm Worker and Occupier Housing Assistance Programme (2005)

In South Africa over one million people work on commercial farms, when you include their dependents and other non-employed farm residents this is close to five million people that reside on commercial farms. It is therefore imperative that these people are given an opportunity to have access to adequate housing and services.

The Farm Worker and Occupier Housing Assistance programme is intended to provide appropriate mechanisms of support to facilitate the creation of new farm housing and the upgrading and renovation of existing housing for farm occupiers and farm workers, including seasonal workers and non-resident workers in the agricultural sector such as domestic and security workers and their dependents (Department of Housing, 2005).

This national programme is administered by the Department of Housing. Prior to 1994 a capital housing scheme was administered by the Department of Agriculture, which applied to all farm workers on commercial agricultural land. This programme has since been discontinued (Department of Housing, 2005).

There are two specific mechanisms that the programme proposes:

1. The provision of a Farm Housing Grant for the purpose of upgrading or constructing farm worker housing;
2. The utilization of existing housing subsidies to individuals or institutions for the purpose of establishing new settlement, or transferring existing housing to eligible farm workers.

The provision of services on farms such as water, sanitation and electricity could prove to be a challenge. This is because there are land tenure issues on farms that would mean the delivery of these services would be complicated. An alternative lies with the farmers and landowners themselves and if they provide the services.

The intention of this programme is for Government to provide incentives for the improvement of housing on farms, while leveraging the commitment of land-owners to invest in housing schemes that improve the conditions and security of the on farm community.

5.1.6.5 Housing Consumer Education Framework (2007)

Included within this framework is a training module devoted to 'Sanitation, Health and Hygiene', the purpose of which is to promote healthy and sustainable human settlements. Topics that should be covered include:

- Water use, treatment and health;
- Water and disease;
- Sanitation and health.

It is vital that this module forms part of the development of a suitable SHHE programme for informal settlements upgraded with the assistance of the Department of Housing.

5.1.7 Summary of Sanitation Policies, Strategies and White Papers

Sanitation policy development and implementation in South Africa can be divided into three distinct periods, namely:

- The pre-1994 period before the establishment of a democratically elected government;
- The period between 1994 to 2001 during which the new Constitution was implemented and a policy for provision of sanitation services was developed and a delivery programme initiated; and
- The period from 2001 forward during which the sanitation policy has been refined and the programme of service delivery accelerated toward meeting the Millennium target.

The table below summarises the various documents that have been produced with regards to sanitation in South Africa.

Table 4: Summary of Sanitation Policies, Strategies and White Papers (1994 to Present)

Name of Document	Date Published
White Paper on Water Supply and Sanitation Policy	November 1994
Draft White Paper on Sanitation/National Sanitation Policy	October 1996
White Paper on Basic Household Sanitation	2001
Strategy for Sanitation Services to Informal Settlements	2003
National Health and Hygiene Education Strategy	August 2004
National Sanitation Strategy	August 2005

5.2 POLICY ISSUES AND IMPLICATIONS

The consideration of policy issues to be addressed in HE contained in this section may be of a more general nature. In such cases it should be understood that these issues apply to all sanitation and health and hygiene programmes, including projects implemented in informal settlements, and will therefore need to be addressed in all instances.

5.2.1 Definition of Basic Sanitation Service

The definition of a water or sanitation service clearly includes the requirement for 'health and hygiene education as an integral and required part of service delivery' (NSTT, 2004 p13).

This implies that where basic water services are supplied or upgraded in informal settlements, suitable HHE will also be required. WSAs and the Department of Housing (involved in the upgrading of informal settlements) will therefore need to make clear their commitment to providing HHE during the rollout of water services projects in informal areas.

5.2.2 Emphasis on Rural Areas and Informal Settlements

Emphasis is placed within a number of key documents, including the White Paper on Basic Household Sanitation (DWAF, 2001) and the National Health and Hygiene Education Strategy (NSTT, 2004), on ensuring that residents of informal areas are amongst the primary beneficiaries of HHE.

In addition, the service delivery targets set within the SFWS, such as addressing basic sanitation backlogs, apply to all South Africans, not simply those living in formal housing units. The supply of basic sanitation and HE to residents of informal areas is therefore part of these targets.

The upgrading of informal settlements implies that these areas will need to be provided with basic sanitation services and hence HE. This upgrading also implies that informal areas should not simply be regarded as temporary locations, but rather as settlements that are to be formalised in the majority of cases. Co-ordination with the Department of Housing on planned or completed formalised settlements, and the rollout of Sanitation Health and Hygiene (SHHE) programmes in these areas, is needed.

Finally, the impact of the Land Reform Programme, which includes settlement grants to provide domestic infrastructure, be considered. The provision of any sanitation facility must include a HE component irrespective of which government department is implementing the programme.

5.2.3 Enabling Environment

Without access to a basic water supply, basic sanitation and effective solid waste management, the practice of effective health and hygiene by communities is virtually impossible. A suitable enabling environment for HE is required, through the provision of HHE in tandem with access to basic services. HE cannot be addressed in informal areas without the provision of these basic services.

5.2.4 Institutional Arrangements

The role of local government in the provision of sanitation and HE is clearly identified within the South African Constitution, related Acts and policy frameworks. However, what is less clear is the manner in which MHSs and WSAs are to co-ordinate their activities. This process is made more complex by the devolution of environmental health services to municipal health services currently underway.

Sector collaboration is vital to avoid duplication and to ensure that WSAs take a more prominent role in areas where MHS capacity is weak. During this interim phase it is WSAs who are expected to take the lead in HE, not the MHS. This process will need to be

monitored, however, for as Environmental Health Practitioners (EHPs) take on more prominence so the key role of MHS in ensuring HE will increase. The role of WSPs in ongoing HE also needs to be aligned with the efforts of the MHS.

WSA's need to create an institutional environment where HE is seen as an ongoing function like the operation and maintenance function provided. Existing policies need to be re-visited to clearly indicate the focus of the HE programmes of both MHS and WSA's. The reality is that MHS focus on health and environmental health issues while WSA's primary focus is to lower O&M costs through education on the proper use of the facility. Current legislation and policies have created an environment for both parties to provide HE programmes however a more productive approach would be to clearly identify the roles and responsibilities of each party in the implementation of HE programmes.

As a result of the above issues, the requirement for sector collaboration and dialogue is emphasised in a number of relevant documents.

A key issue regarding institutional arrangements surrounding informal settlements relates to the role of the Department of Housing. Housing has a critical role to play in HHE provision to informal areas, given the Department's current programme of upgrading informal settlements and overall responsibility for providing water services as part of subsidised housing. It is therefore essential that:

- The efforts of the Department of Housing in providing basic water services to informal areas are aligned with the activities of MHSs and WSAs;
- The supply of basic services for subsidised housing includes provision of suitable HHE, in line with the definition of a basic sanitation service.

Finally, the National Health and Hygiene Education Strategy highlights the importance of developing local government understanding of health and hygiene issues, to ensure that adequate attention is paid to HHE on all water services projects and programmes. Given the emphasis on addressing the SHHE needs of rural areas and informal settlements, it is vitally important not only that local government prioritise HHE, but that they understand the importance of addressing HHE within informal settlements.

5.2.5 Local Level Partners and Advocacy

It is important that where HHE programmes are implemented in informal areas, where possible these programmes should make use of not only community participation, but the involvement of local level players such as traditional health practitioners, Community Health Workers (CHWs), NGOs and local leaders. The employment of local people, such as in the capacity of Health and Hygiene Field Worker (HHFW), offers opportunities for localised job creation and poverty alleviation as part of the rollout of SHHE projects.

Awareness raising amongst Councillors, Municipal Managers and other prominent local officials regarding the mandate and importance of addressing the HHE needs of informal settlements, can play a critical role in the inclusion and prioritisation of such projects within IDPs and WSDPs. Further opportunities for channelling MIG funding to SHHE programmes in informal settlements will also be assisted in this manner.

5.2.6 Funding

Ongoing HHE, operated through the MHS and primary health care system, is considered vital in achieving the long-term realisation of health gains from consumer education. Suitable funding for ongoing HHE has been raised as a key concern, however, impacting the extent

to which these programmes can be frequently implemented within informal settlements. Payments for the services of CHWs and HHFWs will also need to be included within cost breakdowns.

In addition, it is important that the MIG policy framework be revised to incorporate the costs for HHE as part of water and sanitation projects, as well as to provide financial assistance to ongoing HHE initiatives. This is despite the fact that a financial allocation for HHE is indicated within the 'Basic Level of Services and Unit Costs - A Guide for Municipalities' document developed by DPLG. HHE needs must be clearly spelt out in IDPs, since MIG funding will be allocated in relation to IDP priorities (NSTT, 2004).

Finally, there is no legal impediment to use grants for municipal structure for the poor on private land. The grant is unconditional for poor own plots or communal land. In case of intermediaries (another owner), grants may be subject to intermediary contribution.

5.2.7 Resources

Human resource capacity within local government and within municipal health services to implement HHE is of considerable concern. Effective training and staffing is required, which includes consideration of informal settlements as priority areas, based on the national policy context.

In particular, the ability of EHPs to deliver on ongoing HHE programmes in the immediate future is uncertain, given their current capacity constraints. This situation emphasises the key role of WSAs and the Department of Housing in ensuring the provision of HHE to informal settlements in the immediate future.

A set of minimum standards for HHE have been developed within the National Health and Hygiene Education Strategy in order to promote uniform delivery. The minimum standards should be carefully considered in all HHE programmes, including those operated in informal areas. Well developed materials produced by the Department of Health, WSAs or other institutions such as the Mvula Trust should be disseminated widely to facilitate shared use and knowledge building. Nevertheless, the applicability of these materials will need to be assessed in relation to an informal settlement context.

Accredited service providers in compliance with minimum standards should be utilised where possible in HHE, including in informal areas, in order to ensure that an acceptable level of quality is maintained.

5.2.8 Planning

MHSs, to the extent to which these are entrenched and capable of implementing ongoing HHE programmes, should give appropriate prioritisation to addressing the HHE needs of informal settlements. Such HHE should include an emphasis on the role of water and sanitation.

HHE is currently afforded a low priority in infrastructure projects as well as by many local authorities. Planning mechanisms are a key means whereby HHE can be provided the attention that is needed. Emphasis on informal settlements within these planning mechanisms is required if this target area is to be addressed.

Key planning mechanisms in which HHE needs to be addressed, including in relation to informal settlements, are WSDPs, IDPs and District Health Plans (DHPs). Health profiles and WSDP education and awareness programmes should provide considerable emphasis

on involvement in informal settlements. DHPs must outline plans to implement ongoing HHE including the use of local health workers, clinics and health services where MHS capacity is limited.

The capacity of WSAs and MHSs to implement project based and ongoing HHE respectively should be assessed in each District or Metropolitan Municipality, with plans developed to deliver on their responsibilities (NSTT, 2004). Planning in terms of meeting the needs of informal settlements is specifically required here.
Collaborative planning (particularly at local government level) is also vital, with the roles and responsibilities identified within the National Health and Hygiene Education Strategy providing an important starting point and 'ideal state' in which HHE programmes are to be implemented. District Health Plans, IDPs and WSDPs will need to be aligned to each other as the chief planning instruments. Co-ordination with the Department of Housing concerning HHE programmes implemented as part of informal settlement upgrades also needs to take place.

Finally, within the planning and implementation process adopted for HHE programmes, a shift in methodology has occurred towards increased community involvement. The benefits of participatory approaches are considered to be (NSTT, 2004 p11):

- Greater impact on community health and quality of life;
- Greater commitment to operate and maintain the service provided;
- Greater community knowledge and ability to take appropriate decisions;
- Greater sense of project ownership.

Community based approaches to SHHE in informal settlements are therefore considered preferable.

5.2.9 Implementation

A key area of importance with regards to implementation issues is the extension of HHE programmes beyond that currently provided during disease outbreak or via water and sanitation infrastructure delivery. HHE programmes therefore need to be effectively expanded to include ongoing HHE programmes co-ordinated by MHSs. The provision of ongoing HHE to informal areas and upgraded areas will need to form part of this expanded reach.

In addition, the requirement for HHE to form part of water and sanitation projects needs to be ensured, *particularly* within the context of service provision to informal settlements. This should occur whether the provision of water services forms part of an informal settlement upgrade or any other initiative.

5.2.10 Education and Training

It is critical that local institutions (particularly WSAs, MHSs and WSPs) and service providers are made aware of the importance of prioritising informal areas for HHE. These local institutions, supported by provincial and national government, will also need to understand the collaborative efforts needed in this regard, and have the skills in place to implement initiatives effectively.

It is equally important that these institutions and service providers are provided with effective training on the preferred HHE material and programme to be used, in relation to the choice of sanitation technology for an informal settlement.

Accredited training materials and providers should be utilised where possible, with the needs and circumstances of informal areas taken into consideration in educational programmes.

5.2.11 Monitoring and Evaluation

Sufficient resources will need to be allocated to monitoring and evaluation, in order to properly assess the impact of HHE programmes. Longer-term monitoring of HHE falls under the ongoing programmes implemented by MHSs, with the result that these institutions will be required to assess health benefits in informal settlements over lengthy time periods.

Clear indicators for monitoring HHE programmes within informal settlements are required.

6 CHAPTER SIX – THE DESIRED HE PROGRAMME

6.1 KEY SUCCESS FACTORS OF HE PROGRAMMES

The success of the HE programme must include a bottom up approach where on the ground community based concerns inform the messages of the HE programme. Based on the analysis of various international and national case studies, below is a list of 6 key success factors for the implementation of HE programmes in informal settlements.

6.1.1 Clear, Concise and Consistent Education Messages

It is well accepted that HE messages should be simple and easy to remember. The message should be clear and address the specific hygiene need of the community. In this way, the message will easily become part of the way of life of the householder. A simple message is often limited to no more than 5 key issues. In this regard, below are 4 priority HE messages that are most frequently communicated through HE programmes:

- Dispose of all excreta properly, preferably in a latrine;
- Wash hands after excreting, before eating and preparing food, and after cleaning the bottoms of babies and toddlers. Soap or ash to be used where possible;
- Clean the toilet at least once every day;
- Only use water that is from a safe source or has been purified. Water containers need to be kept covered to keep the water clean; and
- Message on the proper use and maintenance of the toilet.

Most importantly the message should be realistic and appropriate. It is demoralizing to be told:
- "Wash hands with soap" when soap is expensive;
- "Boil water before drinking" when the settlement does not have access to electricity and energy costs are high;
- "Use more water for washing and bathing" when the settlement has limited access to water; and
- "Do not keep food unless it is refrigerated" when you are living in a 9m^2 house and you have barely enough space for bed let alone a fridge.

The HE message must be re-enforced through consistent education programmes. The message should never change and should be consistent unless the audience has moved up the sanitation ladder.

Implementation agents are warned against trying to communicate different messages all at once. Only once the desired behavior change has been achieved, can the message be changed to include other key issues.

6.1.2 Detailed HE Project Planning

Detailed planning is necessary, the planning must take into account the following:
- Who is the target audience?;
- What are the objectives of the HE programme?
- How will the objectives be met and by when?;

- Design of educational material taking into account social dynamics of the community such as literacy levels, etc;
- Resource Allocation;
- Financial Allocation; and
- Monitoring and Evaluation Plan.

Only if all phases of the HE programme are considered should the project be implemented. The HE project planning process should be flexible to allow the outcome of the community participation process to guide the planning process.

6.1.3 Effective Stakeholder Engagement

All HE programmes should be based on a participatory approach. Stakeholders can be institutional stakeholders and community stakeholders.

Institutional stakeholders include the design engineers, funding institutions, training service providers, the project management team, Ward Councilors, relevant government departments, clinics, schools, and NGOs. All institutional stakeholders should be involved in the development of the programme.

Community stakeholders include the target audience, churches, community based organizations, and shebeens. Community stakeholders should be involved in the implementation of the programme.
Before involving stakeholders, clearly defined roles and responsibilities for each group must be developed and included in the detailed project plan.

6.1.4 HE Programmes Aligned With Technology Options

HE messages must be specific to the applicable technology options that are going to be implemented. It would be a wasted effort to education the community on hand washing with soap if the community does not have access to clean water or to mention health impacts associated with blockages if VIPs are being provided.

6.1.5 Developing Gender and Culture Sensitive Hygiene Messages

All HE messages should be gender and culture sensitive. In poor communities women very often have the lowest levels of literacy therefore text rich messages will be inappropriate. Also, women often work long hours which must be taken into account when doing house calls.
Poorly lit areas around ablution blocks are a known risk for women and children. There should be male and female toilets if ablution blocks are provided. If an existing toilet facility is being upgraded the old facility should be removed as soon as the new facility is commissioned. Very often women are forced into using the old facility while men and guests use the new facility.
The education material should not be explicit as this may be offensive in some cultures, the message should not primarily be limited to do's and don'ts, the poor should not be treated as idiots.

6.1.6 Duration of HE Programmes

It is important to remember that this report advocate education and not awareness. Education is the only way that behavior change can be effected. Education programmes therefore have to be continuous and ongoing. In addition, there needs to be continuous monitoring of the HE programme to ensure that programmes objectives are met. If the objectives are not met it implies that the education programme will need to continue.

Finally, informal settlements can be transitory in nature therefore there will always be new people to educate. In this regard, it is strongly advised that HE in informal settlements is considered ongoing.

6.2 HE PROGRAMME LINKED TO TECHNOLOGY OPTIONS

It is imperative for the successful implementation of HE programme in informal settlements that the HE message is linked to the technology option. In conjunction with the preferred approach to the HE programme and the key messages that should be communicated within a HE programme, additional specific hygiene messages can be applied to each technology option.

Below, is an overview of the key messages of HE messages linked to five most frequently used technology options in informal settlements.

6.2.1 Ventilated Improved Pit Latrine

In addition to the priority messages above, health and hygiene messages for this technology can include:

- What to do or whom to contact when the pit is full;
- Avoiding the disposal of waste water down the latrine;
- The importance of cleaning latrines regularly;
- Wearing shoes in the latrine to help prevent hookworms penetrating the skin on feet;
- Ensuring animals are kept away from the latrines.

Water points should ideally be located in close proximity to the VIPs. In cases where this is not possible, used containers can be filled with water and attached nearby or placed on surrounding trees to facilitate hand washing. Where soap is not available, ash can be used for hand washing.

Key health and hygiene messages can also be included within a poster on the back of the toilet door. The poster would need to cater for the illiterate and be written in the commonly spoken languages of the area.

Issues particularly pertinent to the lives of urban informal settlement dwellers such as injuries, violence, mental health issues, sexually transmitted diseases, HIV and AIDS, tuberculosis, and reproductive health issues could also be addressed (Sclar et al., 2005).

6.2.2 Flush Toilet System

In addition to the priority messages above, health and hygiene messages for this technology can include:

- Education on what items can and cannot be flushed down the toilet. This includes avoiding placing rubbish, disinfectants and other foreign matter into the toilet which will reduce its lifespan and effectiveness;
- The importance of avoiding blockages and how to deal with blockages when these occur;
- The importance of cleaning the toilet regularly;
- Wearing shoes in the toilet to help prevent hookworms penetrating the skin on feet;
- Ensuring animals are kept away from the toilet.

Water points should ideally be located in close proximity to the toilet. In cases where this is not possible, used containers can be filled with water and attached nearby or placed on surrounding trees to facilitate hand washing. Where soap is not available, ash can be used for hand washing.

Key health and hygiene messages can also be included within a poster on the back of the toilet door. The poster would need to cater for the illiterate and be written in the commonly spoken languages of the area.

Issues particularly pertinent to the lives of urban informal settlement dwellers such as injuries, violence, mental health issues, sexually transmitted diseases, HIV and AIDS, tuberculosis, and reproductive health issues could also be addressed (Sclar et al., 2005).

6.2.3 Community Sanitation Facilities

In addition to the priority messages above, health and hygiene messages for this technology can include:

- Community or local service provider responsibilities for maintenance and what maintenance entails;
- Whom to contact if the pit is full or if maintenance is not being carried out effectively;
- Avoiding the disposal of waste water down the latrine (dry sanitation method);
- Education on what items can and cannot be flushed down the toilet (flush system);
- The importance of avoiding blockages and how to deal with blockages when these occur (flush system);
- The importance of cleaning the toilet regularly;
- Wearing shoes in the toilet to help prevent hookworms penetrating the skin on feet;
- Ensuring animals are kept away from the toilet.

A key aspect of communal sanitation facilities is that they are not open to the general public, but rather restricted to a set number of households or users. Education is therefore required regarding who has access in which area, and how to ensure that these facilities are properly maintained. Cleaning and access control (including access to keys) should form part of the responsibility of the households that use a facility. Alternatively, households could contribute to a local service provider that manages the communal units on behalf of the households for a small fee. This approach has been successful in the large-scale informal settlements of other developing counties such as India (section 2.3). Large-scale informal settlements are discussed in section 4.3 above.

The design of these facilities should also incorporate the supply of water points, separate units for men and women, as well as suitable toilets/latrines for children. Water points, including the use of more rudimentary water containers placed nearby latrines, will still need to be within the boundaries of the communal facility (restricted access).

Key health and hygiene messages can also be communicated via suitable posters on the walls of the facility. The posters would need to cater for the illiterate and be written in the commonly spoken languages of the area.

Issues particularly pertinent to the lives of urban informal settlement dwellers such as injuries, violence, mental health issues, sexually transmitted diseases, HIV and AIDS, tuberculosis, and reproductive health issues could also be addressed (Sclar et al., 2005).

6.2.4 Urine Diversion System (UDS)

In addition to the priority messages above, health and hygiene messages for this technology can include:

- Avoiding the disposal of waste water down the latrine;
- What to do when the pit is full;
- The time period before the degraded materials can be used and for what purposes they can be used;
- The importance of cleaning latrines regularly;
- Wearing shoes in the latrine to help prevent hookworms penetrating the skin on feet;
- Ensuring animals are kept away from the latrines.

Key health and hygiene messages can also be included within a poster on the back of the toilet door. The poster would need to cater for the illiterate and be written in the commonly spoken languages of the area.

Issues particularly pertinent to the lives of urban informal settlement dwellers such as injuries, violence, mental health issues, sexually transmitted diseases, HIV and AIDS, tuberculosis, and reproductive health issues could also be addressed (Sclar et al., 2005).

6.2.5 Ablution Blocks (Public Toilets)

Given that ablution blocks are characterised by a lack of a sense of community ownership and are generally very poorly maintained and unhygienic, many are subsequently underutilised or not operating at all. Ablution blocks are not considered a viable solution to communities' sanitation needs, including in informal settlements, unless only a handful of residents are located in a scattered pocket informal settlement, which is temporary in nature. Even here access to sanitation facilities should be restricted to those users from the scattered settlement only, and a plan for community operation and maintenance agreed upon by the community.

Scattered pocket settlements generally do not have the internal population and market needed to sustain the use of a local service provider to maintain sanitation facilities. Scattered pocket informal settlements are discussed in section 4.3 above.

In addition to the priority messages above, health and hygiene messages for this technology can include:

- Community or local service provider responsibilities for maintenance and what maintenance entails;
- Whom to contact if the pit is full (dry sanitation) or if maintenance is not being carried out effectively;
- Avoiding the disposal of waste water down the latrine (dry sanitation);
- Education on what items can and cannot be flushed down the toilet (flush system);

- The importance of avoiding blockages and how to deal with blockages when these occur (flush system);
- The importance of cleaning the toilet regularly;
- Wearing shoes in the toilet to help prevent hookworms penetrating the skin on feet;
- Ensuring animals are kept away from the toilet.

The design of these facilities should also incorporate the supply of water points, separate units for men and women as well as suitable toilets/latrines for children. Water points, including the use of more rudimentary water containers placed nearby latrines, will still need to be within the boundaries of the facility (restricted access).

Key health and hygiene messages can also be communicated via suitable posters on the walls of the facility. The posters would need to cater for the illiterate and be written in the commonly spoken languages of the area.

Issues particularly pertinent to the lives of urban informal settlement dwellers such as injuries, violence, mental health issues, sexually transmitted diseases, HIV and AIDS, tuberculosis, and reproductive health issues could also be addressed (Sclar et al., 2005).

6.3 HOW TO ENSURE THAT THE HE MESSAGE REACHES THE TARGET AUDIENCE

Aside from the various communities based approaches to HE mentioned above, there are also a number of techniques that can be employed to educate and raise awareness on health and hygiene issues. Many of these techniques form part of the community and school based approaches discussed above. However, these techniques could also act as stand alone initiatives, including mass media and mass marketing campaigns. Key examples of education and awareness techniques employable are assessed briefly below, based on Naidoo et al. (2007). A more detailed review of these techniques can be found in Naidoo et al. (2007).

6.3.1 Mass Media

Mass media can reach a large number of people but does not communicate complex messages well, nor is it possible for messages and their context to be tailored to the situation of members of its target audience in each unique locality. Thus this approach is best used as an awareness building technique. Television is more effective in places where television is watched regularly. However, radio can be more successful in reaching a wider audience as more people generally have access to radios than televisions.

Radio and television are best suited for providing awareness of basic issues that can be expressed in simple messages.

6.3.2 Community Events

Community Events and special days can also be effective for raising awareness at a neighborhood level. They are not ideally suited for HE purposes as they are generally held on a once off basis or very seldom. If these events are coupled with other community events such as religious celebrations, school inaugurations or ward committee meetings on a continuous basis, their effectiveness increases (IRC, 2001).

6.3.3 Drama and Theatre

Drama and street theatre is most effective for awareness, as opposed to HE, because the target group is only passively involved as members of the audience. Hosting such events in market-places or open spaces can attract considerable attention. Drama and theatre also provide an opportunity for people of all literacy levels to acquire knowledge related to health and hygiene issues.

6.3.4 Community Group Presentations

Presentations to community groups that are already assembled for their own purposes, such as youth groups, can be effective as both awareness and education tools as they can reach a relatively large number of people assembled for a specific purpose. In addition, groups with identifiable interests can be targeted and the information presented tailored to the needs of the audience. These sessions are most successful where they are interactive and can be repeated.

6.3.5 Community Liaison Groups

Community liaison groups comprise of people representing various interest and fields of expertise that are mobilized to advise on a particular issue. As such, community liaison groups can be created for the purpose of raising awareness on health and hygiene related issues. Ideally, groups should maintain an ongoing role throughout the life of a programme and facilitate communication between the community and the project implementers.

Community liaison groups can be very effective for both awareness and education purposes, as the group members are representative of the community and the knowledge gained by them can be passed on after programme completion.

6.3.6 Workshops

A workshop is a good way to reach a relatively large number of people for interactive knowledge development and skills transfer. Workshops are often effective for education purposes as they are generally in depth and interactive, particularly when methods such as PHAST are employed.

6.3.7 Cultural Activities

Plays, songs and music can be a very effective way of raising awareness or educating people who would not otherwise attend meetings or workshops. The involvement of local cultural groups and use of competitions can therefore provide a useful means for engaging communities on hygiene issues.

Cultural activities can be very effective for education if members of the target audience are actively involved in the planning and performance of sanitation and hygiene related topics, rather than being passively involved as members of the audience.

6.3.8 Household Visits

Household visits are not an effective method for raising awareness as they are time consuming, labour intensive and do not reach a large number of people quickly. Household visits can be suitable for education, however, as they are interactive and take place in

people's homes where residents are free to explore issues in depth, as well as in comfort and privacy. If possible, it is preferable that volunteers from the area are trained to conduct the household visits, as households are more likely to trust people from within their community. Pamphlets and posters can also be distributed to households during these visits, with the facilitator afforded the opportunity to explain the printed information.

6.3.9 Pamphlets and Posters

Pamphlets and posters are effective for both HE and awareness where they are used in conduction with other methods, given that they can be distributed to all members in the community and can for example, be posted on the inside of a toilet door to continually reinforce the hygiene message.

However, levels of literacy may be a concern with this technique and materials will need to be culturally relevant and visually interpretable to promote their effectiveness. When designing posters messages should be kept short and simple for maximum impact. Pamphlets and posters should also be translated into the most commonly spoken languages within a community.

7 CHAPTER SEVEN – ROLES AND RESPONSIBILITIES

Clearly defined roles and responsibilities of all parties are essentially for the successful implementation and the continuity of HE. This principle is applicable to HE programmes in formal and informal settlements.

Currently, roles and responsibilities of stakeholders are based on short-term projects and ongoing HHE. Project based HE refers to the work undertaken by DWAF, the Department of Housing and by Water Service Authorities (WSAs) in providing HE as part of the rollout of water and sanitation infrastructure. Ongoing HHE is provided primarily by District and Metropolitan Municipalities in fulfillment of its environmental health services function and is achieved through Municipal Health Services (MHS).

The 'National Health and Hygiene Education Strategy' (NSTT, 2004); (NSTT, 2005b) provides the overarching framework for the different roles and responsibilities of each party for project based and ongoing HHE.

Through the analysis of various case studies, it can be concluded that the interaction between MHS and WSAs is limited. This creates various problems, including a lack of continuity and consistency in the HE programme.

This Chapter presents the constraints with the current approach to defining the roles and responsibilities of each party and proposes a revised approach.

7.1 CURRENT APPROACH TO ROLES AND RESPONSIBILITIES OF THE DIFFERENT PARTIES
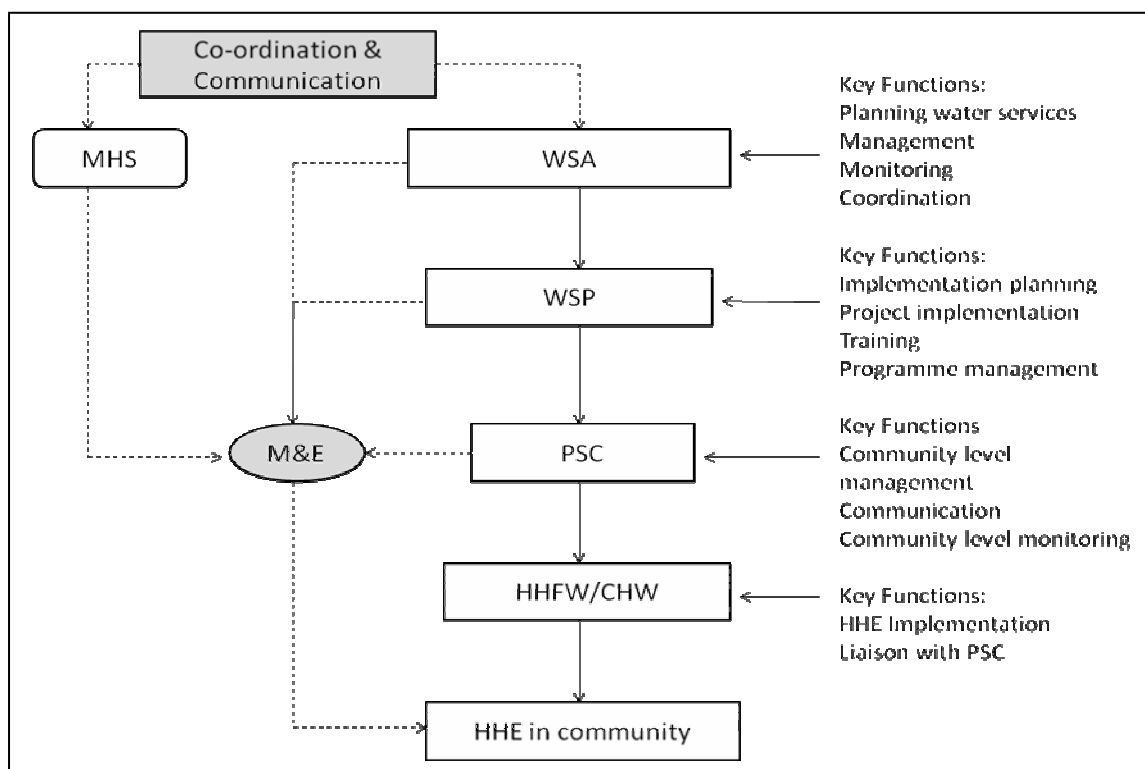
7.1.1 Project Based HHE

Water Service Authorities (WSAs) have the primary responsibility for ensuring that HHE is provided in the supply of water and sanitation infrastructure. In order to serve the needs of informal settlements, the Water Services Development Plan (WSDP) and Integrated Development Plan (IDP) would therefore need to budget accordingly for the rollout of water services and HE to these areas.

In practice, a contracted Water Service Provider is likely to coordinate the rollout of the HE programme, drawing on available resources such as Health Promoters, Community Health Workers and Environmental Health Practitioners (EHPs). Local people can also be provided with job creation opportunities through their training and employment as Health and Hygiene Field Workers (HHFWs), particularly where insufficient capacity exists amongst the other potential implementation partners. The WSP is then responsible for the development of a Project Steering Committee (PSC) comprised of the key role-players, and for reporting to the WSA and Municipal Health Services (MHS) on the programme's progress and outcomes.

Collaboration by WSAs with the MHS is required regarding the use of EHPs, the avoidance of duplication and the monitoring of project based HHE.

The diagram below illustrates these roles and responsibilities graphically:

Figure 1: Roles and Responsibilities for Short-Term, Project Based HHE

In cases where the Department of Housing provides water services infrastructure; where school water and sanitation facilities are upgraded; where DWAF is involved in the rollout of project based HE, the relevant departments assume the primary responsibility for HHE. In such instances, the government departments would assume the responsibilities of the WSA and/or WSP, with the same structures and community based resources potentially at their disposal.

An aspect not captured in the figure above is the ongoing role of communities in ensuring hygiene gains, following the exit of project implementers.

7.1.2 Ongoing HHE

The NSTT, 2004 and NSTT, 2005b allows for a number of potential implementation options for the rollout of ongoing HHE, each with their own set of roles and responsibilities. A key reason for the variety of implementation options is the variance in staff capacity to implement ongoing HHE within the Municipal Health Services. Municipal Health Services administer HHE through the provision of environmental health services (MHS: EHS). Three major implementation approaches have been identified (NSTT, 2005b):

1. Primary Option
The Primary Option outlines the role of the MHS in providing ongoing HHE to communities, including those living within informal settlements. Included within this category should be efforts to address HE in surrounding schools (e.g. Child-to-Child approaches) and efforts to incorporate existing community forums within initiatives.

Key human resources for the implementation of ongoing HHE are EHPs, from a management and co-ordination perspective, and Health and Hygiene Field Workers (HHFWs), from an implementation perspective. The potential for local job creation through the use of HHFWs therefore exists within this approach as well.
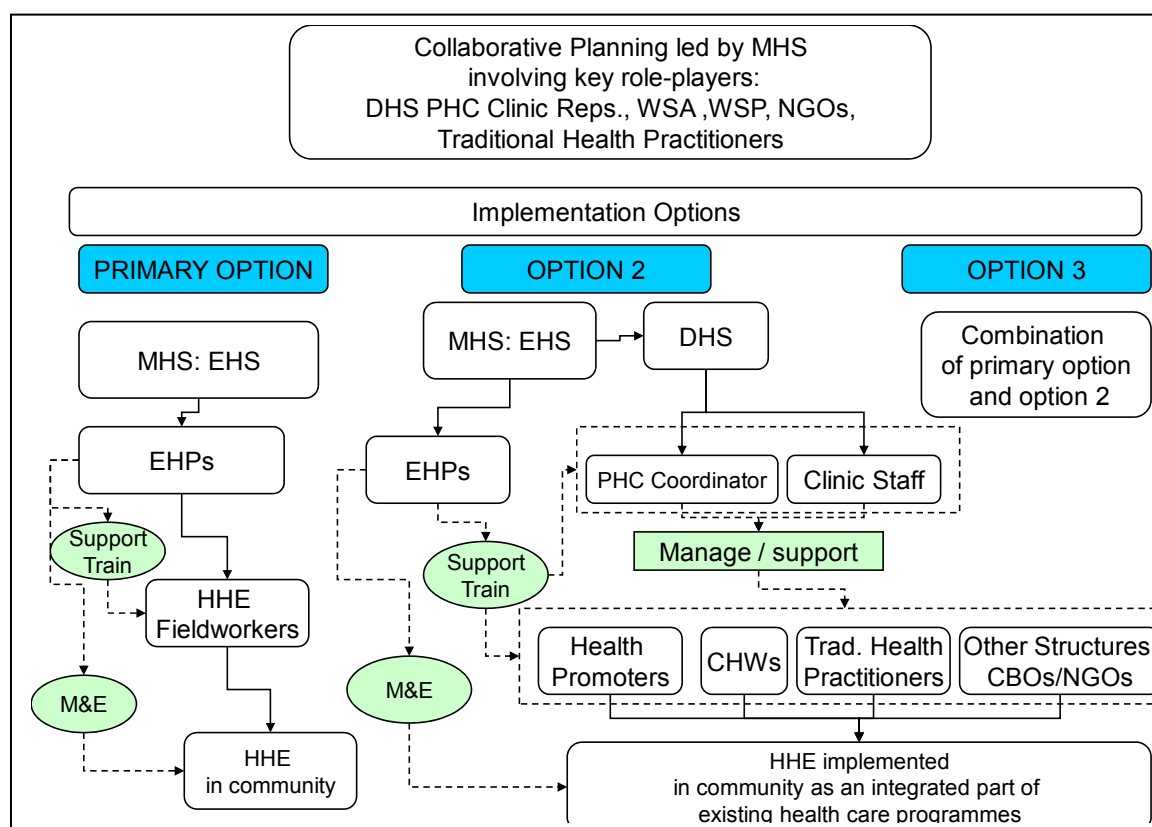
2. Option 2

Under this approach the MHS works with the DHS primary health care (PHC) system, in a manner whereby HHE is integrated into the existing primary health care system. Training of the primary health care co-ordinator, clinic staff, health promoters, CHWs, traditional healers, CBOs and NGOs occurs where applicable to ensure that HHE is effectively rolled out as part of existing health care programmes.

Under this option, the primary health care coordinator and other clinic staff play a critical role in facilitating the incorporation of HHE into existing initiatives. Close co-ordination between the MHS and District Health System (DHS) is required within this approach.

3. Option 3

Option 3 involves a combination of the approaches used in the Primary Option and Option 2. In such a situation, the MHS operates in conjunction with HHFWs in certain instances and also provides training and support to the PHC system at District Level.
All 3 of these implementation approaches are illustrated in the diagram below:

Source: NSTT (2004) p59

Figure 2: Roles and Responsibilities for Ongoing HHE

In addition to the above, a variation of the Primary Option is also proposed, in which the role of EHPs is taken over by a contracted service provider. This scenario is particularly relevant in situations where the District Municipality has yet to develop the EHP capacity necessary to implement such programmes. This arrangement could also include the involvement of a

WSP as a service provider in fulfillment of their responsibilities for operation and maintenance of water services infrastructure (NSTT, 2005b). The potential for local job creation through the training and employment of HHFWs exists within this approach.

The contracted service provider approach is depicted in Figure 3 below:
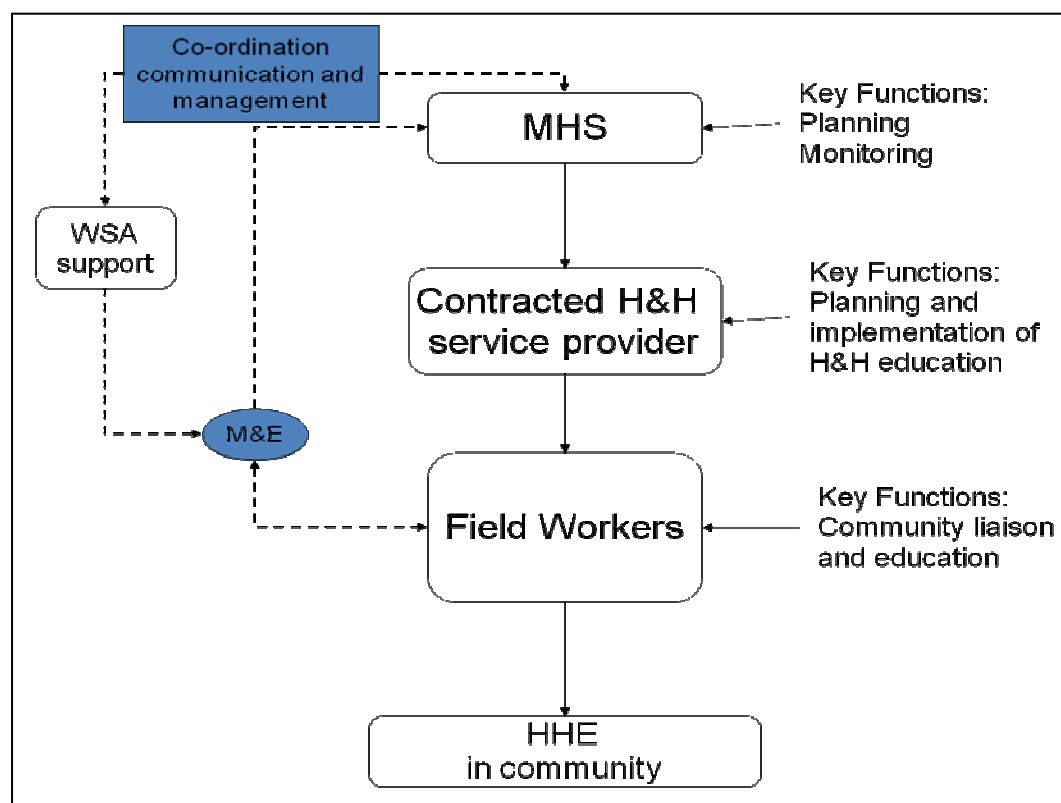
Source: NSTT (2005b) p48

Figure 3: Roles and Responsibilities for Ongoing HHE

An aspect not captured in the figures above is the role of communities in ensuring that hygiene messages are locally sensitive and that hygiene gains are sustainable.

7.2   LIMITATIONS OF THE CURRENT APPROACH

The current approach to HE is valid if all parties consulted and engaged with each other during all phases of the HE programme and if capacity and skills shortage did not plague the country.

The reality is that most WSA's implement HE as once off initiatives during the installation of the sanitation facility. MHS do implement HHE programmes however these programmes do not necessarily continue from the HE programme. Messages promoted by the WSA's are not always consistent with the messages promoted by MHS. This is a result of the different mandates of the WSA and MHS.

Most often there is no joint planning between WSA's and MHS as intended by existing legislation and policy.

The approach to community engagement and support to the community by WSA's and the MHS differs due to the following reasons:

- different institutional structures;
- timeframes for the implementation of HE programmes; and
- objectives of the HE programmes.

Very often the community and other key stakeholders are left confused.
Finally, another limitation of the current approach is a duplication of functions resulting in fruitless expenditure between WSA's and MHS.

7.3 RECOMMENDED APPROACH'S TO IMPLEMENTING HE IN INFORMAL SETTLMENTS

7.3.1 Key Principles for the Recommendations

The recommended approach is to separate the functions of WSA's and MHS in terms of HHE.

The rationale for separating the HE functions of WSA's and MHS is based entirely on the fact that both institutions have different objectives of the education programme. MHS is responsible for all aspects of HHE programmes of which HE is a part. For instance, MHS provides education on the impacts of poor waste management, grey water, HIV/AIDS, vaccinations, healthy eating practices, etc. The health impacts associated with fecal contaminated water and food is a small part of the MHS education programme.

WSA's on the other hand are only responsible for HE and therefore it is strongly advised that WSA's accept that HE is a part of the overall sanitation service delivery. Hence, if HE is a service there is no scope for project based HE and ongoing HE. Instead, WSA's will be responsible for both components of the HE programme. Existing policy and legislation is in support of this approach.

If WSA's are to be responsible for all HE and MHS are to be responsible for HHE, it is imperative that the correct terminology is used consistently. In other words, HHE is defined as education on diseases that can affect the health and well-being of people and remains the responsibility of MHS. While HE is aimed at encouraging behaviour which will help to prevent water and sanitation related diseases and remains the responsibility of WSA's.

There is still scope for collaborative planning and consultation with WSA's and MHS on HE programmes.

The separation of the combined HHE into health education and HE is an international accepted approach.

It is further recommended that HE is implemented in two phases. Phase One of the HE should target the initial project phase that is when water and sanitation facilities are being installed. Phase Two of the HE programme should focus on the continuous education component. The reasoning behind separating the HE programme into two phased is due to the different messages and education approaches for each project phase. Very often when new infrastructure is implemented, the education message may be around acceptance of the new infrastructure. However, after everyone has brought into and accepted the new infrastructure, the education message may be around operations and maintenance issues, etc. Also, as hygiene behaviour practices change the education messages may change.

Phase Two of the HE programme will evolve as the communities understanding of hygiene practices evolve.

7.3.2 Identifying Roles and Responsibilities during All Project Phases

A HE programme is made up of the following stages of the project namely:

- Feasibility Stage;
- Planning Stage;
- Design Stage;
- Implementation Stage;
- Handover Stage; and
- Monitoring and Evaluation Stage.

During each of these phases, different parties have different roles and responsibilities. It is imperative that each party understands and accepts their respective contribution in the successful and sustainable implementation of the HE.

Below, is a summary of the different roles and responsibilities of the various parties during the different projects phases.

Table 5: Roles and Responsibilities during the Different Project Phases of a HE Programme

Project Phase	Role-Player	Activity/Responsibility in Relation to Health and Hygiene Education
		Phase One of the HE Programme
Feasibility Phase	Project Manager	Ensure that all parties are on board.
	Design Engineer	Provide details on technology options and project constraints and opportunities
	Institutional and Social Development (ISD) Manager	Input into the technology options and input into the preferred option. Input into the human resources available for the implementation of the project Raise any social and environmental concerns that may exist
	Funders	Provide details of the budget available for HE
Planning Phase	Project Manager	Ensure that adequate financial resources are available Ensure that project timeframes take into account the HE programme Ensure that a M&E plan for the HE is developed
	Design Engineer	Input on the preferred technology option. Ensure that the technical design of the facility is appropriate, gender and culture sensitive, child friendly and has limited future environmental and social impacts. Highlight all O&M requirements that may need to be included in HE programme. Identify technical constraints that may have an impact on the efficiency of the facility. Identify opportunities for the involvement of the community in the project during the construction phases.
	ISD Manager	Develop scope of work for the HE programme Develop a project plan Identify opportunities for the involvement of the community in the project Ensure that adequate human resources are available for the successful implementation of the project.
	MHS	Input on project plan, HE framework and provide input on existing community information

Project Phase	Role-Player	Activity/Responsibility in Relation to Health and Hygiene Education
	Ward Councillors/Ward Committees	Identify key stakeholders that can participate in the implementation of the HE programme Participate in the HE planning process
	Professional Service Provider (PSP)	Develop HE framework Identify key stakeholders Conduct community surveys to gather background information
	Community Organisations and Leaders	Input into the HE framework Input on key messages Input on how to streamline the education process taking into account existing community structures
Design Phase	PSP	Develop education material Determine the roles and responsibilities during the implementation phase for instance during the construction of the facilities, the O&M requirements from the community, payment of services requirements, input from the community and community based organisation during the implementation phase. Develop terms of reference for each party involved in the implementation phase
	ISD Manager	Review and approve all material developed
	Design Engineer	Review and approve all material developed
	MHS	Review and approve all material developed
Implementation Phase	Project Manager	Ensure that HE is rolled out according to project plan. Ensure that project objectives are met. Ensure that HE is M&E throughout the implementation phase
	Design Engineer	Ensure that the design of the facility is reviewed in line with any comments that may come from the HE process
	Contractor	Ensure that all expectations are met
	ISD Manager	Ensure that HE is implemented according to project plan and HE framework
	Ward Councillors/Ward Committees	Attend all PSC meetings; Promote the projects and HE message; Facilitate the implementation of ongoing health and hygiene education programmes as required.
	PSP	Implement HE according to project plan and framework Revise HE programme in line with the outcomes of the M&E Plan

Project Phase	Role-Player	Activity/Responsibility in Relation to Health and Hygiene Education
	Community Organisations and Leaders	Promote HE messages through existing forums and meetings Bring to the attention of the ISD Manager any potential concerns with the HE programme
	PSC Members	Participate in the planning and management of water and sanitation services projects; Promote health and hygiene education in the community. Monitor performance of HE programme against M&E Plan
	Tribal Authorities	Participate in HE programme and PSC meetings; Promote the projects and HE message; Prioritise HE needs at LM and DM levels.
	Traditional Health Practitioners	Promote HE messages; Link with other PHC initiatives.
	HIV/AIDS and other health support groups, Health Clubs	Promote HE message as part of existing activities.
	Community Health Workers and volunteer health workers	Promote HE message at household and community-group level as an integrated part of their activities.
	Health related NGOs/CBOs and Civil society	Promote HE message; Liaise with local health services structures; Implement health and hygiene education programmes.
	MHS	Promote HE message; Provide input PSC; Align HHE with HE messages were possible
	Community	Ensure that they fully understand and accept their roles and responsibilities in terms of the sanitation facility and the HE Ensure that the HE message is practical and implementable Ensure behaviour change towards good hygiene practices
Monitoring and Evaluation Phase	Project Manager	Ensure that HE programme is M&E according to plan
	ISD	Ensure that outcomes of the M&E plan are used to inform the revision of the HE programme
	PSP	Ensure that HE programme is M&E according to plan
	Community	Ensure that HE programme is M&E according to plan
Handover Phase	Project Manager	Ensure that community are aware of new roles and responsibilities in terms of the sanitation facility
	Design Engineer	Ensure that the facility handed over to the community is technically sound

Project Phase	Role-Player	Activity/Responsibility in Relation to Health and Hygiene Education
	PSP	Ensure that a HE close out report is developed Document all lessons learnt Document M&E outcomes during the implementation phase
	Ward Councillors/Ward Committees	Ensure that community has accepted their roles and responsibilities
	Community Organisations and Leaders	Ensure that community has accepted their roles and responsibilities
	MHS	Ensure that community understand the roles and responsibilities of WSA's and MHS
Phase Two of the HE Programme		
On going Support	ISD Manager	Develop a project plan for continuous HE Develop HE message and education material for continuous HE Ensure that adequate human and financial resources are available for continuing with HE Raise the profile of HE as a service and promote the need for continuous HE Ensure alignment between ongoing HE programmes and ongoing HHE programmes Ensure that HE programmes are aligned with any changes in the technical design of sanitation facilities
	Design Engineer	Technical design and options to response to all outcomes of the HE programme and the M&E Programme Ensure continuous research into alternate technologies that can meet the objectives of the HE programme and provide informal settlements with better and affordable sanitation
	Ward Councillors/Ward Committees	Attend all PSC meetings; Promote the projects and HE message; Facilitate the implementation of continuous HE and ongoing HHE programmes as required.
	MHS	Ensure alignment between continuous HE programmes and ongoing HHE programmes
Monitoring and Evaluation Phase	ISD Manager	Develop and M&E plan specifically for continuous HE education Ensure that the objectives of the HE plan are met
	Design Engineers	Ensure that technical design and options to response to all outcomes of the HE programme and the M&E Programme
	Community	Provide continuous input into the M&E programme

8 CHAPTER EIGHT – FINANCIAL RESOURCES REQUIRED FOR IMPLEMENTATION OF EDUCATION PROGRAMMES

The majority of cost estimates related to the provision of HE are concerned with the rollout of project based HE in the supply of basic sanitation facilities. These estimates therefore do not necessarily equate with the cost of an ongoing HE initiative, where the same methods may be applied e.g. community based participatory approaches, but with a greater requirement for the budgeting for monitoring and evaluation and potential follow up visits needed within ongoing initiatives.

It should be borne in mind that the costs of rolling out HE are influenced by the type of approach adopted, the scale of the project (including the size of the community, the extent of community engagement and whether the programme includes the provision of a schools' hygiene programme) and the various awareness raising and marketing techniques employed.

The estimations provided below should therefore be viewed as a general indication of current costing of health and hygiene only, as provided for by a variety of implementing agents, and as a general guide to the types of costs that can be expected to be incurred during the rollout of HE.

It is essential that the planning phase of a HE programme consider and account for all factors that could influence project costs, on a case by case basis, including the identification of any issues that could result in additional costs being incurred.

8.1 PROJECT BASED HHE

8.1.1 Municipal Infrastructure Grant

The Municipal Infrastructure Grant (MIG) report entitled 'Basic Level of Services and Unit Costs - A Guide for Municipalities' (DPLG, 2005) provides a cost estimation for HHE as part of the supply of basic water and sanitation services.

This report indicates that the cost of health education should be estimated at R300 per household at 2005 prices. The cost for HE will therefore need to be increased substantially to reflect prices for the 2008 financial year. Alternative funding sources can be sourced in order to top up these allocated amounts.

The concern with this cost estimation is that it does not provide a breakdown of the R300 figure, nor does it indicate the approach to HE or the types of techniques used. In addition, requirements for operation and maintenance (O&M) are not captured within this cost estimation and will need to be considered for the maintenance of hygienic conditions. O&M costs can be derived by municipalities from tariffs, from a limited grant from national government for poorer municipalities (via the equitable share), or through a suitable investment in a community maintenance programme (DWAF, 2005b).

According to the MIG programme, expenditures outside of the range proposed above 'will require a strong motivation from the municipalities concerned' (DPLG, 2005 p20).

Essentially, the 'budget ceilings may not be exceeded under MIG, except under specially motivated circumstances' (DWAF, 2005b p10).

Examples of circumstances in which MIG budget increases will be considered, in relation to HHE, are as follows (DWAF, 2005b):

- Where a project covers more than one community, resulting in increased social facilitation costs arising from setting up separate project steering committees, significant travel between communities etc.;
- Where communities are very remote, with the project located long distances from main centres and materials suppliers;
- Where a lack of suitably qualified or experienced Implementing Agents (IAs) is found within the project region. This results in extra costs being incurred in obtaining the support of an experienced IA from another region to mentor inexperienced local implementing agents.

The maximum variation permissible under MIG for rural areas is R1000 per household at 2005 prices. The maximum variation permissible under MIG for urban and dense settlements is R1000 per household for on-site sanitation systems and R4000 per household for waterborne sanitation schemes at 2005 prices. Sub-limits per project category may apply, however.

Potential means to reduce costs within the context of the MIG programme include to (DWAF, 2005b):

- Appoint a single project implementing agent that has both the technical and social facilitation skills required, rather than appointing two separate IAs;
- Maximise on the employment of local people, including their involvement in management functions. In such cases the relevant IA would provide a mentorship role rather than undertaking the actual work themselves.

8.1.2 Guideline for Costing Basic Household Sanitation (MIG Programme)

A further cost estimation for short-term project based HHE, also accessed through MIG funding, is provided in the 'Guideline for Costing Basic Household Sanitation' (DWAF, 2005b). This report outlines budgetary ceilings for basic sanitation provision including the cost of social facilitation (which includes training, HHE and community liaison) on a cost per household basis.

The proposed budget ceiling for social facilitation in the rollout of VIPs under MIG funding is R350 per household at 2005 prices, excluding VAT (DWAF, 2005b). The same cost estimation for HE applies for a Urinary Diversion System (UDS) latrine, for On-site Wet Digesters (Aqua privies), flush latrines with septic tanks and flush latrines with waterborne sewers. In cases where both the existing sewage treatment plant and bulk sewers require upgrading, or where there is no existing sewage treatment plant or bulk sewers, a social facilitation budget ceiling of R400 at 2005 prices, excluding VAT, is proposed (DWAF, 2005b). Alternative funding sources can be accessed in order to top up these allocated amounts.

This social facilitation assistance is broken down as follows (Table 6 & 7), based on an average community size of 1000 households or above (DWAF, 2005b Appendix A). All figures are at 2005 prices and exclude VAT.

Table 6: Proposed Budgetary Ceilings as Part of the MIG Programme (HE) [2005 prices, excluding VAT]

HHE Component	Inputs	Approximate Cost per Household (Rands)
PHAST	Facilitators and materials	30
CHWs and follow up	CHWs and 6 visits (1 year)	40
Special campaigns	WASH and school	25
	TOTAL	**95**

In addition to these specific HHE costs, additional costs will occur in the setting up of project steering committees and other social facilitation aspects related to HE. The cost of social facilitation should therefore also be included as follows:

Table 7: Proposed Budgetary Ceilings as Part of the MIG Programme (Social Facilitation related to HHE) [2005 prices, excluding VAT]

Facilitation Component	Inputs	Approximate Cost per Household (Rands)
Demonstration toilets	3 toilets	15
Entry and Liaison		20
PSC establishment		15
PSC expenses		45
	TOTAL	**95**

In total, the social facilitation and HE budget amounts to R190 per household at 2005 prices excluding VAT. This figure is less than the amount quoted earlier (i.e. R350), given that costs for training not related to HE have been omitted.

It should be noted that these figures are quoted at 2005 prices, and therefore the cost for HE will need to be increased in order to reflect prices for the 2008 financial year.

The 'Guideline for Costing Basic Household Sanitation' proposes that the cost of social facilitation and project management for the rollout of sanitation should *increase* by R50 per household for each 100 households *below* a total household number of 700. On the other hand, a *reduction* in the cost of social facilitation and project management of R10 per household for every 100 households *above* a threshold of 1500 households is also proposed (DWAF, 2005b). Presumably increased economies of scale above 1500 households are expect to take place, allowing for a gradual reduction in the amount allocated within the project for both the social facilitation and project management components.

8.1.3 Johannesburg Water VIP Programme in Informal Settlements

A different example of costing HE is provided by a recently completed Johannesburg Water project. This project involved VIP provision to 4239 households situated within 6 different informal settlements in the City of Johannesburg Metropolitan Municipality. The costs for the rollout of HE made up the Institutional and Social Development (ISD) component of the project. Costs incurred relating to HE included the conducting of community workshops,

door-to-door visits, the mounting of posters and the training and employment of suitable community health facilitators.

The total project expenditure for ISD amounted to R314 554. This equates to a modest HHE cost of R74 per household at 2005 prices. A cost breakdown for the rollout of HE within the informal settlement areas is provided below (Davids and Simelane, 2006):

Table 8: Johannesburg Water Informal Settlements VIP Project - ISD Expenditure

Item	Cost (Rands)
Professional Fees	74 000
SETA Training	133 000
Household Registration	12 279
Surveys	20 465
Workshops	2 000
Door-to-Door	20 465
Mounting of Posters	20 465
Posters	37 374
Photocopies	12 900
Catering	4 633
Miscellaneous (T-shirts, caps, etc)	6 080
Double Sided Tape	2 401
Site Visits	2 350
M&E	12 900
TOTAL	**314 554**

8.1.4 Summary

The figures above indicate a strong discrepancy in the expenditures required for the provision of HE. Johannesburg Water reports a modest figure of R74 per household for a relatively recent informal settlement project, whilst different documents commenting on the MIG programme report budget ceilings for HE at R300 and an effective R190 per household respectively. These figures do need to be adjusted to account for inflation, however.

The discrepancy in these figures highlights the importance of ensuring that budget allocations for HE programmes are evaluated per project, based on the type of HE methods used, the scope of the project, the duration of the initiative (including the number of monitoring and follow up visits conducted) and the size of the community in question. Proper financial planning for HE can only occur where these factors are considered.

8.2 ONGOING HHE

Ongoing HE programmes, such as those implemented under the Primary Option approach (section 7.3), could have similar expenditure needs to those of project based initiatives. Key financial discrepancies could be based on the higher number of follow up visits required and increased monitoring and evaluation costs, as experienced within an ongoing HE programme.

9 CHAPTER NINE – HUMAN RESOURCES REQUIRED FOR IMPLEMENTATION OF EDUCATION PROGRAMMES

9.1 OVERALL HUMAN RESOURCES AND TRAINING REQUIRED

The rollout of a HE programme, whether project based or ongoing, requires the involvement and collaboration of various stakeholders situated at different institutional levels. At a municipal level, the key human resource requirements are related to Water Services Authorities, Water Services Providers, the Municipal Health Services and the District Health System. Nevertheless, the commitment and involvement of other agents such as provincial and national government and community level role-players is essential for successful implementation.

Many of these identified stakeholders will also require suitable training in order to allow them to properly fulfil their functions. This training should be linked to the South African Qualifications Authority (SAQA) Unit Standards for accredited training in relation to sanitation and HHE. The table below therefore sets out the overall human resource requirements for the implementation and co-ordination of both projects based and ongoing HHE initiatives, with the relevant SAQA unit standards also provided.

Table 9: Overall Human Resource Requirements for HHE (with Training Standards)

| Category	Organisation	Position	SAQA Unit Standards
Management Level	Water Services Authority	Technical Services Director, Assistant Director	Level 6: Sanitation Programme Manager
		Facilitation/ISD Director/Manager	Level 6: Sanitation Programme Manager
	Water Services Provider	HHE Manager	Level 6: Sanitation Programme Manager
		HHE Facilitator	Level 5: Sanitation Project Co-ordinator
	Municipal Health Services	EHPs Director/Manager	Level 6: Sanitation Programme Manager
		EHPs	Level 5: Sanitation Project Co-ordinator
	Provincial/District Health System	District Health Manager	Level 6: Sanitation Programme Manager
		PHC Co-ordinators, Clinic staff	Level 5: Sanitation Project Co-ordinator
	Provincial Health: Health Promotion	Health Promotion Managers	Level 6: Programme Manager
	Service Provider	Sanitation Managers	Level 6: Sanitation Programme Manager
		Health and Hygiene Manager/Co-ordinator	Level 5: Sanitation Project Co-ordinator
		ISD and Facilitation Managers	Level 5: Sanitation Project Co-ordinator
Implementation Level	MHS	EHPs	Level 4: Sanitation Facilitator

Category	Organisation	Position	SAQA Unit Standards
	Primary Health Care	Community Health Workers	Level 2: Sanitation Promoter
	Service Providers	Health and Hygiene Fieldworkers/Promoters	Level 2: Sanitation Promoter
		ISD Facilitators	Level 4: Sanitation Facilitator
	Traditional Healer Associations	Traditional Healers	Level 2: Sanitation Promoter
			Level 4: Sanitation Facilitator

Source: adapted from NSTT (2004) p63

Having outlined the overall human resources required to ensure successful and co-ordinated project based and ongoing HHE efforts, the specific human resources needed within either a project based or an ongoing initiative will now be considered.

9.2   PROJECT BASED HHE

The typical project based human resources required for the management and implementations of a HHE programme are indicated in the figure below:
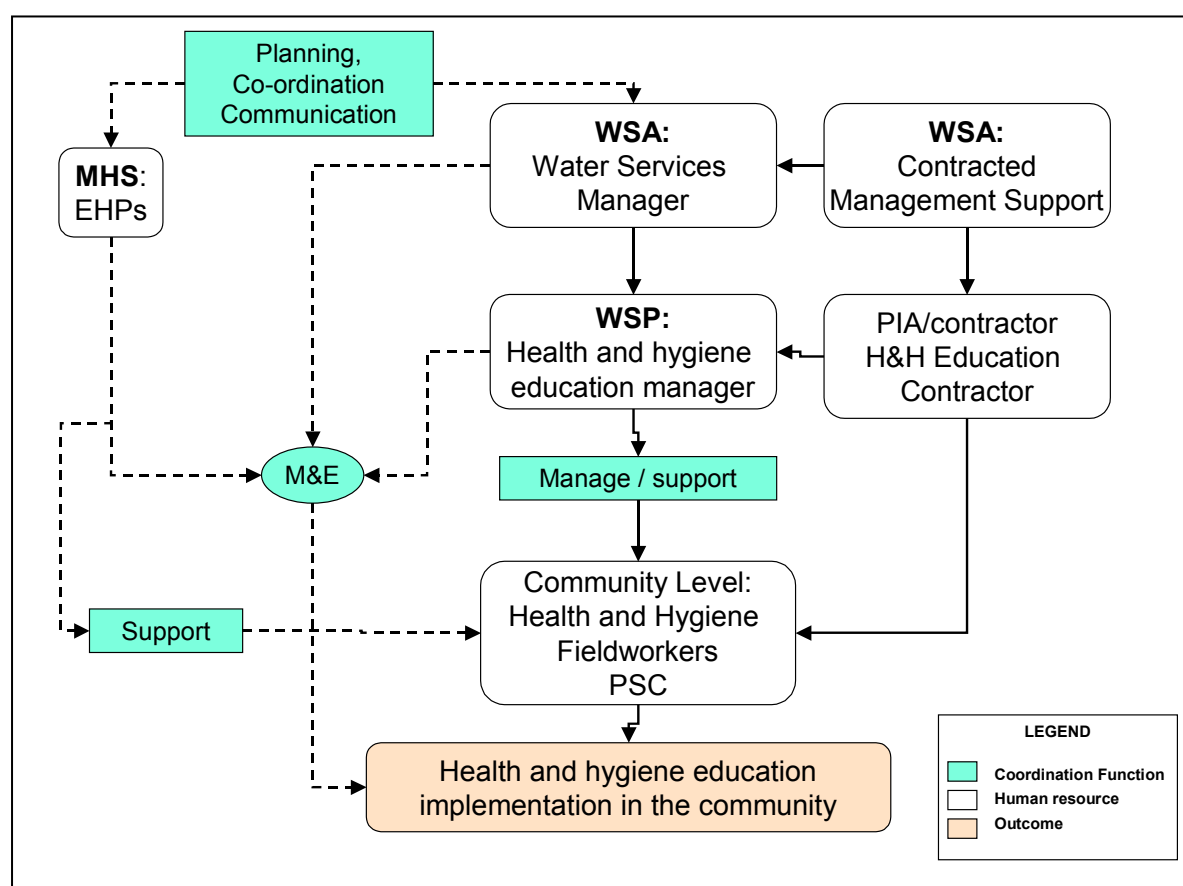
Source: NSTT (2005b) p33

Figure 4: Roles and Responsibilities for Ongoing HHE

Given the key role of WSAs in the provision of project based HHE, these institutions need to ensure that they have at least 1 competent sanitation practitioner (relevant accredited qualification at NQF Level 5 or above) in either their technical services or ISD section.
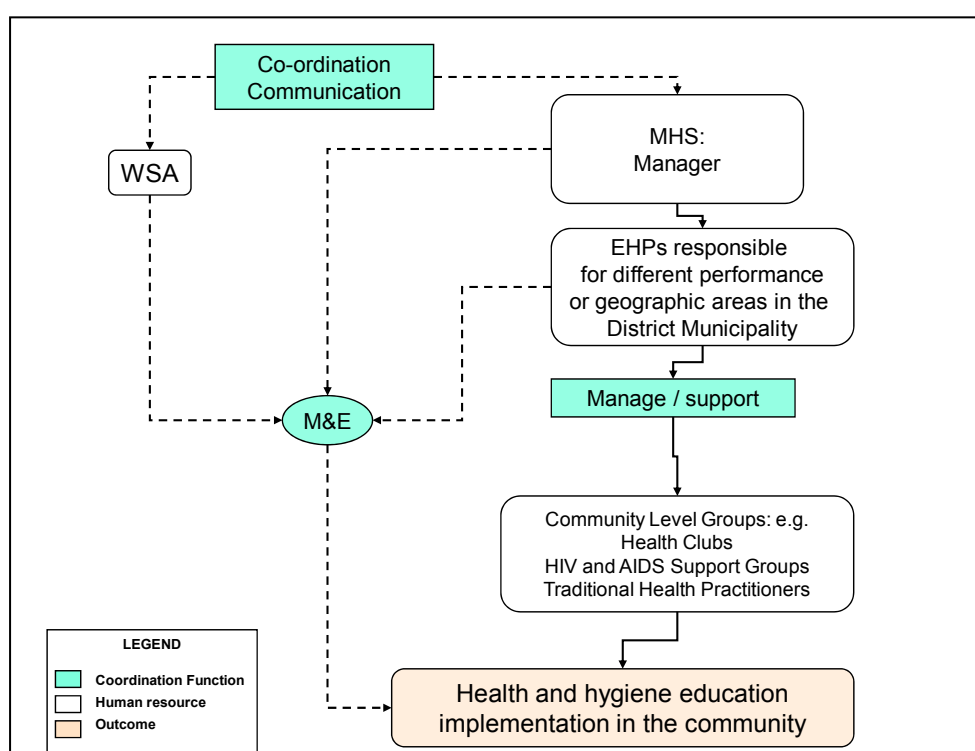
9.3   ONGOING HHE

As highlighted earlier, the provision of ongoing HHE is the primary responsibility of the Municipal Health Services. In this regard, the MHS has a number of potential options at their disposal, in terms of the approach that is used in the rollout of HHE (section 7.3). The decision as to which option and associated human resources to employ is based on a number of factors, particularly (NSTT, 2005b):

- The number of people available to be physically involved in planning, implementing, managing and monitoring HHE programmes;
- The skills and capacity levels of the human resources, particularly EHPs; and
- The workloads of the available human resources.

EHPs have a vital role to play in the delivery of ongoing HHE and their adequate staffing within the MHS is considered a priority concern (NSTT, 2005b). The target ratio of EHPs to population in South Africa is 1:15 000, whereas the WHO recommends a ratio of 1:10 000 (NSTT 2005b).

9.3.1 Human Resources Required for Primary Option

The typical human resources required for the rollout of an ongoing HHE programme, as implemented under the Primary Option, are indicated in the figure below:
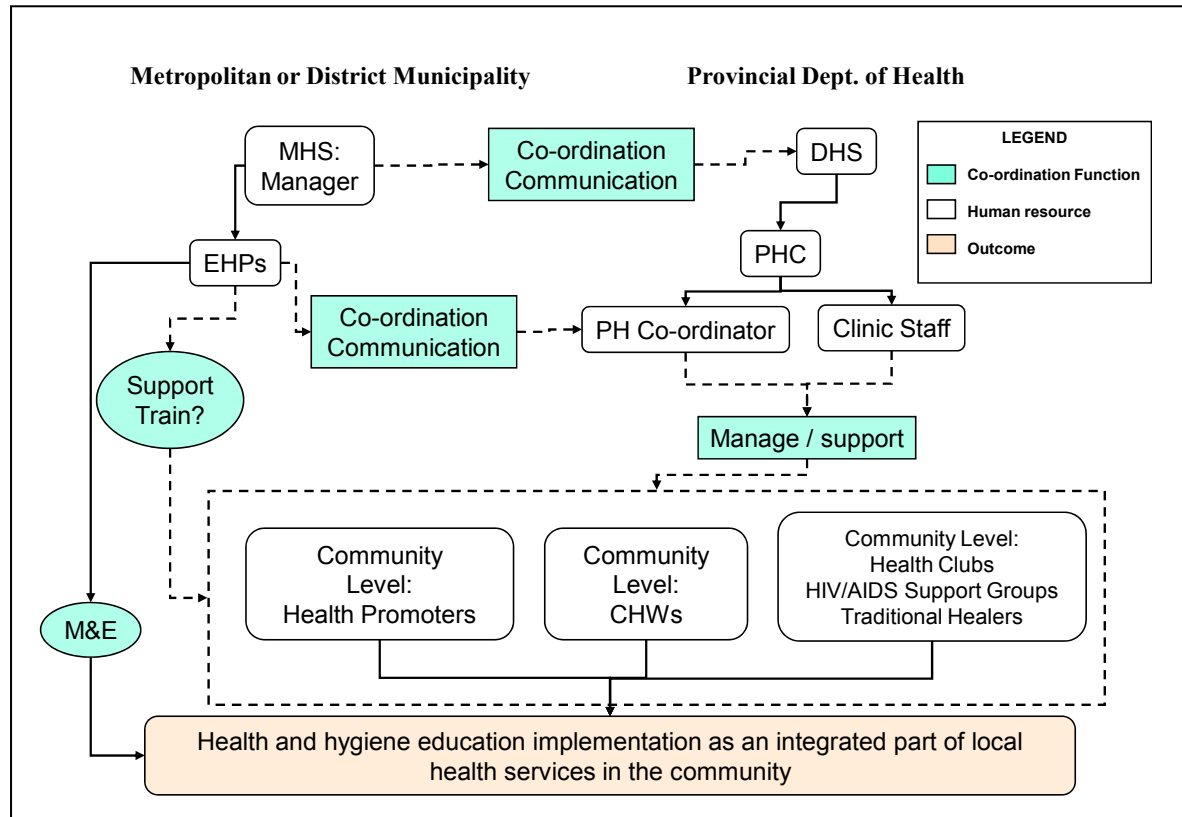

Source: NSTT (2005b) p34

Figure 5: Typical Human Resources Required For Ongoing HHE (Primary Option)

9.3.2 Human Resources Required for Option 2

The typical human resources required for the rollout of an ongoing HHE programme, as implemented under Option 2, are outlined below:

Source: NSTT (2005b) p35

Figure 6: Typical Human Resources Required For Ongoing HHE (Option 2)

10 CHAPTER TEN – MONITORING AND EVALUATION PLAN

10.1 INTRODUCTION

Monitoring and evaluation are essential for programme managers. These two activities provide a methodology to gather information, and then intervene, in a project. The project may have drifted away from its original aims or goals, or it may be that the original project design yielded ineffective results and needs to be modified. Monitoring and evaluation also provides the information and analysis necessary to confirm that a project is indeed yielding the desired outcomes and is effective. Thus monitoring and evaluation are used in projects where intervention is necessary, as well as for projects where intervention is unnecessary.

Although the phrase "Monitoring and Evaluation" have entered common usage as an inseparable pair, they are actually distinct activities. They should be treated as such.

"Monitoring is the systematic collection and analysis of information as a project progresses. It is aimed at improving the efficiency and effectiveness of a project or organisation" (Shapiro, 2007). A successful monitoring process is based on the established targets and the planned activities laid down during the design phases of a programme. Monitoring a programme as it progresses, allows the management of the programme insight into the effectiveness and the degree to which it sticks to the original design. Monitoring provides a basis for decision making for interventions in the programme: either to ensure that the programme continues to run effectively; or to reorganize sections of the programme to ensure greater effectiveness.

Monitoring involves:
- setting indicators that will be used during monitoring;
- setting up the system for information collection and reporting;
- collecting and recording the information;
- analyzing the information; and
- using the information.

Evaluation, on the other hand, is the comparison of actual project impacts against the agreed strategic plans (Shapiro, 2007). Evaluation, therefore, is about analysis – does the programme, as it is currently implemented, achieve what was set out to achieve at the programme design stage? Evaluation can be carried out at intervals during the programme life, or it could occur after the programmes have closed. In the first case the results are used to intervene in the current project, if necessary, or to uncover learning points for future projects.

Evaluation involves:
- listing the objectives and targets for the programme;
- assessing the degree to which these objectives and targets have been achieved; and
- how were the objectives and targets reached.

Evaluation looks at effectiveness, efficiency and impact of the programme. An internal or an external evaluator can be used for the evaluation process.

An effective monitoring and evaluation process allows programme management to: review progress; identify problems in planning and implementation; and to make adjustments to the

programme as may be necessary. This process ensures that programmes are effective, efficient and create the largest possible, positive impact.

The monitoring and evaluation process allows programme management to adjust to changing circumstances. Long running programmes are susceptible to changes in environment that make the original design less effective. Monitoring and evaluation will allow management to adjust the programme to respond to the changing circumstances. Hence monitoring and evaluation have prevented the programme from becoming irrelevant in the light of changes to the programme environment.

10.2 THE PROCESS OF MONITORING AND EVALUATION

Monitoring and evaluation should form a closed loop which allows for programme information to influence intervention methods, which are they subject to analysis once they have been implemented.

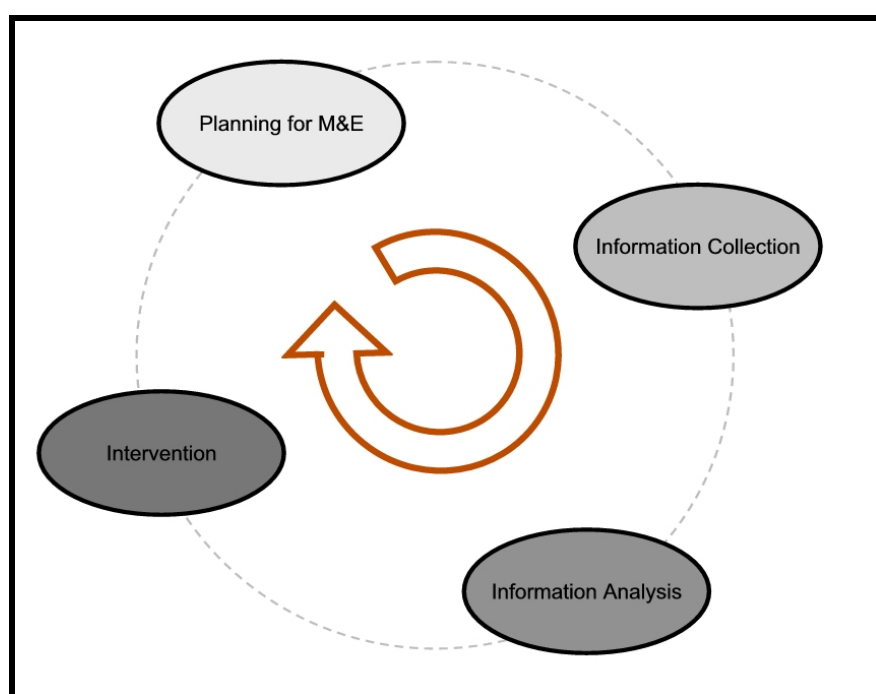The figure below summarises the various aspects of monitoring and evaluation.

Figure 7: Aspects of Monitoring and Evaluation

The monitoring and evaluation cycle comprises the following aspects:
- Planning for the Monitoring and Evaluation – what is necessary for the process to be successful;
- Information Collection – implementation of the above checklist and procedures;
- Information Analysis – making sense of the data that has been captured, formulating intervention plans;
- Intervention – implementing the intervention plans.

Once this cycle has been completed, the feedback aspect of the closed loop starts. The interventions that have been implemented are then subject to the entire process. This loop leads to continuous improvement in the programme and is ignored to the detriment of the entire programme.

10.2.1 Planning for the Monitoring and Evaluation

Planning the monitoring and evaluation process involves decision making. Decisions made at this stage will affect the entire monitoring and evaluation process. The planning stage is thus critical to the success of the effort.

The first issue to address is what information is required. The information needed should be sufficient to present a picture of the progress on the project and to determine the effectiveness, efficiency and impact of the programme.

Once this has been decided, the monitoring indicators should be developed. Monitoring indicators are measures that will be taken of the programme. The indicators should be clearly defined and the measurement methodology documented (Environmental Health Project, 2001). This is necessary to ensure that, when monitoring is done during various stages of a programme, that the information is reliable and comparable between monitoring events.

An important consideration when using the indicators is to start using them as soon as possible. This provides a baseline against which the progress of the programme can be benchmarked.

It is suggested that, as far as possible, the indicators are quantitative. Quantitative measures are easier to measure and are inherently objective. Qualitative indicators should be used with due caution, and then only in the hands of trained and skilled personnel, due to their inherent subjectivity. Qualitative data should be used however. It is often only through qualitative data gathering techniques, (observation and questioning) that the reasons behind some of the quantitative data changes can be discerned.

In documenting the indicators, the data gathering techniques should be specified. Some of the common data gathering techniques are listed below:
- Structured questionnaires;
- One-on-one interviews;
- Surveys;
- Analysis of government or other published statistics.
- Recorded observation;
- Critical incident analysis; and
- Focus groups.

The resources need to collect and analyse this data should be planned early on in the project.

With regards to human resources, job descriptions of programme staff should be adjusted to take into account these data requirements. It may be necessary, in larger programmes, to have specific appointments made to satisfy the data requirements of the project.

The physical resources necessary for data capture is also essential. These may include equipment items such as camera's Global Positioning System devices, venues and vehicles.

All of the considerations covered in this section should be documented in a Monitoring and Evaluation Planning Report. The report should include detailed checklist and procedures to ensure that the monitoring and evaluation process can be implemented without confusion. This report can then be distributed to staff members with relevant responsibilities. In this manner, the monitoring and evaluation process becomes implementable and entrenched in the project.

10.2.2 Information Collection

Information to be used in the monitoring and evaluation process has to be collected in a manner that is consistent and statistically sound.

The following provides a list and short description of the possible data collection methods (Shapiro, 2007):

Interviews – interviews involve asking directed questions aimed at getting information for the purposes of the indicators. Interviews can yield either qualitative or quantitative information depending upon the structure of the interview questionnaire. Interviewer requires training in interview skills to eliminate interviewer led bias or other errors in the data collection process.

Key informant interviews – Where interviews above were with sampled members of the affected community, key informant interviews are conducted with specialists or an expert in the community. Key informants can be relatively objective and offer useful insights in the programme. These type of interviews should only be conducted by a skilled interviewer, with a good knowledge of the topic at hand.

Questionnaires - These are written responses to questions posed in a structured questionnaire. Depending on the level of literacy of the person being enumerated, the questionnaire can be completed either by the enumerated or the enumerator. Some level of training is required in both of these cases. Self-completed questionnaires allow the people a sense of anonymity which aids in truthful and useful output. It is essential to test a new questionnaire on a sample group in order to determine if the questions are clear and unambiguous and that the requested data is available.

Focus groups – A focus group, is a group of between six to twelve people who are interviewed together by a skilled facilitator with a carefully structured interview schedule. Questions are focused around a specific topic. Focus groups are very useful in gauging opinion within a community. Care should be taken to ensure that the members of the focus are from different backgrounds within the community and that the sampling method does not favour a single demographic grouping over another. If this is not the case, the findings of the focus group are difficult to generalize.

Community meetings – Community meetings are large gatherings of community members where input and solutions are sought to questions. Community meetings are useful for getting a broad response from many people on specific issues. It is also a way of involving beneficiaries directly in an evaluation process, giving them a sense of ownership of the process. Community meetings should be facilitated by an expert in community communication and are often drawn out meetings, especially if the topics under review are complex or controversial.

Fieldworker reports - Structured report forms that ensure that indicator- related questions are asked of the community. This occurs whilst the field worker is in the field and it thus a cheaper and less time consuming method of data collection. It does require well-trained fielder workers.

Critical Incident Analysis - This method is a way of focusing interviews with individuals or groups on particular events or incidents. The purpose of the critical incident analysis is to uncover the events themselves as well as the causes and reasons for the incident. If the incident is carefully selected, it leads to greater insight into the programme.

Participant observation - This involves direct observation of events, processes, relationships and behaviours. In this case, the observer gets directly involved in the event under review.

This method can lead to greater insight than by using the otherwise dry interview technique. Participant observation can be very time- consuming.

10.2.3 Information Analysis

Once the information has been collected, the manager of the monitoring and evaluation process will to carry out a process of sorting, discarding and making sense of the data. The raw data needs to be packed into actionable information so that the necessary interventions can be made.

The framework for the analysis should be the effectiveness; efficiency and impact of the programme, taking into account the goals and objectives of the programme. It is suggested that the data be reviewed, checked and aggregated. It should then be presented in a coherent manner in the monitoring and evaluation report.

Once this has been completed, the data should be reviewed ordered into themes, concerns and variations from expected performance. The data should then be turned into information through a process of analysis and understanding. The information analysis stage of monitoring and evaluation requires a very good understanding the programme and its aims.

Conclusions should then be developed. The conclusions should include concrete recommendations for change or adjustment in the programme.

It should be noted that the report could be a monitoring and evaluation report, or either one separately. This depends upon the decisions made in the planning stage of the process.

10.2.4 Intervention

Once the report has been completed, it needs to be presented to the management stakeholder in the programme. The purpose of this step it is ensure that the monitoring and evaluation loop is closed. The recommended actions should be debated and auctioned.

In this manner, the programme is being continually improved and kept relevant.

Monitoring and evaluation is essential to the continued success of HEP.

11 REFERENCE

1. DAVIDS, S and SIMELANE, S. 2006. Johannesburg Water: VIP Project – ISD Programme for the Implementation of VIPs in Various Informal Settlements within the City of Johannesburg. Close-Out Report. February 2006.

2. DEPARTMENT OF PROVINCIAL AND LOCAL GOVERNMENT. 2004. The Municipal Infrastructure Grant 2004 – 2007. From programme to projects to sustainable services. Pretoria: DPLG.

3. DEPARTMENT OF PROVINCIAL AND LOCAL GOVERNMENT. 2005. The Municipal Infrastructure Grant: Basic Level of Services and Unit Costs - A Guide for Municipalities. Pretoria: DPLG.

4. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. September 2001. White Paper on Basic Household Sanitation. Pretoria: Department of Water Affairs and Forestry.

5. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. February 2002a. Summary of the White Paper on Basic Household Sanitation. Pretoria: Department of Water Affairs and Forestry.

6. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. February 2002b. Framework for a National Sanitation Strategy – Bringing Sanitation up to Speed. Pretoria: Department of Water Affairs and Forestry.

7. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. October 2002c. National Sanitation Strategy. Accelerating Sanitation Sector Delivery. Pretoria: Department of Water Affairs and Forestry and National Sanitation Task Team.

8. DEPARTMENT OF WATER AFFAIRS AND FORESTRY, SOUTH AFRICAN LOCAL GOVERNMENT ASSOCIATION, SOUTH AFRICAN ASSOCIATION OF WATER UTILITIES, DEPARTMENT OF PROVINCIAL AND LOCAL GOVERNMENT AND NATIONAL TREASURY. September 2003. Strategic Framework for Water Services. Pretoria: Department of Water Affairs and Forestry.

9. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. 2005b. Guideline for Costing Basic Household Sanitation. Pretoria: Department of Water Affairs and Forestry.

10. ENVIRONMENTAL HEALTH PROJECT (EHP). Undated. Improving Health through Behaviour Change. Washington: USAID.

11. ENVIRONMENTAL HEALTH PROJECT (EHP). 2004. Assessing Hygiene Improvement: Guidelines for Household and Community Levels. Washington: USAID.

12. GSK. Undated. PHASE - Personal Hygiene and Sanitation Education. (http://www.gsk.com/community/downloads/phase-brochure.pdf).

13. HANCHETT S, ALHTER S, KHAN M H, MEZULIANIK S and BLAGBROUGH, V. 2003. Water, sanitation and hygiene in Bangladeshi slums: an evaluation of the Water Aid – Bangladesh Urban Programme. *Environment and Urbanization*, Vol. 15 No.43.

14. HUCHZERMEYER M, KARAM A and MAYEKISO. 2004. Informal Settlement Policy: Report on key findings of Phase One: International Literature Reviews. School of Architecture and Planning, WITS University.

15. INTERMEDIATE TECHNOLOGY DEVELOPMENT GROUP (ITDG). Undated. Project Summary Sheet: Maili Saba Participatory Hygiene and Education Transformation.

16. INTERNATIONAL WATER AND SANITATION CENTRE. 2001. Hygiene Promotion: The Need for Behavioural Change. (http://www.irc.nl/products/training/hyg_nl.html).

17. INTERNATIONAL WATER AND SANITATION CENTRE (IRC). Undated. Key Lessons in Monitoring. (http://www.irc.nl/page/3653).

18. MANASE G, MULENGA M and FAWCETT B. 2001. Linking Urban Sanitation Agencies with Poor Communities Needs: A Study of Zambia, Zimbabwe and South Africa.

19. MUTEVU, P. 2002. Health and Hygiene Education Program to promote safe handling of drinking water and appropriate use of sanitation facilities in informal settlements: Case study of Kibera, Makadara and Korogocho in Nairobi and Likoni and Bombululu in Mombasa. A presentation in water for Africa Conference in Dar Es Salaam 18th –23rd November 2002.

20. NAIDOO N, MDALA B, MPHAKE K and CHIDLEY, C. 2007. The Effectiveness of Sanitation Awareness and Education Programmes in Informal Settlements. Pretoria: Water Research Commission, Report Number: 1523/1/07.

21. NATIONAL DEPARTMENT OF HOUSING. 2004. National Housing Programme: Upgrading of Informal Settlements. Pretoria.

22. NATIONAL SANITATION TASK TEAM. 1996. National Sanitation Policy. October 1996. Pretoria: National Sanitation Task Team.

23. NATIONAL SANITATION TASK TEAM. 2003a. Strategy for Sanitation Services to Informal Settlements. Pretoria: National Sanitation Task Team.

24. NATIONAL SANITATION TASK TEAM. 2003b. Guideline to Local Government on the Implementation of the Strategy for Sanitation Services to Informal Settlements. Pretoria: National Sanitation Task Team.

25. NATIONAL SANITATION TASK TEAM. 2004. National Health and Hygiene Education Strategy. Draft. Pretoria. National Sanitation Task Team.

26. NATIONAL SANITATION TASK TEAM. 2005a. National Sanitation Strategy. Pretoria: National Sanitation Task Team.

27. NATIONAL SANITATION TASK TEAM. 2005b. National Health and Hygiene Education Strategy. Pretoria: National Sanitation Task Team.

28. NITTI, R and SARKAR, S. 2003. Reaching the Poor through Sustainable Partnerships: The Slum Sanitation Program in Mumbai, India. Washington: World Bank.

29. REPUBLIC OF SOUTH AFRICA. 1997a. Water Services Act. 108 of 1997.Government Gazette, 19 December 1997.

30. SAMBHAV SOCIAL SERVICE ORGANISATION. Undated. Slum Environmental Sanitation Initiative. (http://www.sambhavindia.org/Pages/sesi.html).

31. SCLAR E D, GARAU P and CAROLINI G. March 2005. The 21st century health challenge of slums and cities. *Lancet*, Vol. 365 p901-3.

32. SCOTT, S. 1998. An Evaluation of the Enviro Loo Composting Latrine in an Informal Settlement Area in the Greater Johannesburg. Pretoria: Water Research Commission Report Number: KV112/98.

33. Environmental Health Project 2001 *Improving Health through Behaviour: A Process Guide on Hygiene Promotion,* Office of Health, Infectious Diseases and Nutrition, Bureau for Global Health, U.S Agency for International Development: Washington, D.C, USA.

34. UKUTHULA DEVELOPMENT SERVICES cc. 2004. National Health and Hygiene Strategy Development Project: Health and Hygiene Strategy Framework: Ukuthula Development Services.

35. UN-HABITAT. 2003. The Challenge of Slums: Global Report on Human Settlements. Nairobi: UN-HABITAT.

36. UN-HABITAT. 2007. Slums Environmental Sanitation Initiative (SESI). Nairobi: UN-HABITAT.

37. URBAN SECTOR NETWORK (USN). 2003. Scoping Study: Urban Land Issues, Appendix 3. Pretoria: Southern African Regional Poverty Network.

38. WARD S, HALL K and CLACHERTY A. 2001. Incorporation of water and sanitation, health and hygiene issues into Soul City, a multi-media edutainment vehicle. Pretoria: Water Research Commission.

39. WATERAID. 2006. Technology Notes.
http://www.wateraid.org/documents/plugin_documents/technology_notes_07_web_1.pdf.

40. WATER FOR AFRICA. Undated. Kisumu, Kenya Child to Child Case Study. (http://www.waterforpeople.org/downloads/updates/WFP_AN_Case.pdf).

41. WATER FOR AFRICAN AND ASIAN CITIES PROGRAMME. Undated. Towards a New Water-use and Sanitation-friendly Ethic in Society. Nairobi: UN-HABITAT.

42. WATER FOR ASIAN CITIES PROGRAMME. Undated. Human Values-based Water, Sanitation and Hygiene Education. Nairobi: UN-HABITAT.

43. WORLD BANK. March 2006. Reaching the Poor through Sustainable Partnerships: The Slum Sanitation Program in Mumbai, India. Washington: World Bank.

44. WORLD HEALTH ORGANIZATION. 1997a. Participatory Hygiene and Sanitation Transformation: A New Approach to Working with Communities. Geneva: WHO.

45. WORLD HEALTH ORGANIZATION. 2003. Participatory Hygiene and Sanitation Transformation: A new approach to working with communities, WHO/EOS/96.11 (http://www.who.int/docstore/water_sanitation_health/Environmental_sanit/PHAST/phast 96-11/Phast1.htm).

12 BIBLIOGRAPHY

46. ABBOTT, J and DOUGLAS, D. 2001. A Methodological approach to the upgrading, in-situ, of informal settlements in South Africa. Pretoria: Water Research Commission Report Number 786/2/01.

47. BIRAN, A and HAGARD, S. 2003. Hygiene Promotion: Evidence and Practice. London: London School of Hygiene and Tropical Medicine.

48. BURKE, J. 2002. Environmental Planning and Management. Johannesburg: City of Johannesburg.

49. CSIR BOUTEK. 1999. Disease Prevention: Water Supply and Sanitation. Pretoria. CSIR.

50. DAVIDS, S and SIMELANE, S. 2006. Johannesburg Water: VIP Project – ISD Programme for the Implementation of VIPs in Various Informal Settlements within the City of Johannesburg. Close-Out Report. February 2006.

51. DEPARTMENT OF HEALTH (DoH). 2007. HIV & AIDS and STI Strategic Plan for South Africa, 2007-2011. Pretoria: Department of Health.

52. DEPARTMENT OF PROVINCIAL AND LOCAL GOVERNMENT. 2004. The Municipal Infrastructure Grant 2004 – 2007. From programme to projects to sustainable services. Pretoria: DPLG.

53. DEPARTMENT OF PROVINCIAL AND LOCAL GOVERNMENT. 2005. The Municipal Infrastructure Grant: Basic Level of Services and Unit Costs - A Guide for Municipalities. Pretoria: DPLG.

54. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. September 2001. White Paper on Basic Household Sanitation. Pretoria: Department of Water Affairs and Forestry.

55. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. February 2002a. Summary of the White Paper on Basic Household Sanitation. Pretoria: Department of Water Affairs and Forestry.

56. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. February 2002b. Framework for a National Sanitation Strategy – Bringing Sanitation up to Speed. Pretoria: Department of Water Affairs and Forestry.

57. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. October 2002c. National Sanitation Strategy. Accelerating Sanitation Sector Delivery. Pretoria: Department of Water Affairs and Forestry and National Sanitation Task Team.

58. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. 2002d. The Development of a Sanitation Policy and Practice in South Africa. Preliminary Draft Paper. Pretoria: Department of Water Affairs and Forestry.

59. DEPARTMENT OF WATER AFFAIRS AND FORESTRY, SOUTH AFRICAN LOCAL GOVERNMENT ASSOCIATION, SOUTH AFRICAN ASSOCIATION OF WATER UTILITIES, DEPARTMENT OF PROVINCIAL AND LOCAL GOVERNMENT AND

NATIONAL TREASURY. September 2003. Strategic Framework for Water Services. Pretoria: Department of Water Affairs and Forestry.

60. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. 2005a. Ensuring Water Services to Residents on Privately Owned Land. A guide for Municipalities. Version 1 Pretoria: Department of Water Affairs and Forestry.

61. DEPARTMENT OF WATER AFFAIRS AND FORESTRY. 2005b. Guideline for Costing Basic Household Sanitation. Pretoria: Department of Water Affairs and Forestry.

62. DUNCKER, L C. 2000. Hygiene awareness for rural water supply and sanitation projects. Pretoria: Water Research Commission Report Number: 819/1/00.

63. ENVIRONMENTAL HEALTH PROJECT (EHP). Undated. Improving Health through Behaviour Change. Washington: USAID.

64. ENVIRONMENTAL HEALTH PROJECT (EHP). 2004. Assessing Hygiene Improvement: Guidelines for Household and Community Levels. Washington: USAID.

65. GSK. Undated. PHASE - Personal Hygiene and Sanitation Education. (http://www.gsk.com/community/downloads/phase-brochure.pdf).

66. HANCHETT S, ALHTER S, KHAN M H, MEZULIANIK S and BLAGBROUGH, V. 2003. Water, sanitation and hygiene in Bangladeshi slums: an evaluation of the Water Aid – Bangladesh Urban Programme. *Environment and Urbanization*, Vol. 15 No.43.

67. HUCHZERMEYER M, KARAM A and MAYEKISO. 2004. Informal Settlement Policy: Report on key findings of Phase One: International Literature Reviews. School of Architecture and Planning, WITS University.

68. INTERMEDIATE TECHNOLOGY DEVELOPMENT GROUP (ITDG). Undated. Project Summary Sheet: Maili Saba Participatory Hygiene and Education Transformation.

69. INTERNATIONAL WATER AND SANITATION CENTRE. 2001. Hygiene Promotion: The Need for Behavioural Change. (http://www.irc.nl/products/training/hyg_nl.html).

70. INTERNATIONAL WATER AND SANITATION CENTRE (IRC). 2005. Thematic Overview Paper - Hygiene Promotion (http://www.irc.nl/redir/content/download/23457/267837/file/TOP1_HygPromo_05.pdf).

71. INTERNATIONAL WATER AND SANITATION CENTRE (IRC). Undated. Key Lessons in Monitoring. (http://www.irc.nl/page/3653).

72. MANASE G, MULENGA M and FAWCETT B. 2001. Linking Urban Sanitation Agencies with Poor Communities Needs: A Study of Zambia, Zimbabwe and South Africa.

73. MUNICIPAL INFRASTRUCTURE TASK TEAM. 2004. Policy Framework for the introduction of the Municipal Infrastructure Grant. Concise Version-Final. Pretoria.

74. MUTEVU, P. 2002. Health and Hygiene Education Program to promote safe handling of drinking water and appropriate use of sanitation facilities in informal settlements: Case study of Kibera, Makadara and Korogocho in Nairobi and Likoni and Bombululu in Mombasa. A presentation in water for Africa Conference in Dar Es Salaam 18th –23rd November 2002.

75. MVULA TRUST. 1997. Guidelines for community managed water and sanitation services. Cape Town: The Mvula Trust.

76. MVULA TRUST. 2001. Sanitation Technical Options. Johannesburg: Mvula Trust.

77. MVULA TRUST. 2007. Legislative and Policy Review: The Linkages between Local Government Water Services, HIV/AIDS and Gender. Draft. Johannesburg: The Mvula Trust.

78. NAIDOO N, MDALA B, MPHAKE K and CHIDLEY, C. 2007. The Effectiveness of Sanitation Awareness and Education Programmes in Informal Settlements. Pretoria: Water Research Commission, Report Number: 1523/1/07.

79. NATIONAL DEPARTMENT OF HOUSING. 2004. National Housing Programme: Upgrading of Informal Settlements. Pretoria.

80. NATIONAL DEPARTMENT OF HOUSING. 2005. Farm Worker and Occupier Housing Assistance Programme (FHAP). Draft. Pretoria.

81. NATIONAL DEPARTMENT OF HOUSING. 2007. Housing Consumer Education Framework. Pretoria: Department of Housing.

82. NATIONAL SANITATION TASK TEAM. 1996. National Sanitation Policy. October 1996. Pretoria: National Sanitation Task Team.

83. NATIONAL SANITATION TASK TEAM. 2003a. Strategy for Sanitation Services to Informal Settlements. Pretoria: National Sanitation Task Team.

84. NATIONAL SANITATION TASK TEAM. 2003b. Guideline to Local Government on the Implementation of the Strategy for Sanitation Services to Informal Settlements. Pretoria: National Sanitation Task Team.

85. NATIONAL SANITATION TASK TEAM. 2004. National Health and Hygiene Education Strategy. Draft. Pretoria. National Sanitation Task Team.

86. NATIONAL SANITATION TASK TEAM. 2005a. National Sanitation Strategy. Pretoria: National Sanitation Task Team.

87. NATIONAL SANITATION TASK TEAM. 2005b. National Health and Hygiene Education Strategy. Pretoria: National Sanitation Task Team.

88. NITTI, R and SARKAR, S. 2003. Reaching the Poor through Sustainable Partnerships: The Slum Sanitation Program in Mumbai, India. Washington: World Bank.

89. REPUBLIC OF SOUTH AFRICA. 1996. Constitution of South Africa. Act 108 of 1996. Government Gazette 11 October 1996.

90. REPUBLIC OF SOUTH AFRICA. 1997a. Water Services Act. 108 of 1997.Government Gazette, 19 December 1997.

91. REPUBLIC OF SOUTH AFRICA. 1997b. Housing Act. 107 of 1997. Government Gazette, 19 December 1997.

92. SAMBHAV SOCIAL SERVICE ORGANISATION. Undated. Slum Environmental Sanitation Initiative. (http://www.sambhavindia.org/Pages/sesi.html).

93. SCLAR E D, GARAU P and CAROLINI G. March 2005. The 21st century health challenge of slums and cities. *Lancet*, Vol. 365 p901-3.

94. SCOTT, S. 1998. An Evaluation of the Enviro Loo Composting Latrine in an Informal Settlement Area in the Greater Johannesburg. Pretoria: Water Research Commission Report Number: KV112/98.

95. Shapiro, J 2007. *Monitoring and Evaluation Toolkit.* CIVICUS: World Alliance for Citizen Participation: Washington

96. Environmental Health Project 2001 *Improving Health through Behaviour: A Process Guide on Hygiene Promotion,* Office of Health, Infectious Diseases and Nutrition, Bureau for Global Health, U.S Agency for International Development: Washington, D.C, USA.

97. STILL, D and HOLDEN, R. 1997. Water and sanitation for all: partnerships and innovations. Toward sustainable sanitation in South Africa. Durban: 23rd WEDC Conference, South Africa.

98. UKUTHULA DEVELOPMENT SERVICES cc. 2004. National Health and Hygiene Strategy Development Project: Health and Hygiene Strategy Framework: Ukuthula Development Services.

99. UNITED NATIONS CHILDREN'S FUND (UNICEF) and LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE. 1999. towards Better Programming: A Manual on Hygiene Promotion. (http://www.unicef.org/wes/files/hman.pdf).

100. UNITED NATIONS CHILDREN'S FUND (UNICEF). 2006. Behaviour Change Communication in Emergencies: A Toolkit. Chapter 4 – Hygiene Promotion. Nepal: UNICEF Regional Office for South Asia.

101. UN-HABITAT. 2003. The Challenge of Slums: Global Report on Human Settlements. Nairobi: UN-HABITAT.

102. UN-HABITAT. 2007. Slums Environmental Sanitation Initiative (SESI). Nairobi: UN-HABITAT.

103. URBAN SECTOR NETWORK (USN). 2003. Scoping Study: Urban Land Issues, Appendix 3. Pretoria: Southern African Regional Poverty Network.

104. WARD S, HALL K and CLACHERTY A. 2001. Incorporation of water and sanitation, health and hygiene issues into Soul City, a multi-media edutainment vehicle. Pretoria: Water Research Commission.

105. WATERAID. 2006. Technology Notes. http://www.wateraid.org/documents/plugin_documents/technology_notes_07_web_1.pdf.

106. WATERAID. Undated. Hygiene Education.

107. WATER FOR AFRICA. Undated. Kisumu, Kenya Child to Child Case Study. (http://www.waterforpeople.org/downloads/updates/WFP_AN_Case.pdf).

108. WATER FOR AFRICAN AND ASIAN CITIES PROGRAMME. Undated. Towards a New Water-use and Sanitation-friendly Ethic in Society. Nairobi: UN-HABITAT.

109.   WATER FOR ASIAN CITIES PROGRAMME. Undated. Human Values-based Water, Sanitation and Hygiene Education. Nairobi: UN-HABITAT.

110.   WEDC. 1999. Technical Brief No. 51: Water, Sanitation and Hygiene Understanding. (http://www.lboro.ac.uk/well/resources/technical-briefs/51-water-sanitation-and-hygiene-understanding.pdf).

111.   WORLD BANK. 2005. Life Skills-based Hygiene Education Methodologies. (http://www.schoolsanitation.org/BasicPrinciples/Methodologies.html).

112.   WORLD BANK. March 2006. Reaching the Poor through Sustainable Partnerships: The Slum Sanitation Program in Mumbai, India. Washington: World Bank.

113.   WORLD HEALTH ORGANIZATION. 1997a. Participatory Hygiene and Sanitation Transformation: A New Approach to Working with Communities. Geneva: WHO.

114.   WORLD HEALTH ORGANIZATION. 1997b. Drinking Water Quality Guidelines, 2nd Edition, Vol. 3 - Chapter 7: Hygiene Education. (http://www.who.int/water_sanitation_health/dwq/2edvol3g.pdf).

115.   WORLD HEALTH ORGANIZATION. 2003. Participatory Hygiene and Sanitation Transformation: A new approach to working with communities, WHO/EOS/96.11 (http://www.who.int/docstore/water_sanitation_health/Environmental_sanit/PHAST/phast 96-11/Phast1.htm).