REVIEW OF WATER AND SANITATION RELATED HEALTH EDUCATION AND PROMOTION ACTIVITIES IN SOUTH AFRICA

FINAL REPORT

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PREFACE

This review of health education and promotion activities in the water and sanitation sector in South Africa was produced in recognition of the fact that people in this country have endured hardship and illness as a result of a lack of access to adequate water and sanitation facilities; the statistics relating to *preventable* water and sanitation-related diseases are not encouraging. It is well known that improved access to such facilities on its own is not effective, and should not be relied upon, to bring about improved health. Although much activity in rectifying the low levels of access to adequate water and sanitation facilities is gaining momentum, regrettably, access to appropriate and relevant information about water, sanitation and health remains a major shortcoming.

The Health Education and Awareness Task Team (HEATT) was established in terms of the National Sanitation White Paper of June 1996 under the auspices of the National Sanitation Task Team (NSTT). Its first major task was to conduct this review. Even as the review is being finalised, it is beginning to show positive influences in the field, for example, collaboration between infrastructure, health and capacity-building role-players is beginning to occur; the major role-players are becoming aware of the linkages among water, sanitation and health more directly.

We take pleasure, as HEATT, in presenting this report and we look forward to the day when we can say that all reasonable steps have been taken to prevent the preventable.

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CONTENTS

EXECUTIVE SUMMARY

This report has three main components: Section 1 provides background information; Sections 2, 3 and 4 together are a short presentation of the core concepts that emerged from the review, in particular the multi-levelled nature of the problem and possibilities for developing a strategy intervention. As this component of the report is only 8 pages long it is suggested that it be taken as an extension of this executive summary. The final section of the report is a detailed sectoral review. The review also includes a data base of institutions, organisations and people who could play a role in developing or implementing a comprehensive strategy.

1. Introduction

The National Sanitation Task Team was established as an inter-ministerial task team to develop a national policy and corresponding implementation strategy for sanitation in South Africa. In June 1996 it released the draft National Sanitation White Paper. The White Paper included a strong emphasis on health and hygiene education and promotion and called for a structure to deal with such issues. As a result, the Health Education and Awareness Task Team (HEATT) was formed. HEATT's main aim is "to develop a strategy for a National Health and Hygiene Education and Awareness programme that will, *inter alia*, optimise the health benefits of infrastructure investments."

HEATT's first task was to conduct a review of existing health and hygiene education and promotion activities in South Africa. This report is the result of that review. The report covers three main sectors, namely, education and training, infrastructure provision and health. The report also deals with educational approaches and the role of the mass media in relation to water and sanitation-related health education and promotion. The report covers the situation as it existed up to the end of 1996. Developments since then are not reflected.

The review revealed that in general, health education and promotion around water and sanitation is not given high priority. Although some important policy documents and guidelines for implementing health education and promotion within infrastructure projects have been published recently, little of this is yet evident in practice. Where health education and promotion is taking place, it tends to be dominated by an information transmission approach, which, the review revealed, is an inadequate basis for promoting health. Where examples of good practice exist these are usually to be found in a localised setting within the NGO sector. Thus, although much is required before effective and coherent health education and promotion is established in this country, there are many existing resources that can be drawn on and developed.

The review revealed strong support for the idea that health concerns such as water-related diseases should be seen within a broader framework. The health promotion perspective was found to fit this thinking well in that health promotion seeks to create enabling environments to facilitate healthy choices. Health concerns are thus seen within a broad context, including economic, social, cultural, environmental and political dimensions, rather than focusing only on individual behavioural change.

With this in mind, the review resulted in a problem analysis that took into account the context in which the problem of water-related diseases is located. The report uses this problem analysis to develop and put forward a possible strategy framework that has a multi-level character. This is based on the assumption that a strategy must match the nature of the problem in order to be effective.

The sectoral review follows the problem analysis. This provides information about institutions and structures, policy developments, numbers of employees, approaches, methodologies and trends. However, in keeping with the multi-level problem analysis described above and in order that an emerging strategy is more able to reflect all levels of the problem analysis, the review also identifies resources and opportunities that are available to HEATT in developing a strategy for water and sanitation-related health education and promotion in South Africa.

The review identifies, for example, specific policy processes that HEATT can influence; specific training institutions that can be used for training of health professionals; models for participatory and empowering education programmes; mass media vehicles and approaches that would give information in an empowering context. All this is done so that the strategy does not focus only on behaviour, but on creating the enabling and supportive environments people need in order to make critical choices for health.

2. Summary of review findings

Health education and promotion is undertaken by several sectors and has no single institutional base. An implication of this is that the sector has no champion who can address policy and programmes. Health education and promotion have not previously been conceived of as a coherent framework.

The main sectors covered in this review of water and sanitation-related health education and promotion are:

- Health (Primary Health Care and Environmental Health)
- Education and training
- Infrastructure development
- The mass media

2.1 The Health Sector

Health education and promotion are catered for in a fragmented fashion by role-players such as the national and provincial departments of health, a variety of local government structures, as well as many NGOs. Partly due to the inherent complexity of the sector and transformational change, responsibility for health education and promotion is shared by many and thereby often not given adequate attention. Health sector personnel typically involved in health education and promotion include Environmental Health Officers (EHOs), Primary Health Care nurses (PHCNs), health educators, health promotion personnel and Community Health Workers (CHWs). Training of health personnel is being reviewed and new directions are in line with the provision of universal primary health care. However, training is still inequitable and sometimes irrelevant to providing human resources to meet people's immediate health needs.

Apart from some new programmes such as the Health Promoting Schools Programme of

the Department of Health and Gauteng's Integrated School Sanitation Improvement Programme, health education and promotion is dominated by a didactic ("one-directional; teacher-directed"), knowledge transmission approach. Message-based posters and pamphlets are a common educational resource. These tend to be inappropriate for those communities most at risk of water-related disease.

The national health system (NHS) is being restructured. The NHS will be based upon a PHC approach within a district-based system. The main role-players in PHC are the new provincial and local government structures (including EHOs, CHWs, community nurses, clinic staff etc) and NGOs. The review showed numerous good examples in the NGO sector of how health and hygiene education and promotion can work in a PHC system through the work of CHWs. However, the status and function of CHWs is under review and inconsistencies still exist. More support will be required for CHWs in order for them to be effective contributors in a district-based PHC system.

A concern in the PHC sector is the apparent move in national policy towards a medical model and away from a *development-oriented* approach to the district-based PHC system that was the dominant theme in earlier policy debate. This is a relevant issue for health and hygiene education and promotion in that (amongst other benefits) a development-oriented district-based PHC system which includes CHWs operating in a supportive environment provides an enabling context for a community-based, development-oriented and contextualised health and hygiene education and promotion programme (the importance of which was emphasised in the survey).

Environmental health: Methods and approaches to educational work in the environmental health sector vary greatly, with a predominance of knowledge and information transmission methods. Nevertheless, many EHOs are aware of the value of a participatory or interactive approach, but pressure of time, lack of resources and perhaps skills prevent many of them from adopting this approach. The above reflects a need for:

- training and support in participatory educational methods
- appropriate resource materials
- clarification of the new role of EHOs
- training and materials in technical issues relating to water and sanitation.

EHOs are usually employed through local authorities, but ultimately through the national Department of Health. Fewer than 2000 are practising; this was considered to be inadequate by those interviewed on this matter. Distribution of EHOs across the country varies greatly.

The role of EHOs is changing fundamentally from a regulatory, inspectoral role to a community mobilisation and education role within a district-based PHC system. A major function of EHOs in this new approach is health education and promotion.

Many of the EHOs interviewed were informed about water and sanitation issues and many are already operating in an inter-sectoral context. However, there is also evidence to suggest that some EHOs have very little experience and lack basic knowledge of water and sanitation issues and related health and hygiene education and promotion and are thus unable to make significant contributions to this sector.

2.2 The education and training sector

This section of the review argues for a focus on schools within this sector for a number of reasons, for example, many schools have inadequate sanitation, access to schools is relatively easy and direct, children are a powerful communication channel to peers and homes and this is where children at risk are to be found (especially in the ECD level).

The review shows that although health education was included in the curriculum in the past it was not given priority. There was no formal health education provision in the Adult Basic Education and Training (ABET) sector and Early Childhood Development (ECD) was supported only by a small but strong NGO sector. Where health education was carried out it was dominated by a knowledge transmission methodology and did not link with the lives of learners.

However, education and training is undergoing major transformation that presents new opportunities for redefining the role of health and hygiene education and promotion.

- The new curriculum is being developed and opportunities for representation around curriculum framework issues still exist. In the short term the environmental education curriculum policy lobby which has representation in the curriculum process and already represents many issues relevant to health in the water and sanitation sector may be a valuable lobbying partner.

- The new system includes Adult Basic Education and Training (ABET) within the new qualifications framework with opportunities for establishing short and long courses for adult learners through suitable institutions such as NGOs, Technikons and Unions.

- The ECD phase (ages 0 to 9) includes a new and compulsory reception year (age 5/6) and community-based pre-school education for the 0 to 5 year olds in a context where very few had access to pre-school education in the past.

- The primary and secondary curriculum includes an Area of Learning called Life Orientation with health education being given greater priority.

- Teacher attitudes to a relevant approach to health education are positive (based on a recent comprehensive Gauteng survey).

- Teacher education in terms of pre-service curricula and materials and in-service training and support represent a considerable challenge and opportunity.

- There are some examples of good school-based health education initiatives that could be extended.

2.3 Infrastructure development

National policy as described in the National White Paper on Sanitation requires that health and hygiene education and promotion should take place in association with infrastructure projects. However, this legislation is relatively recent. Guideline documents produced by the Mvula Trust and DWAF for infrastructure-related training and capacity building include health education and promotion, but there is as yet little evidence of the impact of

these new initiatives.

Funding of health education and promotion in infrastructure projects: The review showed that very little money within infrastructure budgets is allocated to health education and promotion. The issue of funding a health education and promotion programme will need to be examined once the different components of the strategy are identified.

Inter-sectoral issues: The review showed that health and hygiene education and promotion in the water and sanitation sector are poorly coordinated. Infrastructure developers did not generally perceive it to be their direct responsibility, but rather of the Department of Health, who were often not involved.

Short-term/long-term tensions: The review revealed tension between the long term development-oriented perspective and short term pressure for delivery. A creative resolution is required, possibly through the programmatic framework (as opposed to a project approach) presented in DWAF's "National Training and Capacity Building Project" (DWAF, 1996a). Intersectoral linkages between infrastructure projects and district-based PHC personnel, whose on-going role it is to deal with such issues, is another means of resolving this tension.

Implementation capacity: Infrastructure programmes are generally driven by the skills relating to the engineering sector; health and hygiene education and promotion is not on the critical path of an infrastructure development programme. This presents an imbalance of capacity and skills to address the health education and promotion needs of infrastructure programmes. The required training component of projects, which at present focuses on capacity building (as well as the training organisations that run them) was identified as a potential opportunity for health education and promotion.

School sanitation improvement programmes: This is a greatly neglected part of the school infrastructure programme and in most cases such initiatives are not linked to education programmes. Where educational components are linked to school sanitation improvement programmes they generally do not involve the users, or their perceptions of sanitation issues. This represents an opportunity for HEATT as an element of the short term reconstruction work taking place.

Methodologies: Where health and hygiene education and promotion does occur it is often a limited "bolt-on" programme and restricted to the more technical aspects of community capacity building. Educational methods used vary greatly. Generally a transmission approach dominates, except in the isolated examples of innovative practice encountered. These cases are usually located within the NGO sector.

2.4 Participatory face-to-face education and the mass media

This section combines the mass media and face-to-face, participatory communications because as is argued, an effective health education and promotion strategy should include sustained, on-the-ground participatory programmes backed up by national and local mass media.

It is important to note that the kinds of methodologies mentioned in this section such as plays and workshops are not necessarily effective in themselves. If they are used

didactically they can disempower audiences. Any face-to-face approach must allow interaction. Facilitators need to be trained to involve audiences and allow them to take control of the learning experience. In this context materials should be used as tools to promote discussion and interaction and programmes should be based on careful perceptions studies and should reflect the context in which people live. The section reviews a range of programmes, approaches and materials that reflect a participatory or emancipatory approach.

Generally in the mass media, health education and promotion have not had a high profile and within this, water and sanitation-related topics have not been a major focus. There have been some TV documentaries screened at off-peak viewing times that dealt with general health issues, as well as talk shows on radio and some educational material in the education supplements of newspapers. Local authorities use mainly posters and pamphlets. A recent review of such pamphlets reveals that they are mostly inaccessible to low literacy readers.

The review suggests that an effective health education and promotion strategy should include sustained, on-the-ground participatory programmes linked to infrastructure projects. These should be backed up by national and local mass media. South Africa has a well developed media infrastructure with remarkably high levels of accessibility to TV and radio at relatively low cost (e.g 8 million people for R8,2 million with Soul City).

The review focused on two major evaluation reports relating to the mass media. This is primarily because there is very little else that has been done or published in this regard. One of these initiatives, (Soul City) a major edutainment, multi-media programme that has focused directly on health and hygiene issues. Evaluations of this programme as well as others developed for voter education show, *inter alia*, that:

- Edutainment is powerful and can reach millions of rural viewers.
- It cannot be assumed that well-designed messages transmitted via accessible media will cause people to respond appropriately, especially as water and sanitation-related behaviour change is a complex of inter-meshed issues that is part of a long term process.
- The mass media can play a catalytic role in providing knowledge or raising awareness, it *cannot replace* face-to-face communication. Therefore mass media communication needs to be supported by local level interventions such as "face-to-face" communication and support for potential behaviour change. Face-to-face communications are best carried out using participatory and empowering methodologies.

TV (especially "edutainment" programmes) is consistently reported to teach more than radio or newspapers on their own. Strong synergic effects between TV and newspaper or radio and newspaper have been noted, but in combination, TV and face-to-face communication appear to have the most powerful synergic effect.

3. Conclusion: Learning points from the review

- The "problem" is multi-level and complex in nature. Any strategy that seeks to address that reality will have to be equally multi-levelled and take a holistic view.
- In all sectors health education and promotion has a low priority.
- There are many examples of localised good practice, mostly in the NGO sector.
- One of the reasons why health education and promotion does not take place is that a small percentage of infrastructure budgets is given to this work, which supports the finding regarding low priority of this work.
- EHOs represent a potential resource for health and hygiene education and promotion.
- The new PHC system and CHW model within that could make contributions to reducing water-related disease and to promoting health.
- Much health and hygiene education taking place is didactic and knowledge-transmission based.
- There is a need for training in effective education methodologies for all practitioners involve in the water and sanitation sector.
- There is a need to make decision-makers at all levels aware of the importance of health education in promoting health.
- The mass media has a valuable role to play in health education but cannot be expected to be effective in isolation from localised interaction and support for changed behaviour.
- There is capacity in the area of training and materials development in South Africa for implementing a national health education and promotion strategy.
- Opportunities exist at present to influence the education and training curriculum.
- There are some examples of research looking at perceptions and customary practice. The development of policy and strategy for health education and promotion will be incomplete without taking perspectives gained from such research into account.

1 BACKGROUND TO THE REVIEW

The absence of a coherent national programme to improve community sanitation has left an obvious legacy. Nearly half of South Africa's population does not have, within their own homes, the healthy environment promised to them by the Constitution (RSA: National Sanitation White Paper, June 1996).

This extract from the National Sanitation White Paper gives a stark picture of some of the reconstruction and development challenges in South Africa. As part of Government's commitment to addressing the widespread lack of access to basic information about sanitation or to adequate facilities the National Sanitation Task Team (NSTT), which is a collaborative effort of six government departments, was established. The NSTT's main tasks are the development of a national policy and a corresponding implementation strategy for sanitation in South Africa.

The first major step forward in achieving its tasks came with the publication of the National Sanitation White Paper in June 1996.

The White Paper includes a clear emphasis on health and hygiene education and promotion, as the following shows:

> **Sanitation Is About Health**
>
> The major aim of national sanitation policy, and any consequent programme, is to contribute to improving the health and quality of life of the whole population. At present, significant investments are being made in the provision of safe water supplies for all. However, the health benefits that could result from this will be severely limited if adequate attention is not paid to sanitation. Furthermore, experience from national and international water and sanitation programmes has shown how essential it is to link water supply and sanitation with health and hygiene education. Only when all these are in place will real and lasting health benefits follow.
>
> The aim of health and hygiene education and promotion policy is to:
>
> - raise awareness of the diseases caused by unhealthy behaviour and practices;
> - support and provide health and hygiene education that will enable people to improve their health through correct hygienic practices;
> - lead to an increased demand and willingness to pay for appropriate sanitation facilities.
>
> Health and hygiene education and promotion:
>
> - must be an integral part of all community sanitation projects and community water supply improvement projects;
> - strategy will be drafted by various departments dealing in health, hygiene and infrastructure provision. A task team for this purpose will be chaired and co-ordinated by the Directorate of Environmental Health of the Department of Health, and operate under the auspices of the National Sanitation Task Team...; *(Extracts compiled from page 6 of the National Sanitation White Paper: RSA, 1996).*

There are two important points to be made about the above extracts:

- The National Sanitation White Paper gives a mandate for developing and implementing a health and hygiene education and promotion programme and a clear idea of the approach this programme should take;

- The Task Team referred to in the extract has been formed and is known as the Health Education and Awareness Task Team (HEATT).

1.1 Description of HEATT: Aim, phases

The main aim of the Health Education and Awareness Task Team (HEATT) is to develop a strategy for a National Health and Hygiene Education and Awareness programme that will, *inter alia*, optimise the health benefits of infrastructure investments.

HEATT was established during the first half of 1996 and ratified at a meeting involving all six collaborating ministries (Water Affairs and Forestry, Education and Training, Environmental Affairs and Tourism, Health, Constitutional Development and Provincial Affairs, and Housing) in June 1996. Its work in health and hygiene education and promotion has been structured according to the following phases lasting from April 1996 to April 1998:

Phase 1:	Establish Committee
Phase 2:	Launch
Phase 3:	Review of existing provision of health and hygiene education and promotion
Phase 4:	Identification of information gaps
Phase 5:	Research and further information gathering
Phase 6:	Initial policy development
Phase 7:	Consultation on draft policy
Phase 8:	Strategy development
Phase 9:	Piloting and implementation
Phase 10:	Finalise national strategy

The present report forms the major part of Phase 3.

In terms of discussions at the HEATT Think Tank (1-3 October 1996) it is likely that Phases 6 and 7 will focus on strategy rather than policy development and consultation as it was pointed out that the National Sanitation White Paper already establishes the case for health and hygiene education and promotion at national policy level.

1.2 Phase 3: Review of water and sanitation-related health and hygiene education and promotion initiatives

1.2.1 Purpose

The main purpose of Phase 3 of the HEATT process was to gather and review information about current and potential water and sanitation-related health and hygiene education and promotion initiatives, to assess this information and to make recommendations for a future national policy and implementation strategy.

In order to achieve this, four components were set out. These are:

1. Establish a working understanding of the current range of formal and non-formal channels of health and hygiene in South Africa, with regard to agencies, methods, subjects and in what capacity involved.

2. Review, assess and establish the effectiveness of existing water and sanitation health and hygiene educational materials, strategies and methodologies

3. Be familiar with the developments, changes and opportunities in formal and non-formal education and curriculum development sectors and with recent trends in mass-media communications.

4. Host a "think tank" meeting of selected specialists.

1.2.2 Survey methodology

Parts 1 to 3 of Phase 3 were undertaken as follows:

- Information was collected through individual and group discussions with government and project staff, NGOs, donor agencies, developers, consultants, health workers, educationists and others. Appendix 1 provides a comprehensive list of people contacted.

- Relevant policy, research and project documents were reviewed. These are contained within a comprehensive list of references relating to health and hygiene education and promotion. No overview of relevant health and hygiene education and promotion in South Africa existed so an incremental approach to this research was followed, moving from one contact to another and from one report to another.

- Questionnaires were faxed to key people in the Departments of Water Affairs and Forestry, Housing and Health in all nine provinces as well as to selected EHOs. These were followed up telephonically as necessary. See Appendix 2 for an example of these questionnaires.

- A draft report resulting from the review formed the focus of the Think Tank meeting on 1 - 3 October 1996. The comments and insights of the Think Tank were incorporated into a second draft report which was reviewed by HEATT and other experts.

2 A BROAD VIEW OF HEALTH EDUCATION AND PROMOTION

The review revealed strong support for the idea that a specific health concern such as water-related diseases should be seen within a broader framework. This is evident in the support for a health promotion view.

The primary health care approach adopted at Alma Ata in 1978 and the World Health Organisation's (WHO) "Health for All" strategies are widely accepted approaches that

inform a health promotion approach. The National Department of Health has also committed itself to these principles.

The following statement by the WHO sums up a health promotion view:

- Health is fundamentally related to the availability and distribution of resources - not just health resources such as doctors, nurses, clinics, medicines, but also other socio-economic resources such as education, water and food supply...

- Health is an integral part of overall development. The factors influencing health are thus social, cultural, and economic, as well as biological and environmental.

- The achievement of better health requires much more involvement by people, as individuals, families, and communities, in taking action on their own behalf by adopting healthy behaviour and ensuring a healthy environment (WHO, 1988, p.xiii).

Developed as an approach in the 1980s , health promotion seeks to primarily influence environments to make it easier to maintain good health. This approach is in marked contrast to previous approaches which were based on the view education alone would ensure that individuals could take necessary steps to protect their health. The health promotion view calls, therefore, for any specific health concern to be seen within a broad context.

In line with the above it would seem sensible to use the term "health promotion" for this project. However, this might cause confusion between this project and the Directorate of Health Promotion and Communications. The National Sanitation White Paper uses the composite term health and hygiene education and promotion. This as a middle ground, but preferring to drop the word "hygiene", this report adopts the composite term health education and promotion in the broad sense.

Thus this report begins by analysing the broader context in which the problem of water-related diseases is located. This contextualised problem analysis is a product of the review and insights gained during the Think Tank. The report uses this problem analysis to develop and put forward a possible strategy framework that has a multi-level character. This is based on the assumption that a strategy must match the nature of the problem in order to be effective. Taking this broad view does not mean that a health education and promotion strategy cannot be a focused and specific one with a single institutional base and a champion. It is thus not necessary to restructure the entire health sector, but it is critical that strategy development emerges from that multi-level context.

3 UNDERSTANDING THE MULTI-LEVEL NATURE OF THE PROBLEM

Examination of, and careful reflection on, the review data as well as insights gained during the Think Tank have resulted in the emergence of a multi-level analysis of the problem faced by HEATT in developing a national strategy for water and sanitation-related health education and promotion in South Africa.

The problem analysis is summarised in Figure 1 and is described in more detail below.

3.1 The core problem

The core problem is highlighted by the fact that every year there are 1.5 million cases of diarrhoea in children under the age of five. Statistics from 1984 indicate that in South Africa diarrhoea accounted for 27.7% of all deaths of children under five (von Schirnding, Yach and Mathee, 1993). Clearly, although there are many other preventable water-related diseases that affect the health of South Africans, the fact that thousands are dying each year and millions more suffer from diarrhoeal diseases makes this a major issue.

In order to fully understand the problem, however, and hence to develop an appropriate strategy, one must ask *why* the core problem exists and then to proceed through a logical process to derive all related causes.

3.2 Immediate behavioural causes

The first reason why the core problem exists is that people's health and hygiene practices are inadequate. (Note that this on its own is an inadequate analysis of the problem and its causes).

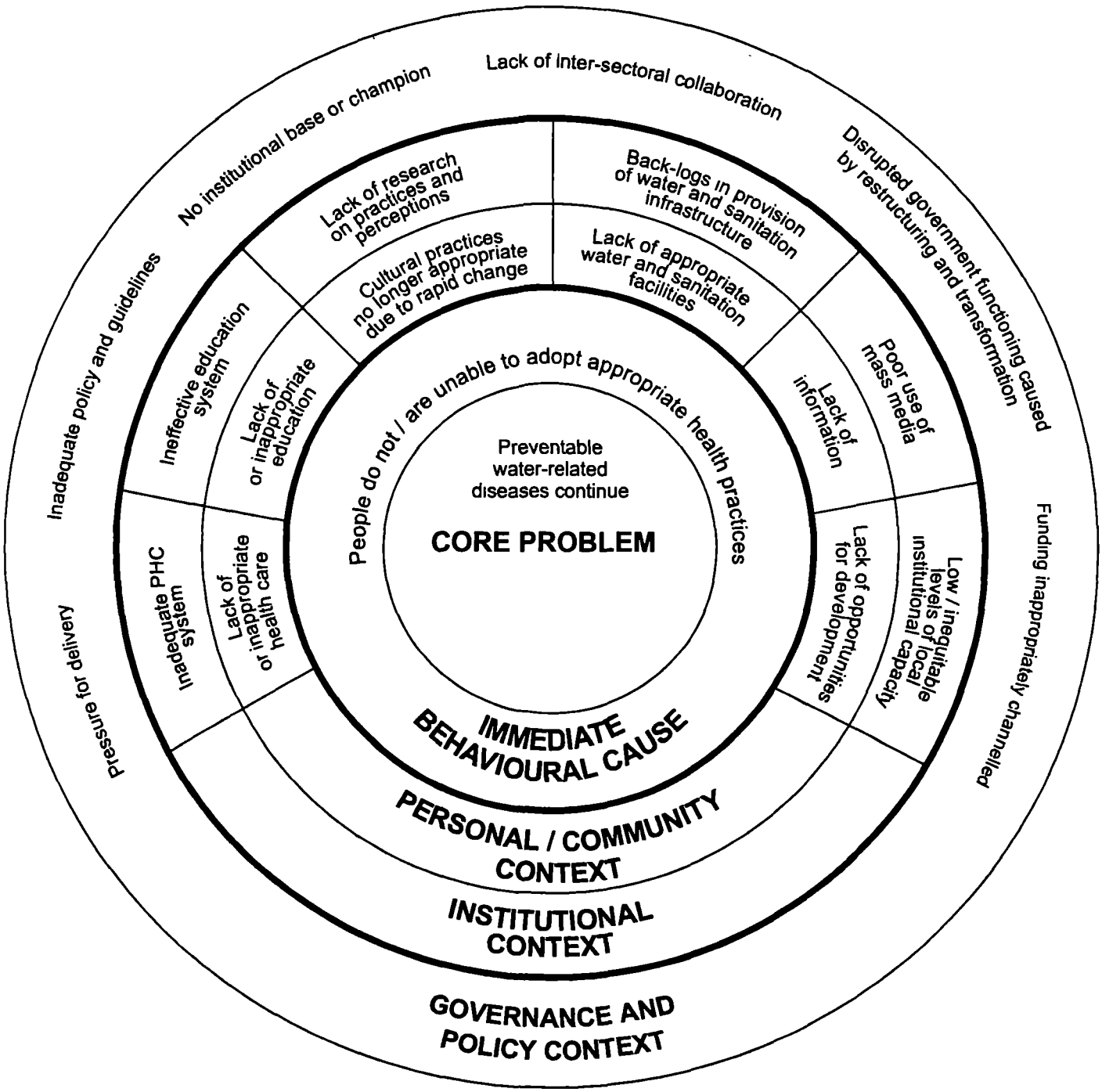
Appendix 4 shows that water-borne and water-washed diseases are the major concerns in terms of water-related health problems. The Appendix also shows that improved water supply in itself *does not necessarily produce significant health improvements* and that a necessary component of the intervention is to break infection transmission routes through changing health and hygiene practices (Genthe, Seager, *et al.* 1996). (This is dealt with in more detail in Section 7.1.

Thus, linking the core problem - that people continue to die - with the immediate behavioural cause of that problem is thus a logical step. Indeed, evidence from the review suggests that most water and sanitation-related health education documents and programmes do appear to be confined in their analysis of the problem to the inner section of Figure 1, and that their work is based on the understanding that preventable water-related diseases continue because people follow inappropriate health and hygiene practices and education is therefore aimed at changing those practices.

However, current thinking that is now widely accepted, but not always reflected in practice, is that behaviour change is essentially a matter of critical *choice*, and cannot be engineered. It also recognises that behaviour patterns are as much influenced by the contexts (social, economic, political, environmental, cultural etc.) within which individuals and communities find themselves, as by knowledge, attitudes or values. For

Figure 1

A Multi-Level Analysis of the Problem



example, an individual may have adequate and appropriate knowledge and even feel strongly about certain sanitation practices and still not change his or her behaviour because of the broader social or economic context that prevents the adoption of new practices.

The problem is thus far more complex and multi-faceted than it may at first appear. It is the *context* within which people's lives are played out that needs to be well understood (Fien, 1995; Robottom, 1995; Sithole, Annegarn and Clacherty, 1996). And it follows that any national strategy will have to be equally multi-faceted and contextualised if it is to come anywhere near addressing the problem adequately.

The following two sections take the analysis a step further by examining the contexts in which individuals' health and hygiene practices are played out. The contextual levels dealt with, as reflected in Figure 1, are the personal/community context, the institutional context and the policy and governance context.

3.3 The personal/community and institutional contexts

The review showed that the context that influences people's health practices in South Africa is a multi-levelled one of interacting constraints and opportunities from local to national, from personal to institutional, and from short term to long term.

In the problem analysis diagram (Figure 1) the core problem and its immediate behavioural cause is placed within two further circles that represent the personal/community and institutional contexts. The personal context refers to the opportunities, resources and constraints that people experience in their lives. These could be economic, socio-cultural, political, or related to gender, class or race. The next circle refers to the institutional context. Each item in the personal circle is matched by an institutional item. Six pairs of contextual issues are described. These are the main ones identified in the review and they are sufficient to describe the overall situation, but there are likely to be many more. Table 1 fleshes out in a little more detail these pairs of contextual issues.

Table 1: The context of the core problem

Personal/community context	Institutional context
1a. People have had low levels of access to adequate or appropriate health care.	1b. There has been a lack of a comprehensive primary health care system in South Africa.
2a. The majority of people have not had an adequate education; much if it has been irrelevant to the issues faced in daily living.	2b. The education system has been inadequate and inferior, with low levels of access.
3a. Hygiene practices that might have been adequate (health promoting) are no longer appropriate.	3b. Society has changed very rapidly (urbanisation, homelands policy); there is a poor research understanding of water and sanitation practices.

4a. Most people still do not have access to adequate water and sanitation facilities.	4b. There are huge backlogs in provision of appropriate/adequate water and sanitation infrastructure.
5a. There is a lack of appropriate information about water and sanitation-related health issues.	5b. The mass media have not dealt with water and sanitation-related health issues adequately.
6a. There is a lack of opportunities for development.	6b. There are low/inequitable levels of local institutional capacity; lack of adequately trained health/ development professionals.

3.4 The governance and policy context

The opportunities and constraints in the personal and institutional context should not be seen in isolation of a broader context. Thus governance and policy become significant in understanding the problem fully and hence in developing an adequate strategy.

At this level the review highlighted clear issues that require attention. The country is going through a period of rapid change with attendant chaos, complexity and confusion as a result of the major national re-focus of development policies and strategies currently underway. This includes transformation of approaches to infrastructure development, primary health care (PHC) service delivery, new approaches to formal and non-formal education, and others. In terms of health education and promotion, this provides opportunities for positive development of new policies and approaches and improved institutional and financial arrangements.

Intersectoral collaboration: There is poor coordination between sectors, often even between different sections of a single government department. The review showed that the problem is too complex to be amenable to a monosectoral solution.

Transformation chaos: While government transformation is in principle a necessary and positive process, in practice, and particularly in the present times, it is generating confusion and chaos. This is a significant constraint to development, to long-term perspectives and to collaborative approaches. For example, in schools "rightsizing" is causing demoralisation which is not conducive to curriculum innovation.

Funding issues: In the past funding of development processes in this country was either inadequate or inappropriate. In present times major funding is available, but little of it is allocated for health education and promotion. At the same time, many NGOs, a major resource, are struggling for survival. Funding remains a critical issue for positive and sustainable development and has direct relevance to the development of a suitable health education and promotion strategy.

Inadequate policy and guidelines: The review showed that in spite of some good policy documents and guidelines, effectively these are not evident on the ground or are simply not carried out. In the case of health education and promotion, policy is still inadequate.

Pressure for delivery: The pressure for delivering infrastructure is intense. This mitigates against a strategy that will adequately address the core problem described earlier.

Fragmentation, no institutional base: There is no institutional base and hence no champion for health education and promotion. What government provision exists is fragmented between a number of uncoordinated roleplayers.

To summarise, the review showed that it is not only a lack of access to water and sanitation infrastructure, nor even only a matter of adopting appropriate hygiene practices that define the problem (and hence inform the strategy), but the realisation that the core problem - people dying of preventable water-related diseases - is located within a complex and interacting set of constraints. Any strategy that does not acknowledge this complexity is unlikely to succeed.

4 POSSIBILITIES FOR DEVELOPING A STRATEGY INTERVENTION

"A strategy based on an incomplete understanding of the multi-level nature of the problem cannot be expected to bring about lasting improvements in health."

While it is not the direct purpose of this review to propose a new strategy for health and hygiene education and promotion in South Africa, it is appropriate at this point in the report to present a conceptual framework derived from the review and the preceding section.

This is based on the point already made that the strategy must reflect the multi-level nature of the situation - it will have to look at influencing curriculum policy, at using the mass media effectively, at lobbying for an effective PHC system, at finding ways to promote intersectoral collaboration around water and sanitation programmes, at linking education programmes to infrastructure projects, at linking short-term and long-term perspectives, at initiating research into traditional water and sanitation practices and perceptions, at developing appropriate educational materials, at re-orienting health professionals, at providing in-service training and support, at harnessing the huge human resource potential of community-based health workers, and so on. All as part of a comprehensive, coordinated and coherent strategy. An immediate observation is that an institutional base will be needed.

Furthermore, if the broader health promotion approach implied by this multi-level analysis and strategy is to prevail, the focus will be, not on encouraging people to change their behaviour, but providing an enabling and supporting *context* in which people can make healthy choices. This implies that the educational approach is one that is empowering and participatory rather than didactic ("one-directional; teacher-directed") and information-driven. An information-driven approach is based on the assumption that by providing information the expected behaviour changes and health improvements will result.

Beyond this the multi-level nature of the problem implies that any strategy will need to be holistic and development-oriented rather than merely focused on the provision of education alongside infrastructure programmes. (The review showed that most health education that exists within infrastructure projects is merely a "bolt-on" module as part of a general capacity building programme.)

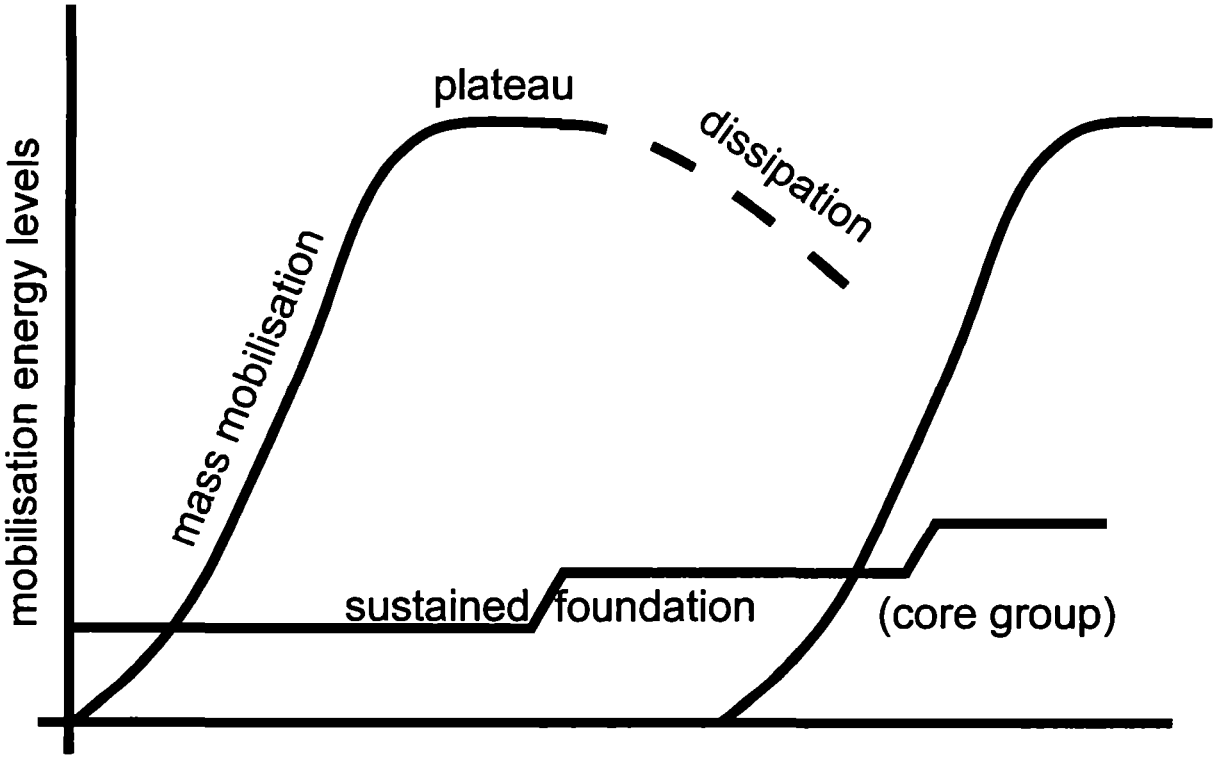
4.1 Social mobilisation model

At this point one may ask if this implied strategy is not too long term given the pressure for delivery? A useful model that may help to reconcile the tension between the short-term and the long-term perspectives is one used by youth organisations in the anti-apartheid struggle period of the 1980s. (See Figure 2).

Often a short-term campaign mobilised people's energies to a high level only to see those energies dissipate after a while, sometimes ending by alienating people with the result that mobilising them later becomes more difficult. A strategy around this was to develop a small core of committed activists who became a foundation for organisational growth and for sustaining the broader campaign through difficult times. This foundation consisted of

Figure 2

Social Mobilisation Model



stable core of people who engaged in policy development through debate and analysis, strategic planning and directed campaigns. In this approach, most energy went into sustaining the core, rather than into the unsustainable and less coherent short-term campaigns. But each time a mass mobilisation was launched, the core group would be able to grow, or new core groups could be planted in other locations. And so the short term and the long term became mutually supportive.

This thinking can be applied to mobilising around health education and promotion issues. Energy needs to go into building a solid foundation by influencing policy, supporting local development projects, building local capacity, establishing appropriate training courses, working towards an effective district-based PHC system, in fact addressing the issues listed in the problem analysis. This can then be interspersed with high energy local and national mass media campaigns around water and sanitation-related health issues. It can also provide a long-term framework within which short-term infrastructure projects can operate.

4.2 Resources and opportunities for addressing the problem

The Think Tank identified the National Sanitation White Paper as an important existing enabling factor for health education and promotion. This document provides a strong policy mandate. What is needed now is to carry this through as a strategy that takes into account all levels of the problem.

4.2.1 The sectoral review as resources and opportunities

The sectoral review that follows provides information about institutions and structures, policy developments, human resources, approaches, methodologies and trends. However, in keeping with the multi-level problem analysis described above and in order that an emerging strategy is more able to reflect all levels of the problem analysis, the review also identifies resources and opportunities that are available to HEATT to address the problems in the three outer circles of the diagram. The review identifies, for example, specific policy processes that HEATT can influence; specific training institutions that can be used for training of health professionals; models for participatory and empowering education programmes; mass media vehicles and approaches that would give information in an empowering context. All this is done so that the strategy does not focus only on behaviour, but on creating the enabling and supportive environments people need in order to make critical choices for health.

5 HEALTH SECTOR REVIEW

Summary

In line with the multi-level analysis of the problem, this sector review reveals the past inadequacies of health care and health education and promotion. It also reviews some of the important opportunities and resources available for addressing this problem.

Health education in South Africa is fragmented and lacks an institutional base. Most health education and promotion taking place is characterised by a didactic methodology and inadequate content. One of the main problems is that the training of health personnel does not equip them with appropriate content, methodology or awareness to deal with water and sanitation-related health issues.

Provision of safe drinking water and basic sanitation are essential and integral elements of primary health care (PHC). This makes the PHC sector of great importance to HEATT.

The emerging PHC system, which is district-based, is appropriate for a community-based, development-oriented and contextualised health education and promotion programme. A leading concept for this approach could be "A community empowered to make healthy choices within a holistic, supportive environment". Without such a system health and hygiene education and promotion would, by default, tend back towards a top-down, centralised message transmission approach. Clearly, then, although a PHC system as such is not an educational structure, it represents an essential framework.

There is concern, however, that national health policy is reverting towards a medical model, in spite of early and strong commitment to a development-oriented PHC system. Another concern is the apparent lack of real commitment at policy levels to the concept of community health workers (CHWs) as an integral part of a district-based PHC system.

Until recently the PHC approach has been led by the NGO sector, as a result of the emphasis on "excellence" and curative health system of the past and consequent neglect of the primary health needs of most South Africans. This means that the NGO sector is able to provide good examples which provide valuable learning for the HEATT programme. Organisations such as the National Progressive Primary Health Care Network (NPPHCN), the Health Systems Trust, the Rural Foundation, the Valley Trust and others represent major sources of capacity for the human resource development and re-orientation needs of sound health and hygiene education and promotion.

Environmental health

There are 3089 EHOs registered, but about 2400 of these are practising. This is reported to be an inadequate number. Their distribution across the country varies greatly, which reflects the inequitable pattern of health care generally.

The role of EHOs is changing fundamentally from a regulatory, inspectoral role to a community mobilisation and education role within a district-based PHC system. This makes EHOs an important potential resource for any health education strategy.

The review set out to clarify the extent to which EHOs were involved in education related to water and sanitation programmes. The review showed that some EHOs are generally well informed about water and sanitation issues and are already operating in an inter-sectoral context with water and sanitation programmes. On the whole though there was a need for greater intersectoral collaboration around water and sanitation programmes.

Their methods and approaches to educational work vary greatly, but there is still a dominance of didactic, knowledge transmission methods. Nevertheless, many EHOs are aware of the value of a participatory or interactive approach, but pressure of time, lack of resources and perhaps skills prevent many of them from adopting this approach. The above reflects a need for:

- training and support in participatory educational methods and examples of how to operate within this approach
- appropriate resource materials
- clarification of the new role of EHOs
- training and materials in technical issues relating to water and sanitation.

Human and organisational resources were identified during the review that would be suitable for capacity building or training functions for EHOs.

5.1 Introduction

Health workers thinking differently about education in 20 years' time would be a major advance (Dr Irwin Friedman, NPPHCN).

The PHC approach is fundamentally a philosophy of the promotion of health that is community-based, development-oriented, needs based, empowering and inter-sectoral and integrates preventive, promotive, curative, and rehabilitative services. (ANC, 1994).

Various sources emphasise the great potential of primary health care workers to assist locally specific hygiene education and improvements in technical projects because they are an excellent resource for a participatory approach (Burgers, Boot and Van Wijk-Sijbesma, 1988).

When septic tanks or VIP toilets are involved the developer is expected to educate the beneficiary in the use, care and maintenance of the toilet system. We do not have a formal programme. The developments are by private developers and for the community. We have not embarked on a formal policy that compels health-related instruction to be given. (Provincial Department of Housing and Local Government).

This section of the review focuses on the health and hygiene education and promotion presently undertaken within the health sector. The introductory section covers the major role-players in the sector, what personnel are involved and the educational content and approaches used. The review then deals with primary health care (PHC), new policies and a number of case studies of organisations involved in PHC. After the section on PHC the review then deals with environmental health.

5.2 Structures and institutions

Figure 3 is an organogram showing structures within the health sector.

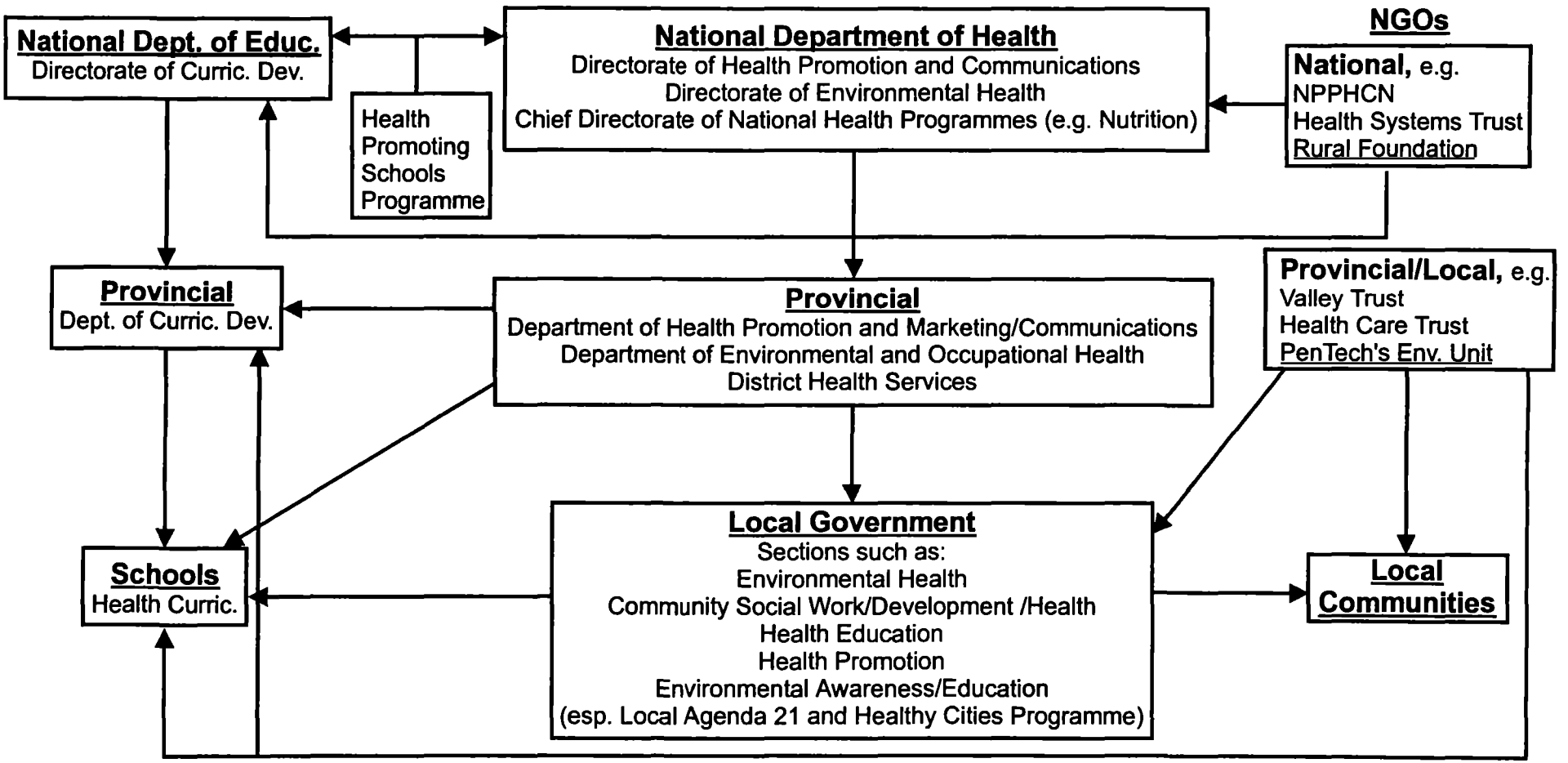
5.2.1 National and provincial government structures

Providing information about the structures involved allows readers to identify who to involve in strategy development and implementation and to clarify the organisational context of this sector. The organisational structure of health education and promotion at national and provincial levels is complex and lacks a coherent overarching framework. An important finding of the review is that for health education and promotion there is as yet no institutional base and consequently no champion. Moreover, there is no clarity about what is meant by various terms. For example, for some, health promotion is about communications or marketing, whereas for others, it is about providing an enabling environment for people to make healthy choices. These issues are central and have to be addressed.

At the national level the two major role-players are the Directorate of Environmental Health and the Directorate of Health Promotion and Communications. Both are in a process of transformation with attendant stresses and shortages of human resources. Both are also in a process of transforming their approaches in line with a more recent emphasis on a development-oriented health promoting function.

Figure 3

Organogram for Health Education and Promotion



The provincial health departments have Schedule 6 status in terms of the Constitution, which allows them to develop their own policy within the broad framework of the national health system. Their autonomy will increase even further next year when provinces will be allocated lump sum budgets and will be responsible for their own internal budgets. For this review the implications are that:

- the national level cannot insist on the adoption of certain new or preferred approaches to health education and promotion;
- the provinces are free to go beyond the broad national framework (for example in the way they implement a community health worker programme as an integral part of the district-based health system);
- provincial structures and approaches are not uniform in terms of implementing health education and promotion programmes.

5.2.2 Local government

The picture at local authority level is even more complex than at the upper two levels, as the organogram in Figure 3 implies. In addition, many local authorities do not have the resources to employ a full complement of health personnel. This generally implies that very little health education and promotion is possible. There are exceptions to this in smaller local authorities, but this is usually due to the influence of NGOs or ex-NGO staff newly elected or appointed to local authority structures.

The organogram provides information about structures and functions within the health sector. Note that whereas at the national level the picture is fairly clear, at provincial and local government levels a range of names is used to define the various departments and sections. This range also reflects the transformation processes currently underway, essentially from an information provision and communications approach towards a more holistic, development-oriented approach. The Chief Directorate of National Health Programmes and District Health Services are included in the organogram because many of those health personnel, particularly nurses, undertake health education informally as a part of their normal work.

The organogram presents a simplified view of the complexity and multiplicity that exists in reality. This complexity is compounded by the fact that most of the structures are in the process of transforming or of being absorbed into or combined with others. In many cases respondents who were requested to provide information for this organogram were unable to provide the information directly and some expressed doubts about being able to reduce the information to a single organogram.

What can be learned from this is that the health education and promotion field is fragmented, even internally contradictory, both structurally and in terms of approach.

5.3 Health education and promotion related personnel

The two national level directorates of Environmental Health and Health Promotion listed above have very few employees between them. In Health Promotion there are two community liaison officers (CLOs) whose task is to liaise between the provincial and national departments of health promotion and communications/marketing. Although in one sense all EHOs (approximately 3000 of them) report to the national Director of Environmental Health, they are actually employed at the provincial or local authority level.

Apart from the general health education and promotion role that all health personnel, to a greater or lesser degree, undertake as a routine part of their work, the following have a specific role to play in this regard (See Table 2):

Table 2: Health department personnel involved in health education and promotion

Category	Employer	Numbers
CHWs	NGO/Community-based	6000 (1994 figures only)
	Provincial government	1412
Health educators	Mainly local authorities	no figures (probably < 100)
PHC Nurses	Mainly provincial government level	approx. 1000 (represents a shortfall of 10, 766 for new PHC system)
EHOs	Provincial and local authorities in approx. 1:2 ratio	3089

Data collated from documents published (all in 1996) by Health Systems Trust, NPPHCN, National Department of Health.

5.4 Educational content and approaches used

Typically, the content of water and sanitation-related educational materials and programmes surveyed dealt with:

- water quality rather than water quantity: boiling or disinfecting water was a major focus
- breastfeeding as superior to bottle feeding
- hand-washing
- construction of appropriate toilets, usually VIPs.

In areas such as KwaZulu-Natal, region specific issues such as bilharzia are addressed. In

this particular case, the main themes dealt with were discouraging urinating into water and avoiding contact with infected water.

The review revealed a wide range of educational approaches used. The dominant approach tended to be information transmission through posters, (see example on next page) pamphlets and talks. However, across the spectrum of health personnel and organisations there were significant exceptions to the above. This was most obvious in cases where health personnel followed a development and preventative orientation to health. In most cases these more progressive approaches were the result of strong NGO influences within localised projects.

5.5 Training of health personnel

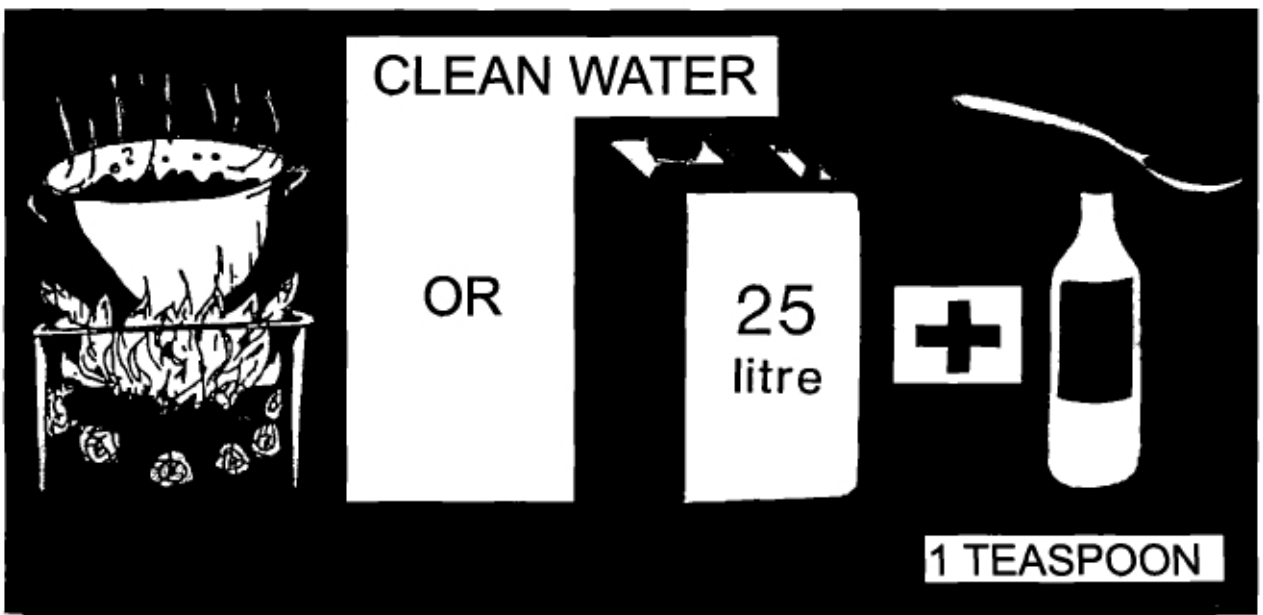
Any recommendations regarding health professional education are thus doomed to failure unless located within the context of a facilitatory social and economic development strategy which promotes social justice and is predicated on the satisfaction of basic needs. Health Sciences Working Group, July 1996).

According to the Health Sciences Working Group of the National Commission on Higher Education (HSWG, July 1996), the education and training of health personnel has made important contributions to public health care in South Africa. However, these efforts have been fragmented and have developed in a distorted way. Distortions relate to inequitable distribution of personnel and resources, gender, race and class imbalances and in terms of appropriateness for the country's actual health needs.

South Africa has 21 universities that provide some form of health personnel education and training. Eight of these include medical schools for doctors, 13 have nursing departments. There are 14 technikons and 35 nursing colleges that include health personnel education and training. The situation prior to any fundamental changes currently underway focused on a medical model of health care and produced large numbers of highly qualified personnel (mainly doctors and nurses) at the expense of a preventative approach and numbers of PHC oriented health personnel. Current trends are to transform health personnel education and training towards a PHC orientation without reducing the overall quality of secondary and tertiary health care. Such transformation includes placing emphasis on different categories of health personnel such as PHC nurses, nutritionists, environmental health officers and assistants, epidemiologists, district health managers and some others (Department of Health, 1996a). Transformation of curricula to focus on the health needs of South Africans and in the direction of a comprehensive PHC system, public health, social sciences and health promotion, following a student-centred, practical, community-based and problem-oriented approach is being addressed.

The Department of Education has responsibility for curriculum norms and standards of health personnel education and training (currently under review as part of the new National Qualifications Framework) while the Department of Health has clinical facilities and standards for clinical work. However, nurses are the only health professionals who

PREVENT DIARRHOEA



are trained entirely within the Department of Health. The HSWG has proposed for both management and educational reasons that this situation be brought into line with the other sectors of health personnel education and training. In particular, a Health Personnel Education Council (HPEC) has been recommended by the HSWG. It should be established jointly by the Department of Education and the Department of Health to develop policy and coordinate the organisation and funding of Health Personnel Education and Training. Its functions will include, amongst others, developing a philosophical framework in line with a comprehensive PHC system, developing guidelines on content and learning processes, determining the requirements for continuing education and ensuring opportunities for in-service education. The HPEC will thus be an important structure for HEATT to interact with, once it is established, as this may be a significant opportunity to influence emerging curriculum directions and methodologies.

Short courses for a range of health personnel that deal with water and sanitation-related issues have been offered over the last four years jointly by the University of the Western Cape, Peninsula Technikon, the University of Cape Town and Cape Technikon and other partners in collaboration with the Western Cape Committee on Health Education. These have followed a participatory, interactive and problem-solving approach.

These and others like them offer a valuable opportunity or resource for HEATT in pursuing the goals of promoting a participatory, development-oriented approach to water and sanitation-related health education and promotion.

5.5.1 CHW training

CHW training was initially programme and local organisation based. Later, regional training centres developed, mostly within the NGO sector. Plans are now underway to develop national training courses and to seek accreditation for them within the Department of Education's National Qualifications Framework (Hewitson, 1995). However, training for CHWs in isolation of training for community health committees (CHCs) and CHW Facilitators is not likely to result in effectively functioning community-based health programmes.

5.5.2 PHC nurse training

The statistics provided in Table 2 above reveal a major shortfall in PHC nurses. This is against an oversupply of approximately 7000 professional nurses. This is a reflection of the previous health system's emphasis. However, major steps are underway, both within national and provincial government and by NGOs, to remedy the situation. An example of the latter is the Health Systems Development Unit (HSDU) at Tintswalo Hospital in Mpumalanga that has developed an 18 month "integrated PHC/community-based training programme" for nurses (Mametja and Reid, 1996). PHC nurses represent a major health education and promotion resource. While their work and their training reflect water and sanitation-related issues, the opportunity now exists for HEATT to influence the curricula and methodologies.

5.5.3 Education and training facilities

The review revealed that although the majority of PHC related training takes place outside of state provision, there is adequate and expandable capacity for such training and for this training to be made available to EHOs or other water sector personnel such as community development workers. This applies across the range of health personnel, but a major focus is on CHWs and PHC nurses. The following training institutions are currently providing CHW training (Hewitson, 1995):

- National: Rural Foundation, Boskop Training Centre;
- Western Cape: NPPHCN Western Cape Training Centre, St John's Ambulance, Mamre Project, SACLA;
- KwaZulu-Natal: Amatikulu Primary Health Care Training Centre (NPA), St John's Ambulance, McCord Hospital;
- Gauteng: Institute of Urban Primary Health Care (Alexandra), World Mission Centre;
- Eastern Cape: Drakensberg Regional Council;
- North and Eastern Transvaal: Ithuseng Community Association.

The National Institute for Community Water and Sanitation, recently established at the University of the North, is likely to begin making a valuable contribution once it becomes more operational. As above, the opportunity exists for HEATT to influence curricula and methodologies and to draw on the major resource opportunities represented by these organisations.

5.6 Primary health care

Wide international experience (Burgers, Boot and Van Wijk-Sijbesma, 1988) points to the important role that a good PHC system can play in the prevention of water-related diseases. There is also some evidence that the use of PHC workers or CHWs is an effective way of undertaking health and hygiene education around water and sanitation issues. In this country the same views are held in many quarters (for example, NPPHCN, Health Systems Trust; See Lomax and Mametja, 1995). Yet the practicalities of how to implement a CHW-based PHC system is not clear cut. This is the key challenge that faces us.

5.6.1 New policy relevant to the prevention of water-related diseases

The review showed that significant policy change for the water and sanitation sector was the move to a district-based PHC system. Up to the tabling of the Policy for the Development of a District Health System for South Africa (Department of Health, 1995) PHC was largely the domain of progressive NGOs. In the past, emphasis in the health sector was placed on excellence within the secondary and tertiary health sectors, and a grossly inequitable distribution of resources prevailed. PHC was thus a response from those outside government who were committed to redressing these imbalances.

The three most significant national policy documents are the Policy for the Development of a District Health System for South Africa of December 1995 (Department of Health, 1995), Towards a National Health System of May 1996 (Department of Health, 1996a),

Restructuring the National Health System for Universal Primary Heath Care of January 1996 (Department of Health, 1996b). However, very little of this policy has yet been enacted.

Two central principles relating to PHC in South Africa are that the health system should be part of a comprehensive programme to redress social and economic injustices, and that it should ensure that emphasis is placed on health and not just on medical care. The chief strategy put forward to meet this challenge is to establish a district health system based on the PHC approach as adopted at Alma Ata in 1978. This approach is as concerned with keeping people healthy, as it is with caring for them when they become unwell. The document suggests that the concepts of "caring" and "wellness" are promoted most effectively and efficiently by creating small management units (districts) of the health system, adapted to cater for local needs. These health districts are intended to provide the framework for our health system.

A health service based on "wellness" will *inter alia* (each of the points below is in some way directly relevant to the multi-level strategy proposed in Section 4):

- emphasise prevention, health education and promotion, early intervention, and rehabilitation;
- be responsive to community needs by placing control and management responsibilities at a local level;
- eliminate inequities and establish developmental and intersectoral links;
- integrate institutional, community-based and preventative programmes both within the health sector and with other sectors impacting on health;
- reduce waste and eliminate duplication at all levels.

In terms of the structure, organisation and functioning of the National Health System, the following four principles are relevant to this report:

- The National Health System (NHS) should be congruent with and should strengthen the emerging district-based health care system.
- The NHS should be based on a comprehensive PHC approach, and should use population based planning and delivery mechanisms.
- The PHC delivery system should be fully integrated with and consistent with other levels of the NHS.
- The NHS should emphasise the needs and rights of users of the system and should empower users and their communities to participate in governance of the health care system.

5.6.2 The PHC team and the role of the community health worker

It is proposed (Department of Health, 1996b) that the staffing of a unified, integrated health district should be in the form of a PHC team consisting of specialist personnel such as medical practitioners, radiographers and optometrists, as well as the following:

- PHC nurses
- community health nurses
- health promotion/education specialists

- environmental health officers

The Department of Health's current position on CHWs appears to be as follows:

> The Department has noted the view that Community Health Workers (CHWs) or their equivalents should be formally incorporated into the basic PHC team and that existing CHWs should be absorbed into the formal staff structures of the government health services. It is recognised that this category of health worker may be able to make an important contribution to the health of communities in some circumstances and to provide a link between the formal health services and communities. However, incorporation of this new category of health worker into the government health services would be both complex and costly ... It is therefore the Department's view that this category should not be incorporated into the formal health services. This obviously does not preclude NGOs/CBOs and other organisations from continuing with CHW programmes (Department of Health, 1996b).

There is thus hesitation to give strong endorsement of the role of the CHW (even if CHWs work only in non-formal structures). This and other points made in the above-mentioned policy documents suggest that a comprehensive, integrated, development-oriented approach does not appear to have the enthusiastic support of the national Department of Health, and a medical model seems to prevail.

In contrast, strong support emerged from interviewees for the role that could be played by CHWs within a well structured, district-based primary health care system. This view is supported by national NGOs such as the Health Systems Trust and the National Progressive Primary Health Care Network (NPPHCN), as reflected in this extract:

> The CHW should not be seen simply as another health worker added to the existing health services staff complement. Rather, the CHW should be seen as the focal point for promoting PHC at the community level. It then becomes the responsibility of the health services to ensure that factors necessary for sustainability mentioned earlier (in that document) are strengthened to enable the CHW to work effectively in fulfilling her/his functions (Lomax and Mametja, 1995, p44).

The above Health Systems Trust publication presents a detailed assessment of the feasibility of greater state support to community-based health programmes and concludes that, given certain supportive conditions as suggested in the above quote, CHWs are likely to bring about significant health improvements: "Small increases in expenditure on preventing diseases results in a good return on the investment. The benefits that result from the value of the diseases avoided is many times the additional cost of the CHW programme, without affecting the allocation available for treating non-preventable disease" (ibid, p33).

Until recently it has been the NGOs that have promoted views as described here. However, the following extract is taken from the final draft of a provincial policy document entitled "Primary Health Care in Mpumalanga: Guide to District-Based Action":

> The Mpumalanga choice is for:
>
> - delivery of primary health care services to the household within the community

where the family lives, using **health promotion as the strategy** [emphasis in the original]; and

- use of community based health workers (CBHW) as the first contact with the health service... (Department of Health, Welfare and Gender Affairs, Mpumalanga, August 1996, p57).

The significance of this discussion for health and hygiene education and promotion is to be seen in the complexity of the problem analysis and the strategy that emerges from the analysis presented earlier. If the concept of a health promoting approach that enables people to make critical choices for health is of any merit, then the above view of a district-based health care system becomes more difficult to ignore, and it should be something HEATT lobbies for.

5.6.3 Other role players

These examples of projects and programmes have been identified as learning opportunities for HEATT in developing a strategy as well as resources for implementation of that strategy.

National Progressive Primary Health Care Network
The NPPHCN is a major role player in this sector. It is a national non-governmental health advocacy organisation promoting collaboration, participatory research and policy formulation, appropriate training and organisational development. The Network emerged out of an apartheid lack of provision for PHC and the need to develop a national strategy for PHC in South Africa. In this way it has been instrumental in developing policy and strategy that have stimulate and supported much activity "on the ground" which in itself provided valuable learning opportunities, but also was well placed to influence new health policy over the last few years.

The NPPHCN has an important training function that follows a community-based, participatory and emancipatory approach. Its major training centre (the Western Cape CHW Training Centre) now based in Athlone, is a centre for PHC training in its local context, but also provides a training function for CHWs, rehabilitation workers, community health coordinators, and community health committees in other communities. Such training is carried out in people's own communities in order to be fully community-based and to reflect the local issues and realities. The centre has developed basic and on-going training materials and programmes.

The curriculum outlines for CHWs and community health committees, while they obviously deal with the broad range of issues within PHC, are highly relevant for HEATT. This is because they not only operate within a development paradigm, but also cover many issues relating to water and sanitation.

The NPPHCN also runs health programmes in various areas. Here they adopt a health promotion approach which emphasises community involvement in health development.

Health Systems Trust
While the Health System's Trust's (HST) primary function is to fund research into health systems, its orientation is strongly towards support for a progressive, district-based understanding of health systems based on a PHC model. A major contribution relevant to

this report has been their support for provincial initiatives in reviewing their health systems and re-structuring them towards a PHC based system. A specific study supported by HST is Makan's "An Economic Evaluation of Community Health Worker Programmes: Western Cape Province Case Studies" (1996). Apart from the detailed economic analysis of six Western Cape based PHC organisations, the report gives a comprehensive review of the emergence and role of CHWs in PHC and their centrality in the transformation of health systems in other countries. It is noteworthy that almost without exception, those involved in NGO-based PHC work and others in formal health structures who worked collaboratively with NGOs referred us to this study as making a critical contribution to the debate.

Together, the NPPHCN and the HST have played a major advocacy and research function, without which, not ignoring the fact that great efforts are still required, PHC policy and provision would be far behind where they are now.

Health Care Trust

This section is based on interviews with Health Care Trust (HCT) staff and an unpublished document (Health Care Trust, 1996). HCT is a Cape Town based NGO established in 1979. HCT's mission focuses on providing comprehensive PHC through participatory processes in disadvantaged squatter and rural communities in the Western Cape. The project seeks to work with other organisations in achieving equitable distribution of health resources and engaging health institutions and services in recognising health as a basic right.

Its first project was the Village Community Health Worker (VHW) project in Cala, former Transkei. Its Cape Town based Community Health Project (CHP) was established in 1982. CHP's early role was to produce and distribute resource materials and to respond to requests for support in the form of training, provision of first aid, etc. However, this developed into establishing longer term, community-based projects. This led to the following developments:

- The handing over of the VHW project to a locally established management committee as a result of a conscious attempt to empower that community to manage its own health programme. Health Care Trust now serves as "consultants" to the project.

- The establishment and focus on two projects that can serve as models for other areas. These are a Youth Project in the Prince Alfred Hamlet township outside Ceres, which includes:

  (i) a Youth Centre offering resource and study facilities, health workshops, skills training and recreational facilities, and

  (ii) the Brown's Farm CHW Project.

The Brown's Farm CHW Project: Brown's Farm is a peri-urban informal settlement approximately 21km from the centre of Cape Town. The settlement consists of approximately 11 000 shacks of which approximately 7 500 are un-serviced. Until recently there were still only approximately 10 stand-pipe taps spread along Lansdowne

Road for the entire settlement. Many preventable diseases associated with such conditions abound. The main health problems encountered are tuberculosis (TB), diarrhoeal diseases, malnutrition and skin diseases. AIDS is becoming an increasingly common problem. (There are already AIDS orphans who have been rejected by their families). It is in these circumstances that the CHWs provide a valuable service: "There is no doubt that they [CHWs of Brown's Farm] ensure service delivery to larger numbers of their community that would not have been addressed by clinic-based services. In a community that has been previously under-serviced, the activities performed by these CHWs have a substantial impact on the health status of the residents".

A theme that arises frequently in terms of PHC in peri-urban areas that are in a rapid development phase is the changing nature of demands and associated health needs. In totally unserviced sections, the demands are for basic services and needs such as water and housing, with sanitation usually much further down the list. In the more developed areas of Brown's Farm where adequate piped water is available, the demands are now for houses with water-borne sewerage and taps inside them. Part of HCT's role in this process was in building community structures and advocacy for such services. As a result, they note a much lower incidence of skin and diarrhoeal problems. The specific factors underlying this may be difficult to isolate to statistically-based levels of confidence, but it appears that community development processes have played a role in improving health, probably through increased awareness and involvement in advocacy processes. Alongside that, however, it also appears that providing *adequate* supplies of water (and evidence suggests that adequate is more than the state's *minimum* standard of a tap within 200 metres) has a direct impact on health.

Each CHW serves between 560 - 1550 shack dwellings, although it is recognised that 250 per CHW is the ideal. In 1994 there were 11 CHWs and in 1995 there were 15 operating in Brown's Farm. Their work covers the following main areas:

- health promotion and prevention of illness
- basic curative services
- referrals to social and health services
- health education and advice
- community development.

The main modus operandi is home visiting (up to eight visits a day), including new homes and follow-ups. During home visits, household health and social status are assessed, advice is given, minor treatment provided and referrals organised.

Training of CHWs is provided by the NPPHCN's training centre in Guguletu (now in Athlone). After the initial eight week training course, CHWs work in tandem with more experienced CHWs for at least two months. Further in-service training is provided as the need arises and two one-week courses per annum are provided, also by NPPHCN. In addition to CHW training, part of the Health Care Trust's work in Brown's Farm includes support and training for the elected community health committees (CHCs). This training covers topics such as the usual, more technical, skills of committee work, report-writing etc. as well as training in PHC principles. As a general comment, it emerges from many discussions that re-orientation of decision-makers (such as CHCs, but upwards through the formal health system) in terms of PHC principles and the nature and

importance of participatory/emancipatory approaches to such work is needed. As in the case of Valley Trust, there are two distinct lines of accountability. One is through the CHC to the community itself. The other is to HCT through the project manager. It is unclear in this case whether this duality leads to similar problems as has been reported at Valley Trust, which leads to the recommendations below relating to the need for (i) CHW facilitators and (ii) the rationalisation of accountability and reporting structures governing CHW's work.

The issue of financing a CHW based PHC system often arises. In HCT's case, CHWs are paid by HCT with donor funding, and the CHW levies a R2-00 charge for each home visit.

The Valley Trust

Valley Trust is a rural community development agency based in the Valley of a Thousand Hills area in KwaZulu-Natal. It has adopted an holistic intervention programme that involves complementary elements including the use of appropriate water and sanitation technology, the training of CHWs, alterations to the school and clinical health education programme, a nutrition programme and food gardens, and several others. An evaluation study was done comparing 1981 and 1988 factors related to the impact of the holistic health programme on diarrhoeal disease (Friedman and Burns, undated). Its results show that, in almost all factors studied, statistically significant improvements were noted that in most cases were described as "substantial". The overall conclusion is that there is strong evidence to suggest that the multiple intervention strategy taken by Valley Trust in combatting diarrhoeal disease is effective.

Within this programme health education work is done mainly by CHNs and CHWs. Clinics provide a backup service for these two levels. There are thus three key levels at which Valley Trust works.

CHWs "visit households every day of their lives". They work with householders and monitor general environmental health conditions such as quality of water, location of pit latrines and domestic hygiene and provide information about related health issues. They might pick up a particular trend, for example TB and medication defaulters, or diarrhoea, and run an information campaign around that issue. CHWs are usually elected by the community they serve and are trained by CHNs in location. They would normally serve approximately 100 households each and there are suggestions that this should be reduced to 1 : 64. Note that this is a low ratio in comparison to other parts of the country, where 200 - 300 households per CHW tends to be more common.

Valley Trust CHNs work at a different level from CHWs. They are based at clinics and adopt a more curative role than CHWs. They provide training courses, particularly for CHWs, they hold monthly meetings with EHOs and weekly meetings with community development facilitators. As part of Valley Trust's integrated approach to primary health care, in fact to community development, of which primary health care is a central component, the CHNs and CHWs are linked with other components of the project, for example, water and sanitation infrastructure work (VIPs mainly), nutrition and food production projects, all linked to health promotion activities.

The methodology advocated by Valley Trust to health promotion work rests on the

following principles:

"The problem is when we go to tell people - this isn't ideal".

- Assess first - the initial contacts with people are used to talk to them about what they do, how they do it and what problems people face.
- Discuss at household level.
- Develop information programmes around issues that emerge from the above interaction.

The courses run at Valley Trust include:

- technical and health issues for stand-pipe attendants
- technical and health issues for water committees
- technical and health issues for spring protection committees.

Their courses, even those that are technically oriented, include a module on health related education. Apart from their pioneering role in developing a PHC system based on CHWs as a "front-line" component, Valley Trust is also set apart, with only a few other agencies, by the way it integrates technical and health education in the water and sanitation field in a long-term way. Valley Trust sees its strength lying in its holistic approach.

Observations: Valley Trust is firmly of the opinion that CHWs are a key element in the PHC strategy, in particular, in their health education strategy and the role of CHWs is seen as a long-term investment in the health status of the valley community. However, their comprehensive 1994 evaluation points out that the case for CHWs is not absolute (Sigwaza *et al.*, 1994). While the report concludes that the Valley Trust CHW Programme can be accepted as a valuable model that is in the process of active development, it also identifies a number of concerns or weaknesses with the programme that need to be used as learning points for the future.

The main issues raised in this regard are:

- Large-scale/national CHW programmes appear to be less successful than smaller, locally responsive programmes.

- Large-scale programmes are often implemented "vertically" by health authorities rather than as part of a PHC approach - this is a fundamental reason explaining their lower effectiveness.

- Where CHW programmes are successful, major changes in mortality and other indices of health status are being achieved, usually at lower cost than with alternative modes of service organisation.

- Successful large scale programmes require substantial increases in support for training, management, supervision and logistics than is commonly provided.

- CHW programmes that are an integral part of a PHC approach should be

promoted in South Africa with financial and structural support from government.

- A new category of CHW Facilitator is being supported as a major solution to the structuring and supervision needs of the CHW Programme.

- Accountability and reporting structures governing CHW's work need to be rationalised, and the establishment of a CHW forum is recommended.

The Rural Foundation Primary Health Care Programme
The Rural Foundation PHC Programme has been in operation for nine years. It renders a basic, development-oriented PHC programme in rural areas where few other services are available. Evaluation studies show this programme to be effective in meeting the health needs of a majority of the rural population that it serves, in particular, there has been a demonstrated reduction in infant mortality rates and an improvement in living standards where Rural Foundation CHWs are functioning. (Note that as in other organisations' PHC work, CHWs are also the pillar upon which this PHC programme rests.)

The Programme is community-driven, relying for its support and continuation on an elected health committee and community selected health workers. Community needs are seen as the priority and addressed in a multi-sectoral manner.

The training provided by the Rural Foundation's PHC programme includes capacity building in technical matters as well as health related issues. The curriculum used is geared to basic primary health needs and forms a core of learning on which to base future development. This curriculum is used transferably (after language changes) across the country). The CHW work is supported and supplemented by local and district nursing staff who remain community-based (i.e. CHNs), who function as health coordinators.

The Rural Foundation is of the opinion, even if a full-scale government driven PHC system is implemented, that an important requirement of the interim will be support for the work of NGOs and that ultimately such work should be accredited, either in terms of the National Health Insurance Committee's recommendations or to be absorbed into the Health District for long-term sustainability. A comment in this regard is that further policy development will have to take place because there is a significant gap between the Department of Health's proposals for a PHC system that tends towards the medical mode of delivery and downplays the potential contributions of CHWs and the development-oriented and integrated programmes such as those of Valley Trust, the NPPHCN and the Rural Foundation.

Rural Foundation recommendations regarding CHWs (synthesised from discussions and the documents made available to us):

- The (district-based) PHC system should regard CHWs as integral to their effectiveness.

- The full range of health and health related services (including EHOs and possibly even agricultural extension staff and education staff) should be part of an overall coordinated approach to PHC in each district.

- CHWs should, at least for the short to medium term, not be incorporated formally into the civil service.

- CHWs should be accommodated within smaller scale, localised PHC programmes such as those listed above.

- A system of financial support from government sources should be developed through the "alternative" PHC agencies so that the lines of accountability and reporting are not further complicated and that the vital principle of "community-based" remains intact.

- A valuable role that could be played by the state would be to assist in coordinating drawing up generic guidelines for the role and function of CHWs within a district-based health system. This could serve as a basis for accreditation of service providers and to assist in achieving the greatest benefits in a sector that has the potential to deliver but often is unable to do so.

Note: The last two points appear to be the major differences between the national Department of Health's position in this regard and the Rural Foundation's (and Valley Trust's) position.

5.7 Environmental health

5.7.1 Introduction

Environmental Health is multi-disciplinary, drawing on health, environmental, and social sciences. This, together with the local, community level of service operation, makes it an important area for the development of a future health and hygiene education and promotion strategy.

5.7.2 Operational structures

National policy and strategies regarding environmental health are the responsibility of the Department of Health, where it comes under the remit of the Directorate of Environmental Health.

EHOs are employed by local and provincial government. There are currently 3089 EHOs registered with the Medical Council, with approximately 2000 in practice - a number that is inadequate to meet future demands and reflects the imbalance between preventive and curative services in South Africa (Derry, 1996).

There is much variation between, and within, provinces in the way the EHOs work, the distribution of EHOs and the resources they have at their disposal. This is largely an inevitable consequence of South Africa's recent history and past government policy.

This variation is illustrated by the relative numbers of EHOs employed in each province (see Table 3 below), although such figures really need to be seen in relation to the relative populations of the provinces. Within provinces the distribution of EHOs varies greatly, with fewer EHOs in disadvantaged areas. The ratio is often only 1/10th of that in

advantaged areas (e.g. Alexandra versus Sandton in Gauteng), (Derry, 1996).

Table 3: Distribution of EHOs in South Africa

Province	Number of EHOs
Gauteng	500 employed by local authorities, plus 320 health advisors, employed by provincial government, 55 of which have recently specialised as environmental health assistants (EHAs).
Northern Province	approx. 150 (plus community health workers)
Mpumalanga	approx. 120 (employed by municipal and provincial government)
North West Province	no details supplied
Free State	116
KwaZulu-Natal	386 (160 at prov. level, 226 at LA level)
Northern Cape	82 (includes provincial and local authority officers)
Eastern Cape	approx. 227 (provincial and local authority) plus approx. 70 Health Assistants employed in the former Transkei
Western Cape	362

5.7.3 Changing roles of the EHO

New health policy (Department of Health, 1996a, p130) relating to environmental health emphasises the need for a move away from the past law enforcement approach to a community development approach with the focus on creating environmental conditions conducive to health. At a policy level therefore, the EHO is seen as an educator and facilitator who should be involved in:

> the monitoring, assessment and representation of community demands and needs on the one hand, and the motivation for supply of essential services and structures by the local authority on the other (Ehrlich and Derry, 1992).

This policy shift makes EHOs an important potential resource for any health education strategy around water and sanitation. According to new policy EHOs need to be involved in water and sanitation programmes from the beginning, helping communities to understand the importance of water and sanitation for improved health.

The review of this sector set out to find answers to the following questions:

- To what extent are EHOs involved in water and sanitation programmes?
- To what extent are they involved in education around water and sanitation
- What is the content of the education they give around water and sanitation?
- What education methodologies do they use?
- What could be done to increase their involvement in water and sanitation programmes and to enhance their effectiveness in health education around water and sanitation?

The review is based on an analysis of available documents (mainly provincial and national reviews); returns of questionnaires sent to the relevant departments in all nine provinces; questionnaires handed out to approximately 30 Gauteng-based EHOs attending a workshop; and interviews with eight EHOs and others working in the health and infrastructure provision sectors.

5.7.4 Involvement of EHOs in water and sanitation projects

The review showed that much of the work of EHOs, especially in rural areas, includes monitoring water supply and sanitation facilities. In some cases, EHOs have been instrumental in the provision of improved water or sanitation facilities or protection of water supplies for the area. In some areas they are informed about structures like the National Sanitation Task Team and the new district health system and were actively involved in provincial forums.

However, the degree to which EHOs are involved in water and sanitation projects initiated by other sectors, for example, DWAF, NGOs or local community groups, varies widely from area to area and individual to individual. For example, in the Northern Cape several DWAF projects have been approved but EHOs have not so far been involved. However, in Mpumalanga and the Eastern Cape, Mvula Trust has been actively seeking the involvement of EHOs.

The following factors were identified during the review as reasons why EHOs were often not involved in water and sanitation projects:

- Lack of awareness on the part of other players of the contribution that EHOs could make in the health promotion part of the project. An example was given of DWAF projects being approved but EHOs not being included.

- Lack of awareness on the part of EHOs of the potential of water and sanitation projects for health and hygiene promotion. An example was given where EHOs were invited to project meetings but were unenthusiastic and did not participate.

- Lack of resources on the behalf of EHOs. For example, in the Eastern Cape, EHOs identified their lack of transport as being a major factor limiting the amount of educational work they could do. A Mvula Trust project in the Eastern Cape, is now liaising with the Department of Health about an initiative in which the project will provide transport for the Department's fieldworkers to visit the area to carry out the health education component of the project.

5.7.5 Involvement of EHOs in health and hygiene education and promotion

The review showed that whilst health and hygiene education comprised a significant part of the work of many EHOs the extent to which they were effectively involved in health education related to water and sanitation varied greatly from area to area. The reasons for this ranged from lack of time and resources, to lack of appreciation of the value of the educational component of the work.

Provincial health departments contacted during the review estimated that the proportion of EHOs' educational/health promotion work that was related to water and sanitation ranged from 20% to 40%. Within provinces the amount of education work done varied according to the EHOs' area of operation. For example, in Mpumalanga, in rural areas (without on-site water supplies and water-borne sewerage) a greater proportion of EHOs' time was spent on water and sanitation-related education than in fully serviced areas. The same higher proportions were reported by EHOs in peri-urban unserviced areas.

The extent to which EHOs liaised with other community health educators (for example, CHWs, community nurses, health assistants) also varied according to their area of operation, time and resources. An example of where EHOs are working with such community educators is given in the Section 7.7.7 box on the Nkomazi Sanitation Project.

Much of the educational work carried out by EHOs is undertaken on an informal basis during their monitoring or inspection work. However, in areas where a particular health issue has been identified, specific education programmes may be planned to address it.

5.7.6 Content of water and-sanitation related education work

The EHOs contacted during the review indicated that they cover the following topics in education about water and sanitation:

- operation and maintenance of water pumps and sanitation facilities
- methods of sewage disposal (e.g. for nightsoil buckets, contents of pit latrines)
- pollution of water sources
- hygienic storage of water at home
- purification of water using Jik
- causes of diarrhoea.

In relation to water supply, the emphasis appears to be on water quality, rather than on the quantity of water used for washing and developing systems for increasing the availability of water. This may be due to the fact that improving water quality, for example, by using Jik, is something an EHO can immediately address, whereas increasing the availability of water is a much more complex process involving other government departments and NGOs. However, the *quantity* of water available may be as important, if not more so, than water *quality*, in relation to improving health (See the last section of Appendix 4). This illustrates the need for the content of training courses for EHOs to be updated about current thinking on causes of water-related diseases, and also the importance of facilitating links with other sectors that can help with the necessary water supply systems.

The review indicated that some EHOs may have a lack of knowledge about appropriate sanitation technology. An example was given where this lack of technical knowledge on the part of an EHO led him to approve inappropriate latrines for an area. This suggests a need for EHO pre-service training and in-service re-orientation towards development-oriented and PHC issues.

5.7.7 Educational methodologies and approaches

EHOs' health education work generally seems to be undertaken as part of their routine duties, and is often done on an informal basis and in an uncoordinated manner. In remote areas (e.g. Northern Cape) most of the education work is integrated into visits to farms and schools. They assess the situation, take measurements, and give advice on the spot. Their methodology is thus responsive.

The need for educational responses to particular issues often arises during the course of an EHO's routine monitoring work. In other cases it may result from a complaint or observation from a local resident or community worker which the EHO then investigates.

This quote from an EHO in the Eastern Cape shows another approach used to identify areas for educational programmes:

> We identify an area, by doing a survey (without letting the people know), we record the number of toilets, etc. If we identify that over 70% of households do not have toilets we then embark on a health education programme and see how many toilets are constructed afterwards. So far the response has been good. But we have no evaluations or other documents to send because we have no computer facilities.

Lectures and talks
If formal education work is done, the teaching methods used vary according to the audience. Workshops, talks, lectures, panel discussions and drama were all cited as methods used. There was an awareness of the value of participatory methods of education and the importance of asking questions and allowing people to identify their own needs: "Let people identify the problem."

However, time and resources often limited the use of such methods. One EHO made the point that they relied more on talks and lectures because workshops require more time and manpower. (A sentiment which it may be assumed is shared by many other EHOs working in under-resourced areas.) Another specified that workshops "require intersectoral collaboration which requires more time and planning".

Use of mass media: radio phone-ins
This example, from an informal settlement area in the Western Cape, does not deal specifically with water and sanitation issues although such issues may feature in future programmes. However, it illustrates a useful technique for EHOs to not only inform the local community about health issues but also to obtain feedback about people's current concerns and to provide advice and contacts to enable them to take further action.

The local radio programme begins with the Regional EHO presenting a problem, for example, illegal dumping of waste. Listeners are invited to phone in and voice their concerns. So far such phone-in programmes are considered to be a useful tool for helping

to change people's attitudes towards EHOs and to find out how EHOs can help and where they can be contacted.

The phone-in programmes are supplemented with articles published in the local newspapers.

Pictures and posters
There is some use of pictures and posters but a common complaint was that the ones EHOs had available were often not directly relevant to the communities concerned. For example "the material we got from the provincial department of health was often biased towards urban areas and not appropriate for rural communities". Some said that they needed posters that were less scientific than the ones they had.

EHOs also expressed the need to be involved in producing appropriate local materials. This suggests that a capacity building process in materials development would be worthwhile (See "Visual aids" box).

Some EHOs used departmental handouts and extracts from academic texts, for example, microbiology books. This illustrates two possible issues, namely that some EHOs use an information based, didactic approach and perhaps have little experience of any other approach, and/or that they do not have access to suitable resources and rely on what is immediately to hand.

Case study - production of visual aids

The EHOs working for the Cape Metropolitan Council have access to a production unit which makes visual aids. The EHOs can take photographs of local situations which can then be used to develop slides, illustrate leaflets, etc.

Is there potential for sharing such resources within provinces, so EHOs in rural areas can either make use of the visual aids developed by the metropolitan council, or use their production services to develop their own materials?

Drama
Some EHOs, although they were aware of the use of drama as an educational tool, had never engaged in it themselves, apparently due to a lack of resources, but possibly also because of a lack of skills, confidence and experience.

Video
Videos were identified as being useful, but their use was limited to areas that had sufficient resources. In particular, it was suggested that video would be a good way to illustrate the use and construction of different types of latrines.

Case study - use of video

In Mpumalanga the EHOs used to have a mobile audio visual unit and hailer. They used to show videos which covered personal hygiene, rural toilets, affordable latrines. However, the video unit is no longer in use, due to lack of resources. However, the EHOs are involved in the production of a locally made video about Nkomazi Sanitation project. It is expected that EHOs in other areas may be able to use the video once it is produced.

Working with schools

Educational work linked to schools is considered important by many EHOs. However, in some areas the lack of resources limits what they can do, for example, they may not be able to visit the schools frequently enough.

One EHO describes the approach he uses:

> We start by giving the theory and then move on to elicit some participation. This may be done through asking questions: for example, we take some river water, show it to the children and ask "Can you drink this?" Or we initiate discussion by focusing on particular cases in the area.

Another describes the development of a schools programme:

> We have just embarked on a promotion programme for schools - it is important to get the youth involved and aware of health issues. We arrange sessions with the school principal and then we go and do the teaching sessions. We concentrate on communicable diseases, water-borne, including the use and construction of toilets and public hygiene.

A schools programme run by an EHO in the Free State included, for example, educational tours to the local sewage purification plant or the water purification plant in order to inform them in a practical way about sewerage systems and the management of human waste.

5.7.8 Need for technical training and educational resources

"People find it hard to understand the differences between the various types of toilets. Without illustrated literature or a video to help describe them, it is very difficult to explain how to use them before they are built." (EHO, Northern Cape).

The review highlighted the need for materials with technical information about development-oriented issues such as water and sanitation technology, including guidelines on how to build a VIP toilet. This suggests a gap in training:

> To meet the community demand the South African EHO needs to upgrade knowledge relating to community skills, epidemiology, ecology and health management" (Derry, unpublished.)

Lack of understanding or appreciation on the part of EHOs about the technical aspects of water and sanitation projects may also lead to EHOs approving inappropriate latrines for an area (See Section 5.7.6).

The review identified useful educational materials that dealt with the technical aspects of sanitation and health education relating to latrines, for example the "Builders' Instruction Manual for VIP Toilets" produced by the Amatikulu Training Centre which is based on those developed by the Blair Institute for use in Zimbabwe and "The VIP Latrine for Family Health" document developed by the Wits Rural Facility and the Health Services Develoment Unit. It appears, therefore, that although appropriate material exists, the problem seems to be a lack of promotion and availability of such material for most EHOs.

5.7.9 The effectiveness of environmental health professionals in the water and sanitation education field

As the above discussion shows, new policy directions make EHOs an important potential resource in the promotion of health around water and sanitation. But at present, with some exceptions, EHOs are not yet following the community development approach encouraged by new policy. Many water and sanitation infrastructure projects do not have EHO involvement. The review indicated that although many EHOs were committed to education around water and sanitation, most continue to use didactic education methodologies and some also teach inappropriate information, for example, emphasising water quality rather than water quantity in under-serviced areas.

The rest of this section presents some of the factors identified in the review that limit the effectiveness of EHOs in the water and sanitation field.

Community perspectives
The community development approach poses a particular challenge for many EHOs as many of them need to "communicate with people distanced from them by language, class and culture." (Ehrlich and Derry, 1992).

In some areas EHOs are still perceived to be, and act as, law enforcers and people are therefore reluctant to seek the help of "health inspectors" and involve them in projects.

Institutional context: The institutional and management structures in which most EHOs operate demands an inspectoral role from them (J. Seconna, *pers. comm.*) Their job is defined very often by the number of inspections they have to do.

There is a need therefore to transform the institutions in which EHOs operate through educating management about the importance of community involvement generally and water and sanitation programmes specifically.

The training of EHOs
EHOs are trained at technikons. The nature of this training varies from institution to institution. There are some examples of innovative curriculum application (See box on Peninsula Technikon), but most technikon environmental health curricula would benefit from the review proposed by the Health Sciences Working Group (HSWG) of the

National Commission on Higher Education (NCHE):

> [In a] review of the health sciences curricula, particularly of the undergraduate programmes and basic courses, to include significantly more material on primary health care, public health and the social and communication sciences, is essential. The process of learning should become more student-centred, practical and community-based and whenever possible, problem-orientated (HSWG, 1996, pp12 and 13).

Derry gives some idea of what this curriculum review should contain for environmental sciences:

> [EHOs need] the basic technologies and skills to address the plight of underdeveloped communities. In this respect, the 'soft' yet essential intervention of community organisation and education, health advocacy and health representation within intersectoral collaboration should play an increasingly important role (Ehrlich and Derry, 1992).

If HEATT is to encourage the potential of the EHOs as a resource it will need to involve itself in this curriculum review process so that sound health and hygiene education around water and sanitation is encouraged.

This curriculum intervention could be achieved at the moment through contact with the advisory boards that are set up to advise on technikon curricula. In some technikons these boards are not active, however. An alternative approach recommended by interviewees was to seek to influence lecturers directly, as technikon lecturers have a degree of autonomy in determining the content and approach of courses they teach.

Another training-related recommendation made by interviewees was the running of short courses. The University of Western Cape Public Health Programme offers short courses. These courses were identified by the World Health Organisation (WHO) as important for meeting some of the needs of the Southern African region (Cleaver, 1994). HEATT should seek involvement in these courses.

Peninsula Technikon's Environmental Unit

The Environmental Unit is a project of the School of Science at the Peninsula Technikon (PenTech). It is an example of how tertiary education can be linked to practical community concerns. It is an inter-disciplinary campus based body which acts as a point of entry for environmental projects and provides the coordination for these projects. Partners of any one project may be internal, i.e. other disciplines within PenTech, or external, i.e. other institutions, community-based agencies, or a combination of these.

Approach: The Unit uses a partnership model of problem-solving. It draws on the experiences of communities and places its expertise and resources at the disposal of communities. It employs students from different disciplines, including environmental health, in various capacities to assist with projects. It trains students from disadvantaged communities to equip them with the necessary skills to serve the community better.

5.7.10 Environmental health assistants

Another recommendation made by interviewees was the use of environmental health assistants (EHAs, or sometimes HAs) to enhance practice in the environmental health sector.

Some provinces have staff who EHOs can call upon to assist with their educational and community liaison work, especially in rural and peri-urban areas. The training and roles of EHAs varies greatly (See examples on the next page). Often such assistants have basic training in environmental hygiene and are drawn from local residents. A similar system is well established in Zimbabwe (Ehrlich and Derry, 1992). It is perceived that such staff are a similar category of resource people as CHWs, who largely provide a clinical perspective on health problems rather than an environmental one.

The review identified a mixed reception to the role of environmental health assistants, or their equivalent. Whilst many EHOs welcomed the approach and saw it as an opportunity for them to utilise their time and resources more effectively, some EHOs are more sceptical, seeing the new posts as undermining their own position.

Examples of environmental health assistants as support for EHOs

Although this section refers to EHAs in particular, there are other categories that play a valuable support role, for example, village health workers, community liaison officers and health assistants.

Gauteng
EHOs in Gauteng can call on the services of 320 Health Assistants (employed by the provincial government) to help them with their educational initiatives. Recently, 55 of these HAs specialised as environmental health assistants and are likely to play a significant role in Gauteng's Integrated Schools Sanitation Improvement Programme (See Section 6.6.14).

Western Cape
The Cape Metropolitan Council has two EHAs who have not undergone any formal training. At present training for EHAs through the local technikons is still under discussion. Their main role is health education and to provide some administrative support for EHOs. There is some concern that insistence on a formal qualification could hinder recruitment of community educators.

Eastern Cape
The Health Assistants in this province are employed by provincial government and trained on the job by EHOs. In the rural areas they are based in clinics and mostly concentrate on water and sanitation issues. When visiting a new area they gather information on existing water sources, and household sanitation facilities.

(continued...)

They identify households whose facilities are not satisfactory, and visit them, about twice a month, providing health education and assisting with raising funds for and constructing latrines. Health Assistants are asked to liaise closely with community nurses as well as the EHOs.

In the former Transkei there are Health Educators trained at the former Transkei University. Their duties are similar to the Health Assistants but they do not cover issues such as water purification in detail, but concentrate on diseases.

Mpumalanga
Care group motivators are employed by the government to provide health education in their villages and to report back to EHOs. In a typhoid endemic area in Mpumalanga, a health education programme was initiated using women from the villages who volunteered to be care group motivators. The women visit households and address larger groups, explaining the causes of typhoid and the importance of purifying water and avoiding contamination of clean water supplies, washing hands before handling food, etc. EHOs use mass meetings and house-to-house visits.

This education programme is considered to have been instrumental in reducing the incidence of typhoid in the area. Three to four years ago some villages would get about 60 cases of typhoid a year but now it is estimated that they have less than 20 cases a year. The Department of Health is now urging the government to improve the water supply and are working with NGOs to sink boreholes.

5.7.11 Monitoring

Monitoring health risk is an important part of the work of EHOs.

> Monitoring ... facilitates proactive intervention ... and broadens the monitoring base of local government enabling a type of 'screening' or grassroots early-warning system to be put in place (Derry, 1996, p7).

This monitoring function also includes the gathering of baseline data relating to the incidence of disease or behavioural practices. This baseline data is essential for determining the effectiveness of any health education programme. The future role of EHOs, together with other health workers, in collecting such data, could be significant and should be part of any health education and promotion strategy. EHOs are presently involved in the Basic Subsistence Environmental Facilities Programme. The information gathered from this monitoring programme will be an important resource for HEATT to use.

5.8 RECOMMENDATIONS

1. The district-based, holistic, development-oriented PHC system is regarded as being fundamental to promoting health in South Africa. Without it health and hygiene education and promotion activities will be removed from the local, community-based context where, for water and sanitation-related health issues, they are most needed. An implication of not having a development-oriented PHC system is that a participatory, "choice oriented" education approach could be displaced by a more transmission dominated approach.

   For this reason HEATT should promote the ideal of a fully developed PHC system with CHWs (or similar, e.g. EHAs) as an integral "frontline" element so that appropriate, preventive health and hygiene education and promotion can take place and should lobby for the development and implementation of clear guidelines for an effective CHW system.

2. An institutional base for water and sanitation-related health education and promotion should be established.

3. Training and support of health personnel, particularly those involved in the PHC provision at district level should be provided. This should include appropriate technical and health related information (e.g. the water quantity vs. quality debate) as well as training in using participatory methodologies.

4 Comprehensive training is needed for CHWs. This should include major components of health and hygiene education and promotion similar to but developed beyond the courses offered by the NPPHCN's training centre in Athlone and the Amatikulu Primary Health Care Training Centre. In regard to sanitation programmes CHWs should be trained to promote effective sanitation technologies, thereby moving sanitation towards being demand-driven.

5. In the light of the above, re-orientation and support for training agencies is also recommended.

6. Short courses for health personnel at all levels should be developed through suitable institutions.

7. As part of setting up this training process it is recommended that HEATT should:
   - identify suitable training agencies;
   - form links with suitable organisations to enhance their practice in training and to act as lead organisations and to train and support others;
   - establish a working group leading to national role-players' workshop to develop common understandings, coordinate activities, review and develop appropriate curricula and possible materials for participatory, preventive, development-oriented health and hygiene education and promotion;
   - develop or promote the development of guideline documents and appropriate materials for training and for use as educational tools.

8. PHC staff represent a potential resource for implementation. They should thus be linked with technical/infrastructure projects - this is a gap that has been identified in terms of health and hygiene education and promotion in the infrastructure provision sector. This also closes the gap between the short-term infrastructure driven projects and the longer-term development-oriented approach. As part of this they should be given training in the technical aspects of water and sanitation issues. This will not only help them with any health promotion work related to a specific infrastructure project, but will enable them to promote better sanitation facilities in general.

9. An awareness raising programme for PHC personnel about the importance of intersectoral collaboration and the need for a participatory approach to health education and promotion, particularly in relation to water and sanitation infrastructure projects, should be developed.

10. Suitable educational materials and training in how to use them appropriately should be provided for health personnel. The review identified existing educational materials that could be used by EHOs as well as capacity within South Africa for the development of innovative, interactive educational materials. In the short-term these could be made more widely available through an educational resources list such as the water education catalogue sent out by Umgeni Water could be developed and sent out as a regular support mechanism for EHOs and others in this field.

11. HEATT should take steps to influence the curriculum reform process in environmental health as well as lobby for appropriate change in the curriculum content and approach of other health professionals. The Health Personnel Education Council (HPEC), should it be established, will be an important structure for HEATT to interact with as this may be a significant opportunity to influence emerging curriculum directions and methodologies.

12. Processes need to be established so that base-line data about water and sanitation-related diseases are gathered for evaluation and monitoring purposes.

13. Guidelines for the provision of water and sanitation services should emphasise the need for the involvement of EHOs and other community-based health workers from the initial stages of the project.

14. Promotion/awareness campaigns for those involved in infrastructure projects and EHOs about the benefits to be gained from working together to help health professionals to make the link between health promotion, service provision and effective use and maintenance of the facilities.

15. Establish systems through which different sectors can share resources, to their mutual benefit and overcome other constraints limiting them from working together.

    For example, a list of contacts of organisations involved in health and hygiene education and training and capacity building, to help EHOs obtain any advice and materials they may need. Such contact lists could be developed on a national and/or regional basis. The lack of awareness of NGOs or other organisations that could help was perceived to be a problem for EHOs working in remote rural areas.

6 FORMAL EDUCATION SECTOR REVIEW

Summary

In line with the multi-level analysis of the problem, this sector review shows how inadequate health education in schools has been in the past. It also reviews some of the important opportunities and resources available for addressing the problem.

This section argues for a focus on schools within formal education and training for a number of reasons:

- children at risk, especially in the new Early Childhood Development Phase (ECD) are found in the school system;
- there is widespread inadequate sanitation provision at schools;
- access to children in schools is relatively easy and direct;
- children are a powerful communication channel to peers and to their community generally.

The ECD phase (ages 0 to 9) is identified as being of great importance for HEATT. New ECD policy emphasises maternal education, parenting skills and home-based child care, involving the care of children in a home context rather than in an institutional context. These are all major opportunities for HEATT.

In school levels above ECD, health education is not taken seriously and didactic methodologies dominate. The past and interim curricula and related textbooks all reflect a knowledge transmission approach and the content is generally regarded as being decontextualised, prescriptive and with moralistic undertones.

A survey of health education teachers in Gauteng reveals promise for the future as teachers reflect a commitment to implementing a relevant and positive approach to health education. This represents another valuable opportunity for HEATT.

The new curriculum: The new curriculum, although it is far from finalised, presents an important opportunity for HEATT. It is structured in such a way that Adult Basic Education and Training (ABET) learners are able to achieve the same General and Further Certificates of Education as young learners through a modularised, credit bearing system. HEATT is advised to investigate establishing accredited courses for adult learners. In order to achieve a new curriculum that meats HEATT's objectives it will be necessary to engage in policy lobbying and development as a matter of urgency. Existing lobbies such as the Environmental Education Curriculum Initiative (EECI) are already active and reflect similar views as those of HEATT, so partnerships might be beneficial.

Finally, there are many educational initiatives that are not necessarily a direct part of formal education or even a coordinated grouping but they represent exciting possibilities in terms of methodologies and approaches.

6.1 Introduction

This section consists of a review of health education in schools. The training of health professionals such as nurses, doctors, CHWs and EHOs is dealt with in the health sector review. However, a number of linkages between the education and health sectors exist, for example nutrition, sexuality education, HIV and AIDS education and through HEATT, water and sanitation-related health education. These linkages are reflected in the organograms in both sections. The main articulation between the two national level departments is through the Health Promoting Schools Programme.

This review of health education in schools begins by looking at why schools should be an important focus for health education around water and sanitation. It deals with the early childhood development phase and then the primary and secondary school phases. The relevant structures that HEATT may deal with in implementing a health education programme are then described. The last sections cover teacher training and finally, a review of resources, programmes and agencies dealing with health education in schools.

The review also makes suggestions for a long-term programme of action to ensure that sound health education around water and sanitation issues are institutionalised through the curriculum and teacher training programmes within the Department of Education.

Many schools in South Africa face the same difficulties as households without services. Research suggests that attending school may even increase the risk of water-related diarrhoeal disease (Genthe and Seager *et al.*, 1996; Koopman, 1978; Merkle, 1985).

For this reason the National Sanitation Policy (Republic of South Africa, 1996) sees schools as an important focus. Section 6.6 of this review identifies some of the potential resources that could be adopted in the short term to make sure that school sanitation programmes are accompanied by a suitable educational intervention. This intervention will be essential if the infrastructure is to be maintained and used properly.

6.2 Schools as a focus for health education

6.2.1 Children at risk

Children, especially younger children, are most vulnerable to the risks of unhealthy hygiene practises and cross-infection. This is one of the main reasons for seeing schools as an important focus area for a health education and awareness strategy. There are, however, other reasons why schools should be an important area of focus.

6.2.2 Schools are easily accessed

Schools are also important existing institutions with a captive audience. They are one of the most easily accessed institutions and in many areas there is a wider distribution of schools than clinics. Teachers also represent an important professional resource - there are more teachers than health workers in many parts of South Africa.

6.2.3 Children can be educators

It is important to remember that schools are not separate from the rest of the community. Children can become educators in their community. Many international programmes have used children to pass on health messages (Saminathan, Ravindranath and Rajaratnam, 1986; Bhalerao, 1981; Nimpuno, 1986, Child-to-Child). The Mpolweni project described below (See also Section 6.6.13) is an example of this principle.

Case study: Mpolweni

"We must thank the people of Umgeni Water for the children have brought the learning home."

At a community meeting to evaluate a school-based water education project at Mpolweni in KwaZulu-Natal the parents expressed their thanks for the information given to the children about how to make the water safe to drink. The children had taken the information home and the mothers at the meeting expressed their thanks for this new knowledge.

A point we often ignore is that children are very knowledgable. They are their mother's helpers at home. They know about the water sources, health habits and health risks in the environment. They are often franker than adults too. One study in Ecuador used children to get a clear picture of water and sanitation practices in the community. (Visscher, Garcia *et al.*, 1996). Children also have more time to listen and are often more open to innovation than adults.

A significant South African study on how pre-school children learn showed that the predominant learning mechanism available to pre-school children was to copy the behaviour of older siblings who were often in charge of them (Liddel, 1992, HSRC). Therefore, the potential for pre-school children to mirror the sound hygiene behaviour of older children is significant. This powerful principle of children teaching children has been illustrated very strongly in the success of the Child-to-Child programme and in various international cases (Vir, 1987; Webb, 1985b; Rhode and Sadjimin, 1981).

The environmental education approach described later is another well evaluated approach that illustrates how children can become activists in the local area and begin to solve real-life problems in projects where the curriculum and local issues are linked.

6.3 The early childhood development phase (ECD)

Given the prevalence of water-related diseases in this age group (0-9 years) and the findings of research undertaken in Khayelitsha (Genthe and Seager, *et al.*, 1996) that show a strong association between attendance at a day-care centre or crèche and the incidence of diarrhoea, this is an important sector for any health education strategy.

The ECD sector is well organised and progressive with a strong commitment to appropriate health education. It would thus be important to work with the sector

professionals in devising the most appropriate way of linking this sector in with a national health education and promotion strategy.

6.3.1 The inherited system for pre-school education

It is important to keep in mind that, for the majority of South Africa's children, pre-school and general school provision is located within a socio-economic order that is characterised by a whole range of dimensions of deprivation. Pre-school and day-care centre provision in South Africa has been grossly under-serviced. Estimates suggest that in the past only 2.4% of young learners had access to pre-school education (Van den Berg and Vergnani, 1987).

This has had huge impacts on later schooling. It is accepted that one cause of repeating school years and the high dropout rate in the primary school years is the inadequate preparation of children at school entry level and the inability of many schools to cope with these "under-prepared" children. (This raises the question of whether schools themselves are not "under-prepared"?) One important focus of new education policy for this phase is, therefore, to improve access to pre-school education.

Another focus that is relevant to this report is the drive to make standards regarding infrastructure such as classrooms and toilets realistic. Previously, standards governing sanitation provision, for example, in "pre-school" institutions were inflexible and unrealistic in the majority of cases (such as an insistence on flush toilets and a certain ratio of these per child).

6.3.2 New directions for early childhood development

New ECD policy focuses on:

- an intersectoral approach to ECD where Departments of Health, Education and Welfare are involved;
- improving access for those most in need through the development of realistic standards and a changing idea of quality.

The 1995 White Paper on Education and Training placed the first nine years of life within the ECD phase. This includes the first few years covered by the school system (ages 6 to 9). The White Paper also introduced as policy the need to provide learners with at least one year of compulsory pre-school education.

A Coordinating Committee for ECD (CCECD) has been formed. This body will develop national ECD policy, curriculum frameworks and an accreditation system. Contact with this body would be the best advocacy route for HEATT.

The ECD phase has been divided into two distinct levels. A different health and hygiene education strategy will be needed for each level.

6.3.3 Early childhood: 0-5 years and community-based education

Under the new ECD system the years from 0 to 5 will be catered for by community-based

projects. Funding will be provided by the community and be subsidised by the Departments of Health, Welfare and Education. Provincial pilot projects are underway in most provinces.

The following characteristics of the proposed community-based system for the 0 to 5 year olds are important as they point to the kind of health and hygiene education appropriate for the community-based education phase:

- The focus of the new policy is the development of healthy learning environments with a strong emphasis on provisioning. An indication of the importance placed on provisioning in the ECD sector is the community pilot subsidy programme for early childhood institutions. This includes water and sanitation provisioning. The subsidy will be granted if certain sanitation and hygiene and water standards are adhered to. These standards are more flexible than in the past and will vary according to the situation.

- In order to improve access to pre-schooling new policy emphasises the need to move away from an institution-based system to a *home-based system* where small groups of children will be cared for in a home.

- Another significant direction taken by new policy is the commitment to maternal health education and parenting skills.

HEATT could make an important intervention in this phase. But any health education and promotion intervention developed for this phase will need to be appropriate for informally educated care-givers who will probably be operating in small home-based programmes. The strategy should also explore links with maternal health and parenting skills programmes. It should be possible to link education of care-givers with the school water and sanitation subsidy programme.

6.3.4 The reception year (5-6 year olds): School-based education

The aim is to make the reception year for 5-6 year olds compulsory. The reception year will be linked to primary schools in some cases but also to existing pre-schools and community-based pre-school centres. This innovation has been introduced as a pilot project in each province. Because of a lack of funding for pre-school education it seems that these pilot projects will be the only reception programmes operating in the near future. HEATT should begin contact with this phase of education through these pilot projects.

6.3.5 Health education in the primary phase

A new curriculum framework is proposed for 1998 this will be dealt with in Section 6.5. This section of the review describes the present situation in primary schools. At present the primary phase includes the years from 6 to 12, (present Grade 1 to Std 5).

6.3.6 Health education in the timetable

Currently, as the 1995 interim curriculum still applies, health education is a compulsory

subject until Standard 5. Three half-hour lessons a week are given to health education in the junior primary phase and two half-hour lessons in the senior primary phase.

One of the main problems with health education in primary schools is that the subject "Health" is not a promotion subject. Teachers often treat the health education period as a time to catch up on maths or send students for extra lessons.

6.3.7 Curriculum

At present health curricula in the primary school focus on education for healthy habits, or the so-called physical health of the body. Typical subject matter in this phase is:

- keeping clean
- washing my body
- dental care
- hair care
- healthy and unhealthy food
- exercise and safety.

The nature of the lessons presented are usually content-based and largely instructional, teaching young children the rules of cleanliness, safety and health. They also held a strong moral undertone as the following textbook extracts illustrate (See over). In these examples, health education is decontextualised, information-based and prescriptive in nature.

6.3.8 The health textbook

Most health education in primary schools is taught through a health textbook. Textbooks are a good measure of the practice in many South African classrooms as they tend to be followed slavishly, particularly by under-trained and under-resourced teachers. The methodology used in many primary schools is reading from the textbook.

The influence of the textbook on classroom practice will probably continue to be a powerful one. Factors such as a textbook approach to teaching that has dominated practice for a long time in many schools; the lack of alternative resources; and teachers receiving little training in how to teach without a textbook all mean that books will dominate practice in spite of the commitment on the part of curriculum reformists to promote an alternative approach. Because of this, textbook publishers are an important sector that need to be part of any health education strategy.

It is important to note that it is possible to write textbooks that are congruent with good education practice and it is possible to write learning materials that encourage health literacy. The HEATT strategy needs to seek to influence this important sector. A possible avenue for this is the Publishers Association of South Africa (PASA).

Extract illustrating Sections 6.3.7 and 6.3.8

CHAPTER 3: PUBLIC HEALTH

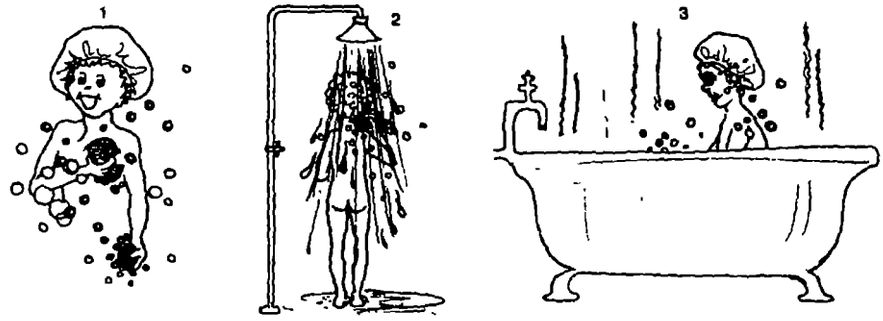
What we already know

1. People who are dirty smell unpleasant.
2. Cavities (holes) form easily in teeth if you do not brush your teeth regularly.
3. People who have cavities in their teeth usually have a breath that smells unpleasant.
4. If a person is ill, he can easily infect others.
5. Germs cause infectious diseases.
6. Germs are everywhere.
7. The body can defend itself against most germs.
8. Flies spread germs because they are filthy.

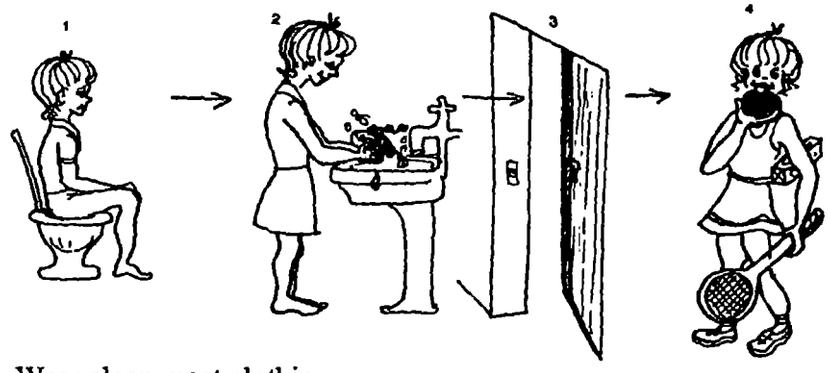
PERSONAL HYGIENE

If everyone is clean and healthy, germs will not have the opportunity to make people ill. You can also contribute your share in the fight against diseases.

1. Wash, take a shower or beth regularly everyday with warm water and soap. Warm water and soap help to remove germs.



2. Brush your teeth regularly every morning and evening. Rinse your mouth after meals. Germs live in food particles which are lodged between your teeth.
3. Wash your hands after you have visited a toilet.



4. Wear clean, neat clothing.
5. Keep your hair clean and tidy.
6. Hold your hand or handkerchief in front of your mouth and nose while you cough or sneeze.
7. Never spit. It is extremely ill-mannered and unhygienic.

6.3.9 Survey of primary school health education teachers in Gauteng

As part of a curriculum development process a useful survey was undertaken by the Gauteng Education Department in 1995. The survey focused on teacher attitudes to health education. The following are important findings:

- teachers felt that health education receives inadequate attention in schools
- the most common resource used was the textbook
- most syllabus and textbook content was not relevant to the learners
- teachers wanted more learner-centred activities
- teachers identified a lack of resources and teaching aids as a major limiting factor
- teachers identified the need for in-service support (Gauteng Department of Education, 1995).

This survey is significant because it was large and reveals a commitment to implementing a relevant and positive approach to health education. If HEATT were to support processes for producing good resource materials and running in-service teacher programmes, the results of the survey suggest that they will be used. However, a prior step would be to ensure a transformation in the health related elements of the curriculum.

6.3.10 Health education in the secondary phase

Until the introduction of the 1995 interim curriculum health education was taught at this phase in only a few of the education departments that existed at that time. With the introduction of the interim curriculum health education became compulsory up to matric level. The focus at this level is on lifeskills and sexuality education.

6.3.11 The interim curriculum

Apart from extending the health education curriculum into the secondary school phase, the interim curriculum shows some measure of innovation in health education:

> A holistic approach should be followed and the subject should be addressed in a cross-curricular manner. (Interim Core Syllabus for Physical and Health Education, Department of Education, 1995a).

The interim General Science syllabus for Standard 6 also includes an interesting example of the way that health issues could be integrated into the whole curriculum. This is the kind of topic HEATT needs to lobby for. This topic is congruent with the environmental education approach described below.

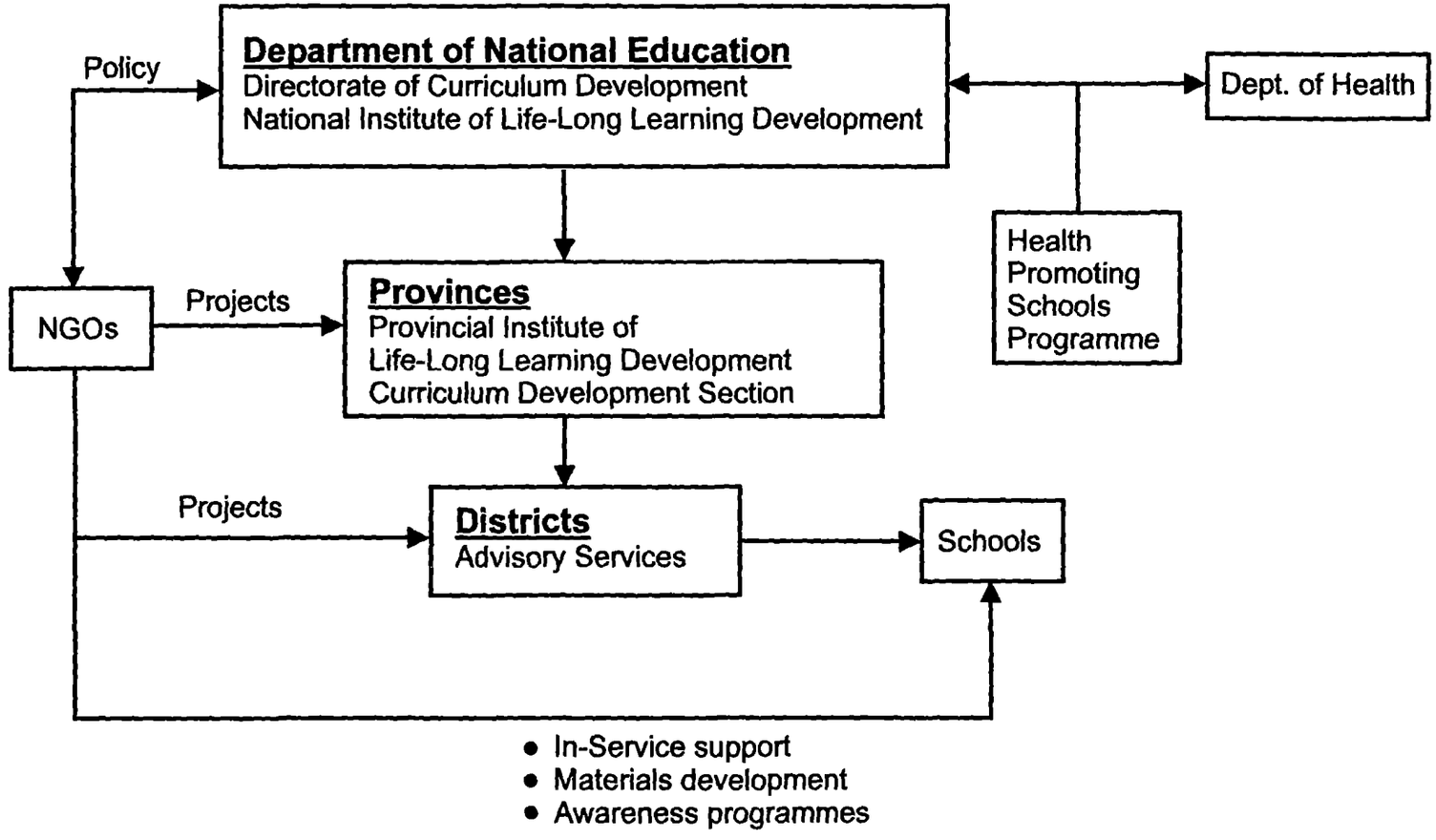
> Identify an environmental problem facing your community. Research the problem, identify the cause of the problem and suggest possible solutions. This should be done as a group investigation. Some examples of problems: pollution of water, air or soil; overgrazing; soil erosion, (Interim Core Syllabus for Science, Department of Education, 1995b).

6.4 Relevant education department structures at national and provincial level

Figure 4 gives an idea of some of the Education Department structures that would be important for HEATT to target in a national strategy.

Figure 4

Organogram for Formal Education
Health Related Functions



HEATT will need to influence the emerging curriculum at both a national and provincial level. Access to schools both for the distribution of learning materials and to provide workshops and other support mechanisms for teachers would need to be negotiated at provincial level and often also at district level. It is also possible to reach schools through the national Department of Education.

6.5 New education policy

6.5.1 Policy documents

Education policy transformation has been complex. A number of major national education policy documents have been released and the process of finalising the curriculum framework and the national curriculum outcomes is not yet complete. Thus, only the broad framework position can be described with any confidence here.

The following documents have been released and provide a broad picture of health and environmental education in the emerging curriculum:

- March 1995 White Paper on Education and Training
- National Qualifications Framework Act (58 of 1995)
- July 1996 National Commission on Higher Education's "Future Organisational and Financial Model for the Health Sciences" (HSWG, 1996)
- July 1996 draft Curriculum Framework for General and Further Education and Training
- August 1996 National Qualifications Framework working document
- October - November 1996: National Department of Education's Learning Area Outcomes (in process).

The rest of this section consists of points extracted from the above policy documents that are relevant to this report.

6.5.2 Adult education

The SA Qualifications Authority (SAQA) and the proposed Standards Generating Bodies (SGBs) make provision for maximum articulation across this system for adult learners (a modular and credit-based system will apply) and adults will be able to apply to have prior experience recognised for entry into the system.

This means that an adult (for example, a prospective EHO, CHW, etc.) could bring credits from prior learning and experience with them, could then select courses from a wide range of educational service providers that had been recognised by SAQA (for example, HEATT initiated short courses through technikons) and pursue a vocationally oriented study path beginning from a low educational level, gaining credits all the way. Then, as long as the person picked up the minimum credits from the compulsory areas of the curriculum (core subjects and foundation subjects) and the combinations were acceptable, a General Education Certificate (GEC), equivalent of present Std 7/Grade 9 would be awarded.

6.5.3 Curriculum

Curriculum reform is taking place at a national level at this stage. However, it is soon to move to provincial level, once the national framework, learning area outcomes and focus area (subject) outcomes are finalised. Provinces will then develop learning programmes (syllabuses) in terms of the various learning outcomes.

The new national curriculum will be an *outcomes based* system. The policy process has so far identified the ten national essential outcomes and is about to finalise the learning area outcomes (LAOs). The essential outcomes are stated in broad terms. Of relevance to HEATT are:

- ... solve problems and make responsible decisions using critical and creative thinking;
- ... collecting, analysing, organising and critically evaluating information;
- ... participate as responsible citizens in the life of the local, national and global communities;
- ... use science and technology critically, showing responsibility towards the environment and the health of others;
- **... make wise and safe choices for healthy living.**

The new national curriculum will contain the following areas of learning:

1. Communication, literacy and language learning
2. Human and social studies
3. Technology education
4. Numeracy and mathematics
5. Physical and natural sciences
6. Culture, arts and artistic crafts
7. Economic and management science
8. Life orientation (includes health education, spiritual development and occupational learning

This will apply to *all* pre-tertiary learners, including those in the Adult Basic Education and Training sector (ABET). Note that health education itself appears under Life Orientation.

Each of the above eight LACs are about to finalise their learning area outcomes. These will be used to develop essential outcomes which will be clustered into focus areas (equivalent of the old "subjects") within those areas of learning. New subject curricula (called learning programmes rather than syllabuses) will then be drawn up. This process is due to end in March 1997.

This is relevant to HEATT, because the national Department of Education is committed to a stake-holder-based process of curriculum development which gives HEATT the opportunity to engage in the process and lobby for certain specific outcomes and "subject" content to be included. However, the process is happening quickly and immediate steps need to be taken if HEATT is to have any influence on the curriculum.

6.5.4 Environmental education

Environmental education will be strongly emphasised in the new curriculum and it is an important sector for HEATT. The definition of environmental education includes broad issues of environmental concern which include water and sanitation-related issues. The following extract illustrates this aspect of the environmental education approach:

> **Local Problem-Solving Curriculum Action:**
> This refers to a local, problem-solving participatory approach to environmental education where direct curriculum linkages are made. This involves a team approach were real local environmental issues are focused on. These issues can be social or biophysical and are an important means by which an integration of learning institution and community can be achieved. (Clacherty, 1995)

The local problem-solving approach described here has been recognised internationally as a useful strategy for implementing health education in schools. (Burgers, Boot and Van Wijk-Sijbesma, 1988)

In South Africa the environmental education approach is supported by an organised and successful lobby group with broad on-the-ground and policy level support. Significant decision-makers in health education in the national Department of Education support the environmental education approach as a relevant approach to health education and promotion.

The Environmental Education Curriculum Initiative (EECI) is one of the few civil society lobby groups that has gained representation on new curriculum committees. Issues around water and sanitation will be one of the topics the EECI will lobby to have included in the curriculum. It is suggested that the EECI be brought in as a partner to the HEATT strategy process. This link would be one of the easiest ways for HEATT to gain access to the curriculum revision process.

6.5.5 Teacher education

Pre-service teacher education:
Pre-service education of teachers is an obvious requirement that is normally carried out by colleges and university education departments and by some technikons. HEATT's role could be both to lobby for as relevant a curriculum as possible and to develop support materials and possibly professional development workshops. Work done in this field by the National Council on Higher Education refers.

In-service education and support of teachers:
In-service support for teachers is essential if new materials and approaches are to be developed and used (especially approaches that are different from the conventional didactic approaches widely used until now). The "We Care" materials and workshop process described below are a possible approach that could be used.

HEATT cannot possibly reach every teacher through a workshop approach, beneficial as this might be, but a route through subject advisers (in some cases now referred to as Teaching and Learning Facilitators) may be achievable. Running workshops for subject advisers with teachers would serve the multiple purpose of training at least some teachers

as well as obtaining their feedback and input into the programmes or materials being developed, but it would also provide a means of assisting subject advisers in their professional development.

In service support for teachers in the ECD sector: Training programmes developed for training or re-training teachers for the pre-school, reception phase and foundation phase are developed by the provincial education departments, colleges, NGOs and other training agencies. The focus of training programmes would be on developing appropriate teaching techniques for children aged 4 to 9, and creating curriculum and support materials in line with national guidelines and provincial specifications, but adapted to meet local needs. It is estimated that there are 12 000 (71% of the ECD teaching force - estimated in 1991) untrained personnel providing education and care to young children. HEATT should look at reaching ECD teachers through existing in-service teacher education structures.

6.6 School based health education resources, programmes and agencies

Recent education theory about how children learn emphasises the fact that children bring to the classroom a whole construct of ideas that explain the way the world is. If we are to promote conceptual learning educators need to allow students to make their own ideas explicit, give them opportunities to question new knowledge, allow them to be actively involved in constructing meaning for themselves by talking and thinking about new ideas and then relating these new ideas to the world they know and live in. A student has to make meaning for themselves if real learning is to take place, (Driver, Guesne and Tiberghien, 1985).

A review of existing school-focused health education projects in the NGO and private sector reveals a number of very innovative and exciting programmes that could be useful in a national health education strategy focused on schools. Compared to international school-based water and sanitation-related health education and promotion, South Africa has some very innovative school programmes (Burgers, Boot and Van Wijk-Sijbesma, 1988). These are, however, all small, isolated programmes none of which has been institutionalised as yet.

The following review includes mostly water and hygiene-related materials but some examples on other health topics have been selected as they could be potential models that HEATT could consider using. Some examples from outside South Africa have also been selected for the same reason.

6.6.1 The integrated curriculum approach

Research into how children learn suggests that one of the best ways of learning about health issues is by means of an integrated, cross-curricular approach. In this approach health issues are brought into science, geography, biology and so on. It seems likely that the new primary school curriculum will be biased towards this integrated approach.

6.6.2 Primary school curriculum development, teacher education and materials development - An alternative approach: We Care

The We Care primary materials development project provides a good model for

4 Making a choice for a healthy body

The children learn that the choices they make can affect their health.

Skills

Subject areas health education, music

Some of the more important choices we make every day are choices that affect our health. The way we look after our bodies affects our health, and the choices we make about cleanliness, care of our teeth, hair and skin can protect us from harmful diseases and illness. Making informed and good choices about daily health care is important for a healthy body. Being healthy includes looking after our bodies as part of our daily habit

Activities

1. Make up a beat rhythm for the multilingual piece below. Let the pupils learn the words with the rhythm. (You can let them use musical instruments as well)

I choose clean hands

Soap, seep, isepha
Warm water, warm water, amanzi ashushu
Towel, handdoek, itawuli
Clean hands, skoon hande, izandla ezicocekileyo
Ready to eat, kom ons eet, masitye.

2. Bring soap, a nail brush, towel and basin to school. Demonstrate how to wash hands well. Ask the children to tell you why it is important for their hands to be clean and when they should make the choice to wash them. Draw pictures of the times children should wash their hands: before meals/after going to the toilet/after touching rubbish/after playing in the sand, etc.
3. Divide the class into small groups Make choice cards like these and give one to each group. Each group must discuss the issue and make a choice for a healthy body.

> * **You have been playing in the mud. Make a choice for a healthy body.**

> * **You have toothache. Make a choice for a healthy body.**

> * **You are given ten chocolates. Make a choice for a healthy body.**

> * **Someone asks you to smoke a cigarette. Make a choice for a healthy body.**

4. Give each child a copy of the worksheet on page 8: *My daily health choices*. Let them take it home for one week. They must colour in the squares when they have made a healthy choice.

curriculum development and teacher education for health and sanitation in the ECD phase.

The We Care project is a participatory materials development project involving teachers in the development of classroom materials. The project began with workshops with teachers. At these workshops teachers identified a range of environmental issues such as child abuse, poverty, lack of water, lack of sanitation, road safety, littering, lack of decision-making skills, drug and alcohol abuse.

The next stage was to involve teachers in a curriculum development process. In one such curriculum development exercise teachers identified the lack of decision-making skills of the learners as an issue. Through discussion and further analysis of the issue they developed a unit of study on choices. The teachers used the following questions as a starting point:

- What does it mean to make a choice?
- What kinds of choices do people make every day?
- What kinds of choices do we make for healthy bodies, being kind to others and for taking care of our environment?

The teachers discussed these topics and then developed a range of ideas for activities to teach the topics to children. Activities were then developed and written in draft form, the ideas were trialed and then, together with the professional expertise of an author and publishing staff, they were prepared for publication. (See extract on next page).

The final product consists of a range of trialed and tested activities, additional resource references and some interactive worksheets for classroom use. Importantly, the materials are in line with the idea that we should encourage people to make choices about health behaviour rather that tell them what to do.

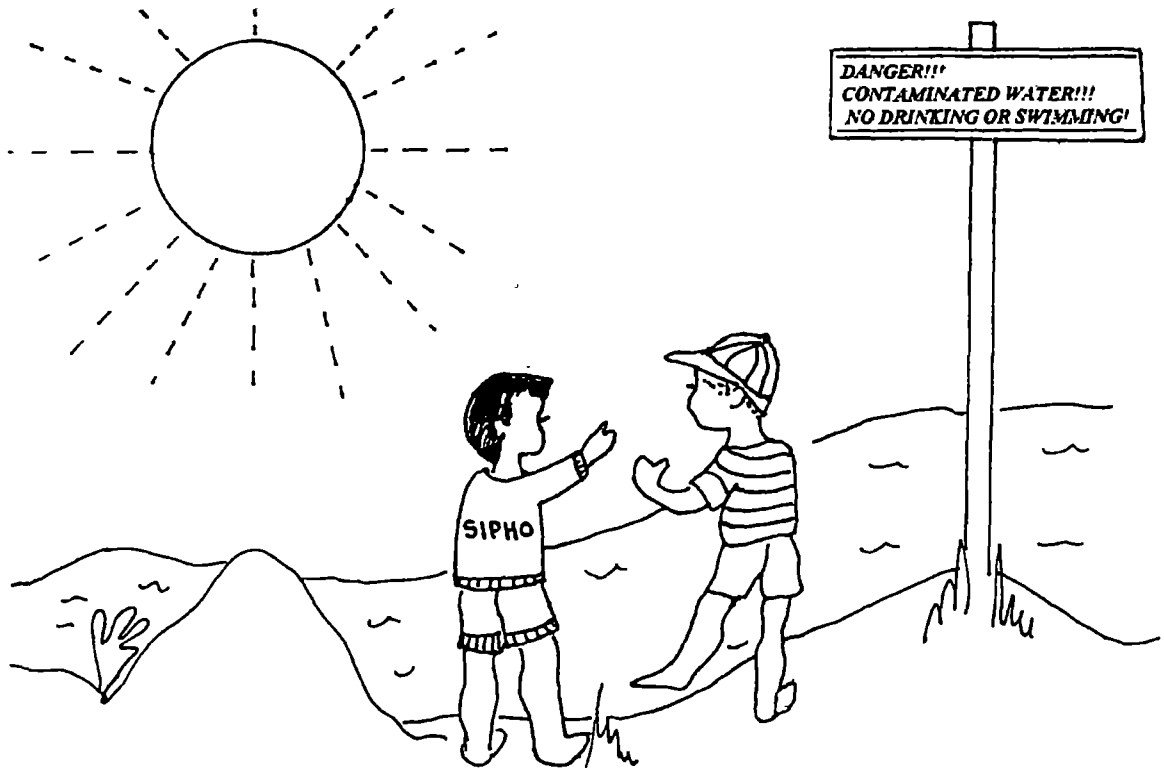
This project offers an example of a model in which teacher development, materials development, the skills for developing materials and curriculum development take place together. The participatory orientation used here allows for the involvement of teachers and communities in identifying issues and developing appropriate learning programmes which address these issues.

6.6.3 The Little Library

The Little Library produces reading materials through a process involving workshopping, trialing and testing across the country with members of various language, cultural and religious groups, teachers, social workers, writers and illustrators In this way they identify the needs of children and their communities and then, through the stories, strive to fulfill those needs in a holistic, entertaining yet sound educational manner. Their main focus is on teaching through the medium of illustrated stories.

The Little Library also runs in-service courses for teachers in the use of materials, the emphasis of which is on language and mathematics across the curriculum. Increasing teachers' capacity and motivation are the core features of this training.
The illustration presented here is an extract from a Little Library book dealing with water

and health, in this case schistosomiasis (bilharzia). It raises the issue of "sign literacy" and where it has been used has stimulated learners to design and display appropriate warning signs for children in their community.



Thobela: **A o ithayo o re re ka thuma fa?**
(Do you think we can swim here?)

Sipho: **Ee. Ke ithaya gore re ka thuma fele. Gonne letshwao lele la re re seka ra nwa metsi ao.**
(I'm sure it's safe to swim! Maybe that sign just says that we shouldn't drink the water).

This example illustrates the power of using educational resources as tools to stimulate engagement and appropriate action-taking around relevant environmental or community issues.

6.6.4 Water quality test kits and the water quality network in South Africa

Based on work done with GREEN (Global Rivers Environmental Education Network), South African educationists have developed a set of low-cost water quality test kits. Role-players in this process are Rand Water, Natal Parks Board, Share-Net, Umgeni Water, Delta Environmental Centre, the University of Stellenbosch, the RADMASTE Centre at Wits University and the Wildlife Society. The most relevant of the various water quality monitoring kits for the purposes of this review is the *E. coli* water test kit. For the purposes of this review the kit produced through Share-Net was used.

The *E. coli* kit is suitable for children older than eight years. The simple apparatus allows the user to grow coliform bacteria and thus see "invisible" bacterial pollution.

The kit is accompanied by a field guide and is intended to provide a tool for local water quality action research. The guide takes the user through a number of local research activities, which include the testing of local drinking sources for the presence of *E. coli*. Ideally the research should result in the students taking action to solve the problems they identify.

The developers of the kit emphasise that the aim of the water testing and other research is not to give a scientifically accurate idea of water quality but that the testing is a tool that raises awareness of water quality and encourages thinking, talking and then action.

The test kits are used extensively throughout South Africa in schools and out of school groups. A network of support individuals and organisations has been established. This network supports teachers and other educators in the use of the test kits and field guides. This initiative has potential for integration into a national HEATT strategy because of its national base and extensive on the ground support. The effectiveness of the kits as part of a health education and promotion programme has not been established, however. There has been very little evaluation done on the kits in this context. This is one area that the HEATT research programme could examine. The *E. coli* kits could also be a potential awareness raising tool for use by EHOs and CHWs. This needs to explored in a pilot project.

6.6.5 Educational comics

The review showed a few innovative comic projects around water and sanitation. The first comic to be described here grew out of the environmental education approach described above. Comic stories can be an important mass media resource if they take into account the context of the reader. They can also be developed to promote interactive learning.

River of Our Dreams
The "River of Our Dreams" tells the story of a group of schoolchildren who attend a rather unorthodox inner-city school in Johannesburg. Their eccentric headmaster organises a field trip to an 'idyllic' stretch of river which he knew as a child. After a chaotic journey the children arrive at the spot only to find that it is severely polluted. The children stay at a nearby school where they find a beautiful unpolluted tributary. A teacher tells them that this river was cleaned by local schoolchildren after an outdoor biology lesson. The children with their new-found friends in the rural village, decide to form an action group to clean up the other river. The story ends with their return to Johannesburg leaving behind a community galvanised into taking environmental action.

With the support of a teacher's pack this comic story was distributed widely throughout the country, mostly by NGOs and in the formal schooling system. The distribution was most successful where the comics were mediated through an educator. Today, five years later, the comic is still being used by teachers throughout South Africa. It has also been used in various textbooks that have found their way into the classroom. The comic and back-up materials have been evaluated (Bahr and Rifkin, 1992).

One of the interesting findings of the evaluation was that the comic prompted environmental action in many areas. The comic was produced by The Storyteller Group.

Extract from the Storyteller Group's "River of our Dreams".

Earthshakers: The Mystery of the Deadly River

This comic is part of a series designed to promote environmental activism amongst youth. The first comic in the Earthshaker series has been widely distributed by the Congress of South African Students as part of their environment programme. The "Mystery of the Deadly River" was produced by The Storyteller Group and commissioned by Umgeni Water External Education Services as a vehicle to promote their sanitation programme.

The story was written specifically to cover a pre-researched set of hygiene messages and to show youth how they can take action to improve sanitation in their area. The messages and process are embedded in an exciting story based on the edutainment idea described in the mass media section of this report. The characters are designed so readers can make a strong emotional connection with them. In this way readers are able to identify with the characters and are more likely to remember the message and make it their own.

The comic story is part of a pack that includes a workbook for use in the classroom and a teachers' guide. The workbook attempts to lead students through an action research project in their own community. The teachers' guide shows teachers how the comic and workbook fit into the curriculum.

The comic is still in preparation and needs to be evaluated in use. After careful evaluation it could be a potential educational resource for use in school sanitation programmes and would fit well into a pre-infrastructure provision phase.

Extract from the Storyteller Group's "The Mystery of the Deadly River".

- **Roxy**

Roxy is an AIDS education photo-comic aimed at teenagers. Developed in conjunction with the Medical Research Council (MRC) and the National Progressive Primary Health Care Network (NPPHCN). The comic was distributed widely in the Western Cape and evaluated by the MRC. The evaluation of Roxy led to a further comic dealing with successful communication skills between teenagers and their parents and partners. Both

comic stories were produced by Balisa Educational Comics, an agency that specialises in educational photo-comics.

6.6.6 School programme based on perception studies

An innovative research project based at the Public Health Programme of the University of the Western Cape has adopted an approach that could be an important part of the HEATT strategy. The project involves investigating children's perceptions of sanitation and water-use practices among primary and secondary school learners in South Africa. Focus group interviews with children are the key method. The results of the research will be used to develop, implement and evaluate a school health promotion programme that is integrated into curricula and extra-curricular programmes.

The children's perceptions of water, sanitation and ill health are determined in order to identify obstacles and opportunities to improve sanitation practices. By taking this approach it is possible to gain insights into the context of children's lives. Often, the information gained from the project is startling and reveals issues that adults in the school community are unaware of:

> And you can't here go to the toilet. They stake your head into the brill and their flushing. Here are a lot of boys from gangs who taxing you every day. If you go to school you have to pay them money. If you don't pay them, they flush you here in the toilet (Std 6 boy).

This illustrates how important it is to understand the context before implementing a health programme in a school. The Gauteng Integrated Schools Sanitation Improvement Programme is planning to adopt this approach in its current pilot study.

6.6.7 Whole school approach

Another innovative approach that needs to be evaluated is the whole school approach followed within the Health Promoting Schools programme of the World Health Organisation's Healthy Cities Project. This programme has been adopted by the Greater Johannesburg Metropolitan Council Environment and Development Unit. The Greater Johannesburg Health Promoting Schools Programme involves the whole school community by establishing a school environmental and health committee and undertaking a school environmental and health audit. This checklist illustrates what aspects of the environment are audited.

- Energy consumption
- "Green" status of the school environment
- Lighting
- Dampness
- Access to toilets, condition of toilets, standard of hygiene maintained
- Sanitation aspects of the general school building and environment availability of cleaning programme, frequency of cleaning)
- Ventilation
- Condition of school grounds and play areas
- Recycling programmes in place
- Access to safe drinking water

- Water consumption patterns
- Solid waste/litter
- Condition of school buildings
- Dust assessment
- Indoor and outdoor air quality
- Noise

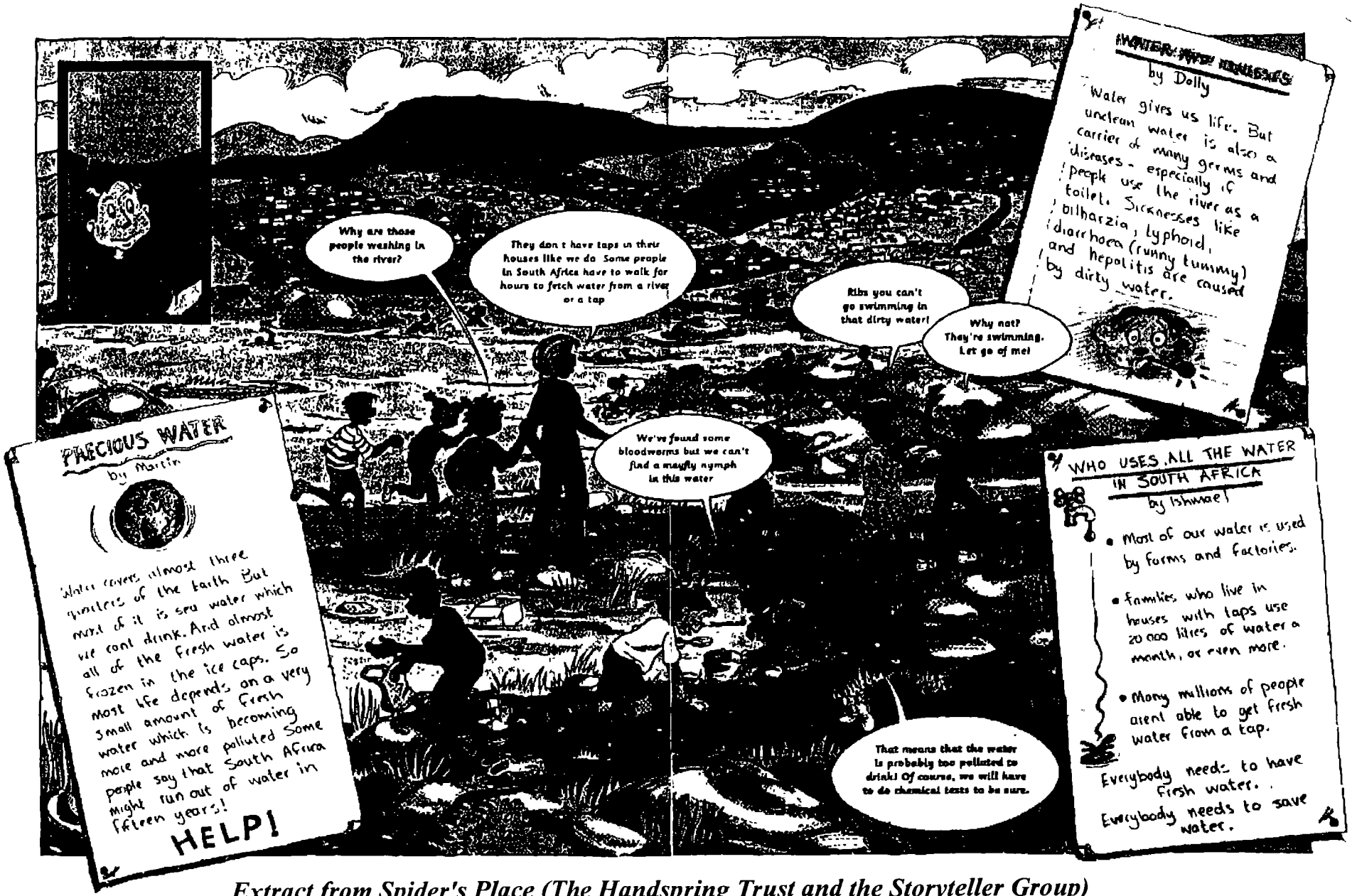
A school environmental and health action plan is then developed. At present pilot projects are running in Johannesburg and HEATT should consider monitoring the success of these projects and promoting this strategy in other schools.

This approach is also being used in a rural context by the Environmental and Development Agency at schools in the Matatiele region. Here the whole school approach has involved working with a whole school as a "community" and viewing the process as one of social transformation. The projects are driven by school committees and have included the connecting of the school to the local water supply, the installation of pit latrines, planting of trees, fencing of the school site, establishing a vegetable garden, capacity building for the Parent Teachers' Association (PTA), the installation of water storage tanks and all this has been linked to the syllabus with health education included. This approach needs to be evaluated as it holds potential for a health education and promotion strategy.

6.6.8 Multi-media packages

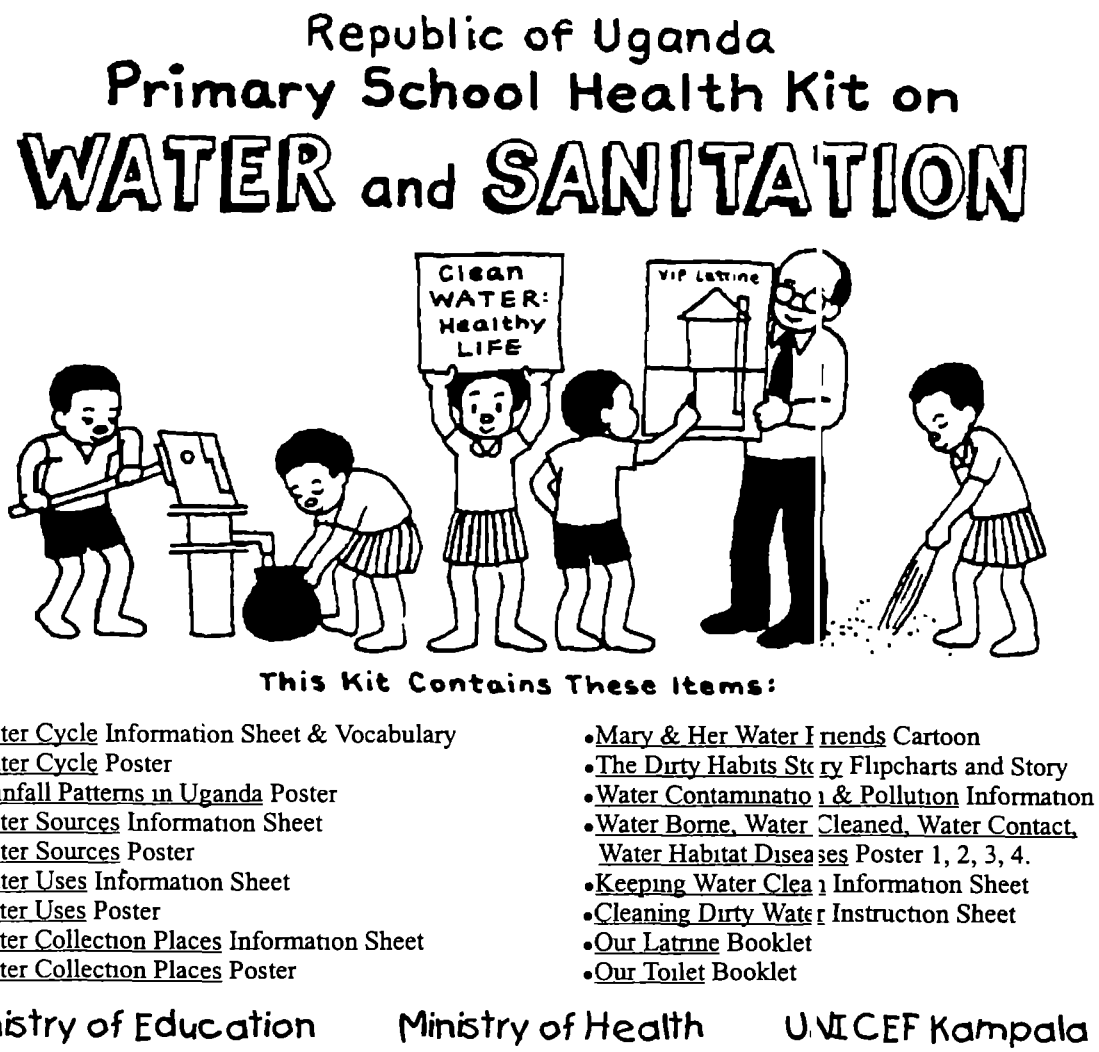
Multi-media packages are used extensively in other parts of the world for health education. There are some examples of multi-media packages for use in schools in South Africa. The Spider's Place Science Education series consists of thirteen videos which have been made for national broadcast. Each video has a corresponding comic book which can be used without the video, and a student workbook illustrated by the comic characters. The workbook contains activities and exercises suitable for the Standard 3 to 5 classroom. The stories show an urban, multi-racial group of children using problem-solving skills and science concepts in their everyday lives, usually to get out of tricky situations. The package speaks directly to children in their own language and in the context of their world both in and outside the classroom. One of the series was developed with the Umgeni Water External Education Service and deals with issues relating to water and health.

Limited evaluation has been done on the package but it has been used successfully in the classroom situation where teachers have been introduced to it through teacher workshops. The series has recently been distributed widely throughout schools in Mpumalanga and the Free State. The impact of this wide distribution should be monitored by HEATT as a package like this could be an effective way of reaching schools. The fact that the video can be broadcast nationally means the series can be linked to a mass media awareness raising programme but the back-up comics and workbooks mean that this mass coverage can be supported by face-to-face education in the classroom, a strategy recommended in Section 8.2 of this report.



Extract from Spider's Place (The Handspring Trust and the Storyteller Group)

This illustration shows a similar package that was developed for health education in Uganda (Faul-Doyle and Doyle, 1996).



6.6.9 Umgeni Water External Education Service

One of the most successful water education initiatives is the Umgeni Water External Education Services. Created as a support for the work of Umgeni Water and the Rural Action Water Supply Plan (RAWSP). The unit has three full-time staff who work with schools, teachers and community groups. One of the approaches used with schools is to run water workshops where they introduce teachers to the water test kits and other resource materials produced by the unit. These resource materials range from booklets, pamphlets, manuals, videos, computer games, environmental games, water test kits and posters. The unit has a mail order service that sells materials at cost. The mail order service offers the most comprehensive collection of school-based water education resources in South Africa. Many of these resources could be used in a national health education and awareness strategy.

The model of a small education unit that can service the education needs of infrastructure projects is a useful one for HEATT to examine. No formal evaluation of the unit has been undertaken. An evaluation of the effectiveness of the project would need to precede the adoption of this model in other areas.

6.6.10 Drama

The Drama in Education approach has been widely successful and extensively evaluated in South Africa in the field of AIDS education in schools (Dramaide, 1995). This approach is described elsewhere (see Section 8.1.3). It is suggested that HEATT should explore the possibility of drama-in-education programmes around water and sanitation. A drama-in-education programme is presently underway at an Umgeni Water project at Mpolweni (see Section 6.6.13) and this should be monitored closely.

6.6.11 Child-to-Child

Child-to-Child is an approach to health education and Primary Health Care (PHC) spread by a worldwide network of health and education workers in over sixty countries.

PHC seeks to involve communities in making decisions and taking action to improve their own health. The Child-to-Child approach involves children in this task in three ways:

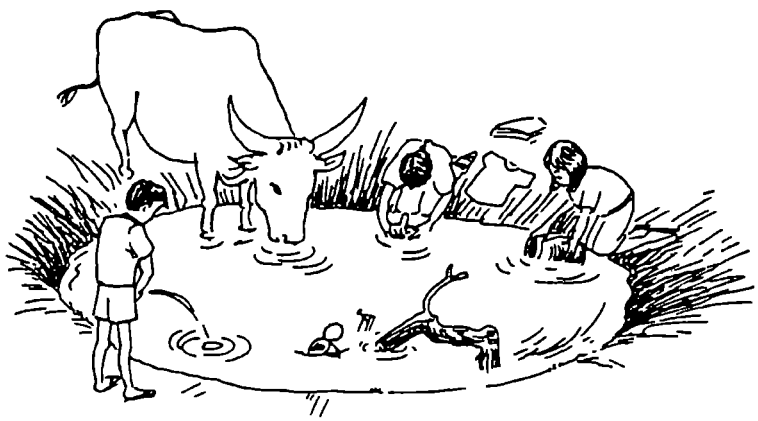
- through helping to care for their younger brothers and sisters and other young children in their family group, and working with parents to improve the health of the whole family;
- through assisting children in their own age group including those who have not gone to school;

Child-to-Child

Activity Sheet 3.4

Child-to-Child Activity Sheets are a resource for teachers, and health and community workers. They are designed to help children understand how to improve health in other children, their families, and their communities. Topics chosen are important for community health and suit the age, interests and experience of children. The text, ideas and activities may be freely adapted to suit local conditions.

CLEAN, SAFE WATER



THE IDEA

Every living thing needs water to live, but dirty water can make us ill. We must be careful to keep water clean and safe: where it is found when we carry it home; and when we store it and use it.

Water is Our Friend

Water is our best friend. Without it animals and humans become weak and die. In many countries where there is not enough rain, there is not enough water and people suffer. Water is always precious We must use it carefully and keep it clean.

Dirty Water Can Be an Enemy

Even when there is enough water, if it is not clean and safe, it can be our worst enemy. Babies and young children especially need clean drinking water because dirty water which has germs in it makes them ill. Some of the illnesses caused by dirty water are diarrhoea, dysentery, cholera, typhoid, jaundice, worms and, in some countries, bilharzia

Germs and dirt which cause disease can get into the water

- at the source;
- when we collect it and carry it home;
- when we store it and use it at home.

Sometimes water looks clean but it is not good to drink because it has germs in it.

Keeping Water Clean and Safe

We get water from many sources Water comes from springs, rivers ponds and wells. It is collected from these places as well as from rain or taps There are many things that we can do to keep water clean and safe where we find it It is also important to keep it clean when we carry it home, and when we store it Here are some ways of keeping water clean.

Storing Water

Use a clean cloth (keep it well-washed and dried) and place it over the empty storage container. Tie it in place if necessary. Pour water carried from the well or stream through the cloth to remove dirt, dust and insects. If the water is allowed to stand for a while, many impurities will sink to the bottom Strong sunlight will also destroy many germs in water stored in a transparent container.

Drinking Water

If the water has been kept clean, it is problably safe for drinking. If you know that the water has been made safe by chemicals, you can certainly drink it safely.

IF THERE ARE GERMS IN THE WATER, THE WATER IS NOT SAFE!

- through working together to spread health ideas and improve health practices in school, home and community.

The Child-to Child approach consists of activity sheets written for children that can be used in the classroom or in outside school groups (see following page). The activity sheets focus on the local situation and taking action. The activity sheets suit the age, interests and experience of children and they can be easily adapted to local situations. The approach has been well evaluated and is institutionalised in some African countries. The approach to health and hygiene issues around water and sanitation is progressive and educationally sound. Introducing this approach into South African schools would be one way of ensuring that hygiene issues are dealt with at school level and disseminated beyond the school into the community through the child.

The London-based organisation held a workshop to look at introducing the approach into South Africa in 1995 and some local programmes are already running, for example, Valley Trust, University of the North West, Child-to-Child in Cape Town). The programme would be most effective if it was institutionalised and used on a widespread basis in schools. It is suggested that HEATT should find ways to support the institutionalising of this programme in schools.

6.6.12 Action Magazine

"Our magazine is called Action because each of us can do something to make our lives better."

Initiated in 1987 by an NGO in Harare, Zimbabwe, Action is a magazine designed to engage children's interest in environmental and health issues and to motivate them to take action. It makes use of illustrations, comic stories, puzzles, games, competitions to encourage dialogue and participation amongst the children. Some of the children's own letters, pictures, jokes and stories are also published.

The magazine is not just for entertainment but for teachers to use as a tool for teaching in the classroom, with activities described in supplementary Teachers Pages.

Each issue (16 pages, A4) focuses on one topic. Of relevance to HEATT are the issues "Water" and "Staying Healthy". The latter covered the spread of diseases and home and personal hygiene.

Originally distributed to schools in Zimbabwe, Zambia and Botswana, Action has recently been made available in Lesotho, Swaziland and Namibia.

An evaluation of the project (Russell and Murray, 1993) provides some useful insights for others seeking to initiate similar projects in terms of production methods, distribution, children's perceptions of the various elements of the magazine such as comic, pictorial conventions, etc.

The evaluation was not designed to determine the extent to which the magazine influenced behavioural change. However, it was shown that the children could retrieve the health education message from the text on their own, although they had more difficulty with the

technical elements - which required further work within the classroom. There was also an indication of the potential for the magazine to influence the wider community - through children talking about it a home (some children confirmed that they talked about it to friends and family) or through the magazine's use in health centres and clinics. This area was identified as needing further research.

6.6.13 Mpolweni Mission's community-based health education programme

The following description of a health education programme linked to Umgeni Water is included as an example of how a comprehensive community health education programme can start from a school. It is also an important example of how health education and promotion can precede infrastructure provision and create demand for sanitation.

How the programme started:
Mpolweni is a densely populated rural area in KwaZulu-Natal. Cattle farming being the main land use. The population is approximately 6000. There are three schools in the area with a total of 1000 children.

The people get their water from the river and two springs. There are two boreholes but they are out of order due to vandalism. There is a rudimentary water treatment works and reticulation system but it is not in use because users could not pay for the services.

It was the teachers in the schools who first alerted the Department of Health to the bilharzia problem amongst the schoolchildren in late 1995. The University of Natal, Pietermaritzburg and Umgeni Water were subsequently involved in implementing an education programme around bilharzia and later around water and sanitation. What began as an education programme became a bilharzia control programme based on WHO guidelines and a water quality and general community health programme. The programme involved the whole river catchment area.

The initial meeting to address the problem involved the main role-players, including environmental health officers and local leaders. It was decided to develop a programme that included an assessment of the extent of the problem, taking appropriate control measures and an education programme to ensure the long-term effectiveness of the control programme.

It was decided to base the programme initially within the schools as this was where the problem was recognized and where a good infrastructure already existed.

Initial assessment of the problem:
Information on bilharzia and other water-related diseases was collected through questionnaires, obtaining data from mobile clinics (mainly about gastro-intestinal cases in children below six years of age) and taking random urine samples from schoolchildren (to test for bilharzia). A snail survey was also carried out to identify active transmission sites. The urine testing revealed a prevalence of bilharzia infection of 44%.

A survey of the whole catchment area also identified the problem of water pollution from faecal contamination both from farm animals and people.

During the course of this survey information on traditional beliefs and causes of diarrhoea was also gathered. Some misconceptions were also identified and explained. For example "I don't swim in the river so I can't get bilharzia."

The complexity of the re-infection route was also shown. For example, although some people did say they washed their hands after using the toilet, further investigations showed that they did not use soap, or used a bowl of contaminated river water. Inappropriate hygiene practices were also identified, for example disposing of washing-up water in pit latrines.

The control programme:
The bilharzia control programme includes providing medication for the infected children and a snail poisoning programme (to be planned so that it avoids harming cattle and fish).

The educational programme:
As part of the community education programme a survey of 180 households was conducted. A questionnaire was used not only to gather information about the incidence of disease, but also to inform people about causes of the diseases and preventive measures.

School educational activities were undertaken during one week in three schools. The information given included general water-related health issues and bilharzia. The activities included:

- a talk given by a representative from the health department
- involving the children in designing posters
- worksheets for the children
- video shows
- use of the water test kit to show contamination of water by *E. coli*.

An interesting indication of how the school programme has impacted on the community is the comment made by mothers who reported that children had taken the information home (see Section 6.2.3).

Future plans:

- Various events are being planned to involve people from the wider community. These include a play, choir concert and perhaps a competition. Inviting a local radio personality to such an event is seen to be a good way of bringing in the crowds.

- Forums will be developed specifically for mothers.

- A pilot project based on about 30 households, linked to a portable water treatment facility is being developed.

Learning points
The educators and researchers at Mpolweni report some important lessons that they have learned that are given here as they are relevant to the development of similar programmes.

- An important part of the initial assessment work is to identify people's existing hygiene behaviour and beliefs about disease transmission. However, personal hygiene is a sensitive issue and people may not reply truthfully to blunt questions. For example, one of the Umgeni Water educationalists said:

  > When I asked children if they washed their hands after going to the toilet, they would invariably say "Yes" but I'm not sure if I believe them! The challenge is to find other ways of assessing health practices. People were also sensitive about giving urine samples and wanted to make sure no-one saw their samples.

- On-going follow up work is needed to find out how effective the bilharzia education programme really is. Although the parents said that the children were remembering the information and telling them about it at home this was not proof that they would act on it. There are therefore plans to undertake a contact study, which would involve direct observations of whether or not the children continued to play in the river.

- The absence of educational materials need not be a hinderance. In this project the posters developed by the children not only gave a good insight into how the children perceived the health problems but are also good display materials for use in the primary schools.

- It is important to develop the programme approaches with community representatives, to ensure their support. A committee is therefore being set up to plan future activities.

- Education related to water or sanitation issues was not perceived to be an important issue within the community. Their priorities were water supplies, roads and crèches. Interestingly, roads were seen to be more important than better sanitation facilities. The reason for this was that in the rainy season the roads flooded and people could not travel to and from work. There was also some distrust of new programmes. This was related to past experiences of outsiders not delivering what they promised and individuals from within the community exploiting situations for their own gain.

- The *E. coli* test kit was found to be useful in showing people that water contains germs that make you sick. Educators usually followed the use of the kit with information on how to purify water. They reported that people were usually unwilling to take these steps to purify their drinking water for the following reasons: some did not like the taste after boiling, others could not afford the extra fuel for boiling, or the Jik, others wanted to use the water immediately and did not want to wait to purify it. These insights are significant when seen in the light of the emphasis placed on purifying and improving the quality of water in most of the education initiatives reported on in this review.

6.6.14 Gauteng's Integrated Schools Sanitation Improvement Programme

This programme aims to provide improved sanitation facilities, to 2000 schools in Gauteng and to run a concurrent health education initiative. Three provincial government departments have been involved in developing the programme - the Department of Public

Works, Department of Education and the Department of Health (notably the Directorate of Environmental Health). The Health Department has 320 Health Advisers, 55 of which have recently specialised as Environmental Health Advisers (EHAs) and will be focusing on the sanitation programme in schools.

The educational component consists of the development of appropriate educational materials which will be piloted in 35 schools before the final materials are produced. It is intended that the materials be designed both to inform decision makers in schools as well as for classroom use. The educational materials for schools will include: basic sanitation information; educational activities for different school levels; and wall charts.

Information packs for EHAs, EHOs and Development Officers (DOs) to use when they visit schools will also be developed. As well as giving the same basic sanitation information, these packs will also include:

- why sanitation is important and the need for an integrated sanitation improvement programme
- the education component of the sanitation improvement programme
- what EHAs, EHOs and DOs can do to help (for example help organise local level activities such as plays)
- details of the budget available for the education programme for each district subcommittee.

Noting that this is one of the few intersectoral initiatives in the water and sanitation field in South Africa and that the infrastructure component is matched by an education component, it is suggested that HEATT follows the development of this interesting programme. It is also suggested that this could become a useful pilot project during the later phases of the HEATT programme.

6.7 Coordinating initiatives in schools

The need for any health education programme introduced into the schools by the water and sanitation sector to be coordinated with other health programmes was emphasised by a number of interviewees.

The Health Promoting Schools Programme which is under the Directorate of Health Promotion and Communication is seen by the Department of Health as a way of coordinating programmes in schools. HEATT would find it valuable to work through this structure, therefore, when developing a school based health education strategy.

The Department of Water Affairs and Forestry also runs two programmes that target schools that could include or co-operate with a hygiene education programme, namely, the National Water Conservation Campaign and the Groundwater Education and Awareness Programme.

6.8 RECOMMENDATIONS

1. Inter-sectoral collaboration (i): School (i.e. institutional) sanitation programmes should be managed by inter-sectoral committees or forums (the Gauteng's Integrated Schools Sanitation Improvement Programme inter-sectoral committee is a case in point) at all appropriate levels.

2. Inter-sectoral collaboration (ii): Any district, regional, provincial or national school-based health and hygiene education and promotion programme relating to water and sanitation should be managed by an inter-sectoral committee.

3. It is recommended that schools should form the major focus within formal education because they provide a large group of young people that gathers in central points on a daily basis, and because children are part of their community and can act as informal educators.

4. Teacher education and in-service support is an important supporting requirement of the schools focus. It is recommended that a working group be established to investigate setting up a suitable teacher support programme, both in- and pre-service, including support for college educators and subject advisers, through state and NGO structures.

5. HEATT should initiate or support an in-service teacher support process to promote progressive methodologies and activities for health and hygiene education and promotion within a school context. This could include the development of materials that put into circulation, within a supportive process, a repertoire of ideas for such teaching and learning and should include working through and with state and NGO structures.

6. HEATT should make contact with the provincial reception year pilot programmes in the ECD sector to explore collaboration to mutual benefit.

7. The Child-to-Child programme is believed to be one of the best of its kind that HEATT would be advised to make contact with and promote. Contacts have been made during the survey that would be useful in this regard. It is recommended that the Child-to-Child programme should be implemented in every province. Achieving this would be a very effective way of achieving HEATT's objectives in this sector.

8. Support for home-based care-givers through appropriate programmes and links with representative structures should be considered. Links with maternal health and parenting skills programmes are also recommended.

9. Didactic or information-driven school text books should no longer be acceptable, especially in a field such as health education and promotion. HEATT should develop specific strategies to promote a new approach to text books, perhaps though the publishers' associations.

10. The possibility of establishing credit bearing/accredited ABET courses should be investigated.

11. Curriculum policy lobbying and development needs to be addressed as a matter of some urgency. The Environmental Education Curriculum Initiative (EECI) is recommended as a suitable partner organisation in this process.

12. School sanitation programmes should have specific education and awareness programmes integrated with them. These should follow the principles of a community-based, participatory approach (including involvement of pupils) as much as any other infrastructural programme should. The Gauteng Integrated Schools Sanitation Improvement Programme could be a useful learning opportunity and a possible pilot project.

13. The Health Promoting Schools Programme adopted by the Directorate of Health Promotion with links to the national Department of Education is an important initiative for HEATT to link with.

7 INFRASTRUCTURE SECTOR REVIEW

Summary

With 12 to 16 million people in South Africa without access to potable water and 21 million without adequate sanitation, the providers of water and sanitation face an enormous task. The provision of water and sanitation in rastructure services is a complex process involving many sectors: government departments, engineers, water authorities, private developers, NGOs and local community groups. One of the challenges for HEATT is to promote an awareness of the benefits of integrating health education and promotion with infrastructural provision amongst these diverse players.

International experience shows that provision of infrastructure alone does not necessarily lead to improved health. It is increasingly being recognised that appropriate health education and promotion are required to bring about those changes in behaviour that will protect people from preventable diseases.

From the information gathered during this review it is possible to get an indication of the level of awareness amongst infrastructure providers about the importance of health education and promotion and their capacity to integrate it into infrastructure projects. In general it is clear that there is little health education and promotion taking place in association with infrastructure projects. Where it does occur it is either a limited "bolt-on" programme, or restricted to the more technical aspects of community capacity building, or is one of the isolated examples of innovative practice that this review encountered. Such innovative practice is usually located within the NGO sector.

The water and sanitation sector generally is fragmented and health education and promotion is usually not perceived to be the direct responsibility of infrastructure providers. Usually it is the Department of Health that is thought to be responsible for educational work related to water and sanitation infrastructure projects, but they are usually not called in and so have often not become involved. This problem requires a major focus on inter-sectoral collaboration and guidelines to ensure the appropriate role-players are involved in health education and promotion.

Where education and promotion is taking place in association with infrastructure provision projects educational methods vary, but generally a transmission approach dominates, with some notable exceptions, mainly in the NGO sector. These organisations represent capacity for HEATT to learn from, to lead a re-orientation of the training function and to provide actual training capacity.

An important theme to emerge from the review is the tension between the long-term development-oriented process that should ideally characterise all water and sanitation infrastructure projects and associated educational work, and the short term pressure for delivery. It appears that a creative resolution of this tension is possible, perhaps through the programmatic framework (as opposed to a project approach) presented in DWAF's "National Training and Capacity Building Project" where a new approach to the training component of the project is presented. In addition to this, an inter-sectoral integrating mechanism is required and, where possible, linkages with existing capacity such as that represented in the emerging district-based PHC systems in some provinces, notably Mpumalanga.

7.1 Introduction

In support of the drive for basic services an increasing amount of evidence has accumulated over the last three decades that emphasises the importance of access to safe water as a means of improving health (Bradley, 1974; Feachem *et al*, 1978, Feachem, 1983). This is, however, not the whole picture.

A number of our key interviewees mentioned that increased access to water might *reduce* health conditions in cases such as the introduction of a community stand-pipe that might cause bacterial contamination of standing water from a number of human uses of water from the stand-pipe. It is thus increasingly being recognised that changes in health practices are required to reduce transmission routes of water and sanitation-related diseases (Blum and Feachem, 1983). Research on the *health impacts* of water supply and water-related diseases shows that provision of infrastructure does not necessarily lead to improved health, beyond addressing the immediate burdens of having to fetch water over long distances (Agarwal, Kimondo, Moreno, and Tinker, 1985; Esrey, Feachem and Hughes, 1985; WHO, 1985).

Furthermore, there are many examples, in South Africa and elsewhere, of water and sanitation projects that have succeeded in terms of getting the technical side of the work done, but have failed in the sense that the facilities have not been used and maintained properly and people's health has not improved.

This is summed up in the following quote taken from a review of the health aspects of Zimbabwe's rural water supply and sanitation sector:

> Internationally there has been a shift in emphasis away from the technical issues concerned with the provision of facilities (clean water and latrines) towards an approach which stresses the need for improved personal and domestic hygiene. This reflects study findings which suggest that hygiene interventions may have a greater impact than water and

sanitation interventions *per se*, although it is clear that without water and sanitation, personal hygiene is unlikely to be achieved.

We feel that this shift in emphasis is a double-edged sword. Water quality and sanitation inputs alone have relatively little impact on diarrhoea and other diseases, as has been demonstrated in several, albeit flawed, Zimbabwean studies, and studies elsewhere have shown a greater median benefit of improved hygienic practices on diarrhoea. On the other hand, placing the main thrust of diarrhoeal disease prevention on to hygiene may individualise the problem, blaming the victim: "your family gets a lot of diarrhoea because you are dirty". Such an approach may be used to legitimise reductions in expenditure on provision of facilities ...

We maintain that provision of adequate facilities, their appropriate usage and improved hygiene are together needed to have a significant impact on diarrhoea and other water-related diseases. While water remains scarce, education for the optimal use of what is available will have a significant impact on water-related disease, especially diarrhoea (Bassett, Sanders, Todd and Laver, 1992, pp 59-60).

Thus, the point is made that health education and promotion are essential:

- if facilities are to be used (Chauhan, 1983).
- if facilities are to be maintained (McGarry and Elmendorf, 1982)
- if safe water is to be used in sufficient quantities (Hubley, 1986)
- if clean water is to avoid recontamination during collection and storage (Green, 1982)
- if waste water and human waste is to be disposed of safely (Esrey and Habicht, 1986).
- if a project is operating at a basic level of service provision (Sigwaza *et al*, 1994).

It is important to note that health education and promotion are relevant not only to sanitation programmes but also to water supply projects. Particularly important is the need to educate people about using water for health. It is clear that the *quantity* of water is as important as the *quality* of water for promoting health (Bassett, Sanders, Todd and Laver, 1992), with even greater importance at lower levels of service provision.

This section goes on to identify the key role players in the provision of water and sanitation infrastructure and then looks at what health education and promotion is taking place. It examines why health education and promotion is not taking place in many cases and then describes a number of health education programmes that range from the "bolt-on" approach to health education and promotion within a broader development framework.

7.2 The scale of the problem

Before we proceed with the review, it is important to keep the scale of the problem in mind. Regarding infrastructure, the following figures reveal the enormous challenges that face us:

> There are an estimated 12 to 16 million people who do not have access to basic water supply services in the country and an estimated 21 million people who do not have safe sanitation. This represents somewhere between 12000 and 15000 communities. To seek to

address this problem over a five to seven year period is a national undertaking of vast proportions. (Abrams, 1994).

To find ways of integrating effective health education into a programme of this scale will be difficult.

7.3 Key role players in the provision of water and sanitation services

The provision of water and sanitation infrastructure services is a complex process involving many sectors: government departments, engineers, water authorities, private developers, NGOs and local community groups. During the review it also became clear that direct answers about who the key role players are and how they linked with each other were not easily available. This is partly the result of the period of transformation that we are in and the current lack of clarity generally about institutional structures and functions. Given these difficulties, the following description of the various institutions involved in the provision of water and sanitation infrastructure is a summary and may be subject to change or be incomplete.

The structures involved in water and sanitation provision are identified in the organogram shown in Figure 5. The funding routes are also illustrated because they are a useful way of representing the relationships between the various structures.

7.3.1 Government structures

National government
National government is responsible for allocating national funds, setting minimum standards and levels of service, preparing guidelines, and monitoring and evaluation.

What follows is a list and brief description of those departments and programmes that impact on water and sanitation provision. The RDP is placed first as the majority of funding for water and sanitation projects derives in the first instance from the RDP and the RDP principles and guidelines have had a strong influence on the way such projects are established and implemented.

- **The RDP:** The RDP itself is not represented on the organogram as it is now located within various government departments. The majority of national government funding reflected in the organogram is thus RDP funding channelled through those departments.

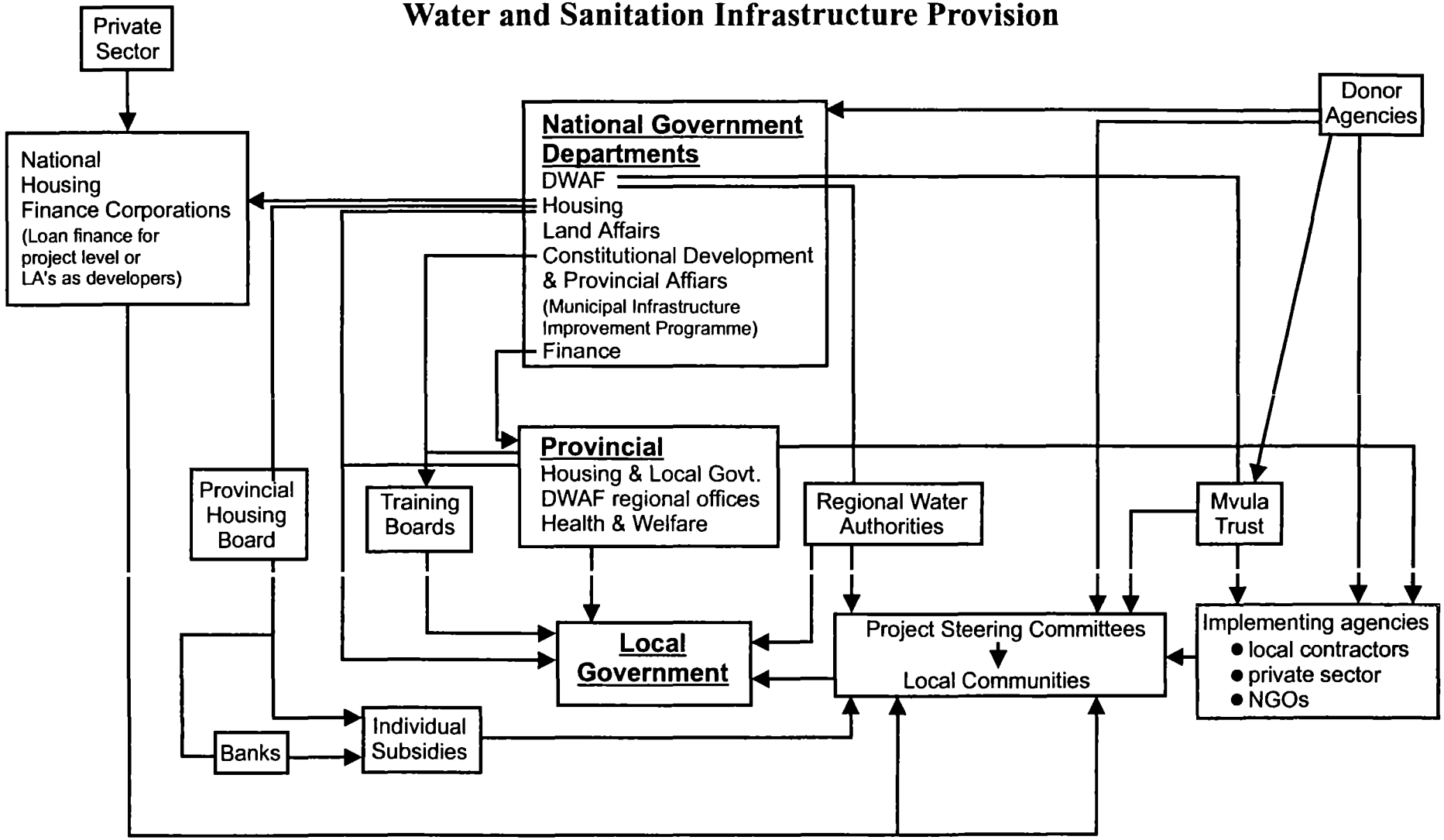
  The provision of adequate water and sanitation facilities was identified as a basic need in the RDP (ANC, 1994). A fundamental principle of the ANC's water resources policy is the right of access to clean water, "water security for all".

  The RDP's short-term aim for water and sanitation is:

  > ... to provide every person with adequate facilities for health. [This will be achieved] through a national water and sanitation programme which aims to provide all households with a clean, safe water supply of 20-30 litres per capita per day within 200 metres, an adequate/safe sanitation facility per site, and a refuse removal system to all urban households (ANC, 1994).

Figure 5

Structures and Funding Routes for Water and Sanitation Infrastructure Provision



In the medium term, the RDP aim is:

> ... to provide an on-site supply of 60 litres per capita per day of clean water, improved on-site sanitation, and an appropriate household refuse collection system. Water supply to nearly 100% of rural households should be achieved over the medium term and adequate sanitation facilities should be provided to at least 75% of rural households. Community/household preferences and environmental sustainability will be taken into account (ANC, 1994).

The long-term goal is to provide every South African with accessible water and sanitation.

In order to meet one of the six basic principles of the RDP, namely that development should be a people-driven process, guidelines for water and sanitation-related infrastructure projects include requirements such as working through or with community structures and the implementation of a capacity building process to enable those structures to be actively and effectively involved in the development process. In the organogram (Figure 5) a typical community structure is the Project Steering Committee (PSC).

- **Department of Water Affairs and Forestry:** Works at national and provincial level in water supply and water resource management programmes, community-based water supply and sanitation programmes being implemented as RDP projects.

- **Department of Housing:** The national housing programme in urban areas provides subsidy for internal and on-site sanitation infrastructure to serve households.

- **Department of Land Affairs:** Their land reform programme includes settlement grants to provide domestic infrastructure.

- **Department of Public Works:** The national public works programme aims to create employment, entrepreneurial opportunities and capacity building while providing infrastructure assets.

- **Department of Constitutional Development and Provincial Affairs:** Manages the Municipal Infrastructure (MIP) programme which finances infrastructure in areas where local government needs extra financial support, mostly in urban areas.

The MIP's goal is to ensure that all households have access to at least a basic level of service within ten years. It is proposed that this will be achieved through national government grants to municipalities for infrastructure projects. The Municipal Infrastructure Investment Framework (MIIF) provides the financial framework for how the funding is to be invested, linking grant, loan and concessionary finance in a manner that builds partnerships between the public and private sector for infrastructure provision. For new development, municipalities can anticipate up to R3000 per low income household that is to be serviced. MIP funds may only be used for internal bulk and connector infrastructure and for rehabilitation of collapsed services. This means that, in respect to water and sanitation infrastructure, the MIP will not fund on-site sanitation systems but it

will fund water supplies and drainage systems for a basic service level for low income households. (Department of Const. Development and Prov. Affairs, 1996).

Provincial government
Responsible for the establishment and effective functioning of local government, including mobilisation and coordination of regional training capacity and promotion of integrated development.

Local government
Responsible for provision and maintenance of services, maintenance of public health (including health education). Local authorities contract out much of the infrastructure work to private developers/contractors. Local government structures, and funding systems, are still being developed and support is still being provided by national government schemes and development NGOs.

In the organogram (Figure 5) it can be seen that at present much of the funding (and hence the operational responsibility, experience and potential for capacity building that comes with it) bypasses the local government level. This makes sense from a short-term delivery perspective, but it is a concern in the longer term for those who see local government as a critical and increasingly important structure for development.

7.3.2 Local communities

Through government's training and capacity building programmes it is envisaged that local communities will gradually take more responsibility for the construction, operation and maintenance of water and sanitation facilities.

7.3.3 Regional Water Authorities

Regional water authorities provide bulk water to local authorities In rural areas, due to the history of neglect, most large regional water authorities are a so involved with rural water supply and sanitation projects, usually using a community-based development approach. Umgeni Water has a programme called Rural Areas Water and Sanitation Plan (RAWSP) and Rand Water has the Community-Based Projects Department.

7.3.4 Non-governmental organisations and private sector developers

Most of the government water supply and sanitation projects are implemented by NGOs and private sector companies, working together with local community structures in terms of the RDP guidelines. In some cases private consultancies and NGOs play a project management/coordination role and supply technical support and advice. In other cases, private engineering firms or suppliers may be contracted to carry out a particular aspect of the work and then retire from the project.

The Mvula Trust
The Mvula Trust was established in 1993 with the mission of bringing safe water and improved sanitation to the poorer and more remote areas of South Africa. Mvula funds community water and sanitation projects across the country through a variety of implementing agents.

7.4 Is health education and promotion featured in infrastructure-related project guidelines?

"The Sanitation Directorate is getting rather desperate as even though we have a policy of including hygiene education on our water projects, we cannot find one project where this is actually being done..." (DWAF memo to RDP Coordinators, August 1996).

The previous section is a brief review of institutions or organisations that are involved in water and sanitation infrastructure projects. A critical question is whether they actually carry out any health education and promotion, which in most cases equates to whether there are guidelines that require such interventions.

7.4.1 Department of Water Affairs and Forestry guidelines for training on community water supply projects (Draft April 1996)

DWAF's guidelines for training on community water supply projects (DWAF, 1996b) are an attempt to integrate training and capacity building more with the construction elements of projects. Although the guidelines do not give much detail about *how* health education and promotion may be carried out, the need for its inclusion in projects is mentioned and there are some important statements in this regard. Some key principles in this regard in the guidelines are "integration - improvement of water services combined with good hygiene practices promotes health"; and in the section on community awareness: "health awareness training should be given to as wide a range of community members as possible, especially women". The importance of pre-project training is acknowledged as is the use of participatory methodology.

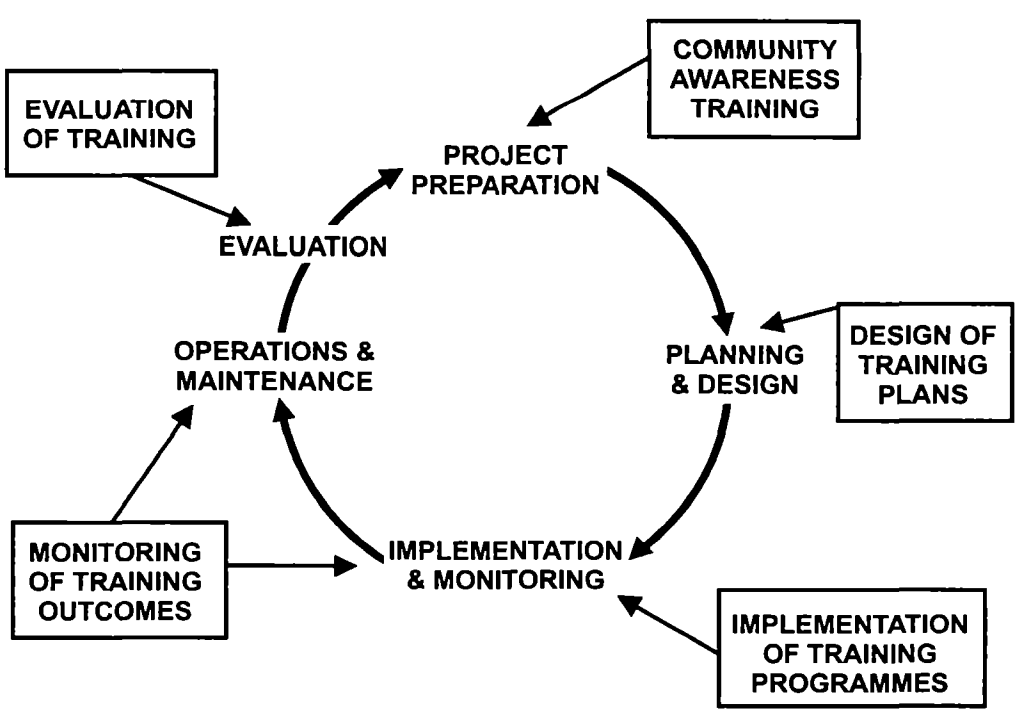


Figure 6: The Standard Project Cycle

Figure 6 shows the project cycle that is followed to a greater or lesser extent by most infrastructure projects and where project-related community education and training should take place. Clearly, there are many opportunities within the project cycle for health education and promotion, but the requirement that health education and promotion should take place needs to become more formalised in the guidelines and support needs to be given to assist project staff to carry out these responsibilities more effectively and with sustainability as a core principle.

7.4.2 The National Sanitation White Paper of June 1996

This important document is referred to in Section 1. It is sufficient to note here that the White Paper makes the inclusion of health education and promotion a clear requirement in the water and sanitation sector. The DWAF guidelines begin to give form to this requirement in the training context. However, the review showed that there was a remarkable lack of awareness of these health education and promotion requirements (admittedly, they are very recently released) and a lack of knowledge and expertise in implementing them.

Moreover, the DWAF guidelines focus on the inclusion of health education and promotion in infrastructure projects rather than seeking broader levels of integration or intersectoral collaboration that would promote a development view of a health promotion approach. These are all issues that require attention by HEATT.

7.4.3 The Mvula Trust guidelines for health education and promotion

In the past, Mvula concentrated on the provision of water supplies and the health education component of these was limited. It is now undertaking more sanitation projects and The Trust's pilot sanitation programme has done much to increase South Africa's previously rather limited experience and expertise in effective rural sanitation systems. Health education is seen to be more relevant to the work of sanitation provision.

The Mvula Trust policy document (Mvula Trust, 1995) for water and sanitation projects specifies the need for health education in community-level training and the need to link in with existing primary health care services. The inclusion of a health education component in proposals for water and sanitation projects is essential for their approval. For school-based projects, it also recommends the inclusion of a health education component into the school curriculum.

The Trust's "Guidelines for Implementing Agents and Training Agents" (Mvula Trust, 1996) also includes the need for health education in both water and sanitation projects. For example, for water supply projects it stipulates:

> Health awareness and hygiene training should be given to as many people in the community as possible, especially the women. There should be cooperation with the local health services and the schools, and at the very least a committee should be set up.

The guidelines give more attention to health education in the section on sanitation projects where it stipulates:

> All sanitation projects must include a concerted sanitation promotion campaign, launched

during the construction of the demonstration toilets, and a health and hygiene education programme. The latter should be sustained throughout the project. Follow-up home visits must also take place after project completion.

The guidelines briefly refer to the educational methodologies to be used and recommend "participatory techniques such as drama".

These guidelines are a step towards intersectoral collaboration and a longer-term view. Two case studies (Tsogang Water and Sanitation and Rand Water's Community Based Projects Department) described later (see Sections 7.7.9 and 7.7.10) reflect this approach and suggest a way forward in resolving the short-term/long-term tension referred to earlier.

Some additional examples of Mvula Trust projects that have included health education are given in this report and such pilot sanitation projects have used a number of different approaches to health education. However, in the report of the second Mvula Trust Sanitation Workshop (Murphy and Still, 1995), concern was expressed about the lack of evidence to show the effectiveness of pilot projects on hygiene behaviour and the lack of attention given to hygiene education in some of the projects. An investigation into the reasons for this may help to address this issue in the future. For example, project implementers may require more support in terms of guidelines as to *how* to undertake an effective education programme as well as with extra funding for the process.

7.4.4 The Municipal Infrastructure Programme's guidelines

Information for our description of the MIP was extracted mainly from the draft discussion document "Proposal for the Establishment of a Consolidated Municipal Infrastructure Programme" (Department of Constitutional Development and Provincial Affairs, July 1996). In this document no mention is made of health education.

The MIP's project guidelines recommend, but do not require as a pre-condition, that projects tendering for MIP funds should be concerned with broader RDP criteria such as job creation, development of entrepreneurs and transfer of skills to communities. Although it is proposed that key performance indicators should relate to the impact of development, at national level the Department of Constitutional Development's monitoring is based around quantitative issues with no mention of how their effectiveness may be assessed, particularly in terms of improving health for those using basic level services.

In conclusion it appears that, although all major funders require the inclusion of a capacity building programme before funding will be released for infrastructure projects, only DWAF and Mvula specifically require a health education component. However, at present DWAF is unable to enforce that requirement. Tsogang Water and Sanitation, a major NGO in the Northern Province, has recently been contracted to assist in developing additional guidelines to resolve this.

7.4.5 Funding for health education and promotion

The organogram in Figure 5 shows three main sources of funding, namely:

- Municipal Infrastructure Programme (MIP) funds for urban infrastructure projects

mostly through local authorities;

- RDP funds through DWAF mainly for rural infrastructure projects;
- DWAF funds through Mvula, also mainly for rural projects; and finally,
- Donor funding (largely from foreign governments) that are channelled through a variety of agencies, including Mvula as a major role-player.

Project budget guidelines were examined to find out what proportion of funding was given to health education. Regarding allocation of project budgets for training and capacity-building, Mvula recommends about 10% of project budgets and DWAF's new proposal ranges from 3 to 20%. However, there are no guidelines for how much of this should be allocated specifically for health education and promotion.

The extract from an NGO budget provided on the following page gives some idea of the percentage given for health education in their training budget.

7.5 Is health education currently taking place as part of the provision of water and sanitation services?

"When septic tanks or VIP toilets are involved the developer is expected to educate the beneficiary in the use, care and maintenance of the toilet system. We do not have a formal programme [for health education]. The developments are by private developers and for the community. We have not embarked on a formal policy that compels health related instruction to be given" (Provincial Department of Housing and Local Government).

From the information gathered during this review it is possible to get an indication of the level of awareness amongst providers of infrastructure services about the importance of health education and their capacity to integrate it into infrastructure projects. In general it is clear that there is little health education and promotion taking place in association with infrastructure projects. Where it does occur it is either a limited "bolt-on" programme, or restricted to the more technical aspects of community capacity building, or is one of the isolated examples of innovative practice, located mainly within the NGOs.

7.5.1 Awareness of the importance of health education and promotion

Provincial government
At provincial level, awareness of any guidelines that include provision for health education in infrastructure projects was absent. However a couple of respondents made reference to the general RDP guidelines which include capacity building, training and the need for awareness campaigns, and another to the MIP which stipulates that communities must be informed about the projects and form part of planning forums.

In general, the respondents from provincial Departments of Water Affairs and Forestry, and Housing and Local Government, did not perceive health education to be an integral component of the provision of water and sanitation services. Although the importance of such education for improving people's health was appreciated, it was perceived to be a function of the Department of Health, or of the capacity-building training undertaken by project implementing agents or developers. An example of the latter was from the DWAF regional office in Mpumalanga who mentioned a few projects where health education or awareness was included, one being that of Rand Water in Bushbuckridge.

Item	Description	Qty	Unit	Rate	Amount
1	**Committee structure and skills**				
1.1	Committee building	1	day		
1.2	Committee structure, role and constitution	1	day		
1 3	Committee meetings	1	day		
1.4	Avoiding and resolving problems	1	day		
1.5	Accountability to the community	1	day		
	2 x two day residential courses	2	No	5740	11480
	1 x one day course (Committee meetings)	1	No	1600	1600
2	**Project management**				
2.1	Organisation	2	days		
2.2	Financial control	2	days		
	2 x two day residential course	2	No	5740	11480
3	**Financial**				
3 1	Introduction	1	day		
3 2	The bank	1	day		
3 3	The budget	1	day		
3.4	Control of income and expenditure	2	days		
	2 x two day residential course	2	No	5740	11480
	1 x one day course	1	No	1600	1600
4	**Technical skills**				
4 1	Employment conditions	1	days		
4 2	Pipelaying	2	days		
	1 x one day course	1	No	1600	1600
	1 x two day residential course	2	No	5740	5740
5	**Operations and maintenance**				
5.1	Financial	1	day		
5.2	Management	1	day		
5.3	Technical	1	day		
	1 x two day residential course	1	No	5740	5740
	1 x one day course	1	No	1600	1600
6	**Health awareness**				
6.1	Workshop	1.5	days		
	1.5 days (2 visits)	1.5	days	2200	2200
7	**Follow up committee, project management, financial, and technical training with committee on site during construction.**				
7.1	**12 x two hour sessions**	12	No	450	5400
8	**Follow up training with committee on site during operation and maintenance**				
8.1	**4 x two hour sessions.**	4	No	450	1800
9	Contingencies	15	%		9258
	Total				70 978

Extract from a typical training budget showing percentage of funds and time allocated to health awareness.

This selection of quotations, taken from replies to the review questionnaire, illustrates the above summary (Section 7.5).

"The bulk of the projects funded by this department are implemented by local authorities or developers. Where appropriate, guidelines are issued for the correct utilisation of the facilities. However, health education *per se* is the function of the Department of Health"
(Provincial Department of Housing and Land Affairs)

"Water and sanitation-related health education is at present not a function of this department. It falls under the Department of Health Services. Education and/or awareness are only done on an informal basis if any."
(DWAF regional office)

"Communities are informed by local authorities on how to use sanitation systems. This is however only done in order to 1) save water and 2) prevent sewer blockages and not so much for health purposes"
(Provincial Department of Housing, Local Government and Planning)

"We focus on water conservation issues, and protection of water supplies. The strategy says that we must include a health component and we do touch on it but probably not very well. We would like to involve the Health Department to do it."
(DWAF regional office)

"Although it is not identified in our training and capacity building guidelines, during actual implementation and capacity building health awareness will be brought into the picture although not formalised"
(DWAF regional office)

Private sector developers
Most of the private sector developers contacted were urban-based; they work with local authorities. It seems that little direct education in the field of water and sanitation education is done; education media is produced and distributed in a few isolated cases. Most developers we contacted felt that the health department should deal with health issues related to water and sanitation.

NGOs
Amongst NGOs on the other hand there was a greater awareness of the importance of health education and promotion and the need to link it with infrastructure projects. This may in part be due to the fact that NGOs are more used to working within a development context than government departments or private companies.

It is worth noting here that the NGOs are implementing agents for government (usually DWAF) projects, so although provincial government departments may have been unaware of the educational component, the implementing agents were more aware of the need for education.

However many NGOs saw health education as an area that had been neglected which they were trying to redress. In many cases, this was linked to those organisations taking on more sanitation projects (as opposed to mainly water projects). Health education and promotion was seen to be a more important component of sanitation projects than of water supply projects.

7.5.2 Limited focus of health education programmes

Where health education and promotion was specified as taking place alongside infrastructure projects it was primarily related to the operation and maintenance of facilities. Whilst the health implications may have been mentioned in passing, this was generally not dealt with as part of a specific health promotion programme. NGOs tended to take a broader perspective and there were some noteworthy examples of infrastructure projects that included a broader health promotion perspective.

An interesting finding from the review is that while the connection between health and hygiene issues and *sanitation* projects was widely recognised, the same cannot be said for *water supply* projects. As a result, the educational component of these latter projects dealt almost exclusively with issues such as the maintenance of taps, risks associated with standing water, cleaning of water containers, etc. One respondent mentioned that "personal hygiene may be mentioned in passing but not in much detail."

Reasons given for this apparent low priority of health education and promotion in water supply projects were:

- in sanitation projects field workers work more closely with householders and so have more opportunity for individual interaction;
- sanitation is more immediately identified with disease related to faecal contamination whereas water engineering is not.

Whilst there are sound practical reasons for including a greater health education component in sanitation projects, not linking water supply with health education in the past can be seen as a missed opportunity. For example, it could increase the effectiveness of an education programme as there is a greater chance of catching people's attention and enthusiasm if the educational component is associated with practical changes and improved living conditions. Another reason for this is that water quantity is increasingly being seen to be more important for good health than water quality, encouraging people to use more water for washing is considered by some to be a major focus for health education (Bassett, Sanders, Todd and Laver, 1992).

It is expected that more attention will be paid to integrating health education with water supply projects in the future, especially as the National Sanitation Policy document (June 1996) stipulates:

> The improvement of water supplies in an area frequently stimulates communities to look at other improvements needed, such as sanitation. The implementation of new water supply systems should thus always be accompanied or even preceded by a sanitation education programme. Such a programme should become an integral part of all community water supply projects (RSA, 1996).

7.5.3 Inter-sectoral collaboration

In spite of the fact that health education and promotion was generally perceived to be a function of the Department of Health, the level of coordination between provincial infrastructure provision departments and their counterpart in health did not appear to be high.

Amongst the NGO sector there was generally more appreciation of the need to involve health workers in the project, but the extent to which this was done was varied. EHOs were often identified as the people NGOs liaised with about doing health education and promotion. The replies from the provincial health departments indicate that about 20-40% of EHOs' education/health promotion work is related to water and sanitation.

However, the degree to which this is related directly to infrastructure projects varies. For example the Nkomazi Sanitation project works closely with local EHOs and other health workers. However, an EHO in a provincial department of health noted that although 18 DWAF projects had been approved in their area, no EHOs were involved. Conversely, an example was given of a sanitation project where the EHOs were invited, and attended initial meetings about the project, but did not participate fully in its development.

Although there is an awareness of the benefits that could be gained from greater coordination between departments, the structures to facilitate such cooperation need developing and are limited by other constraints such as changes related to the restructuring of departments. The National Provincial Sanitation Forums could be important for encouraging this inter-sectoral cooperation.

7.6 Constraints to including health promotion in infrastructure projects

7.6.1 Introduction

Over the course of the review, interviewees identified many constraints that limited (or prevented) the inclusion of health promotion in water supply or sanitation projects. These ranged from a lack of awareness of the importance of such educational programmes by project funders/implementors, to lack of resources and skills. There were also many constraints identified which have their roots in the policies of the apartheid era.

Developing an effective hygiene/health promotion programme at the same time as having to install a certain number of services, to an adequate standard, within a set time frame, is by no means an easy task. It is, therefore, hardly surprising that within the technical/ engineering sector which has been driving such projects in the past, health education has on the whole been regarded as secondary to getting the facilities established.

The following constraints were revealed by the review.

7.6.2 Lack of awareness of policy at lower levels

Directors and ministers at national (or provincial) level may see the importance of the integration of health education with infrastructure provision and the need to liaise with other departments to implement it, but this does not appear to have filtered down to other

members of the department and to local levels. In spite of this it was found that many of the EHOs contacted during the review were aware of policy and national sanitation committees, so this problem does not apply in all cases.

One reason for the lack of awareness of the importance of health education and promotion in infrastructure provision is the lack of clear guidelines. Such guidelines need to emphasis the importance of health education and give an indication of how the education can be undertaken and evaluated.

7.6.3 Absence of criteria for monitoring or evaluating the impact of health education and promotion work

Infrastructure provision projects are primarily judged on the basis of whether or not the services have been provided and whether or not the correct technical standards have been obtained. Follow-up visits to ensure the facilities are being used correctly, may not tell the whole story. The effectiveness of related skills training and capacity building elements can be determined on whether or not the particular members can manage the project, maintain the systems and construct and manage new facilities.

The numbers of pipes, taps, toilets, and ability of newly trained people to do certain tasks can all be relatively easily measured. However, it is much more difficult to measure change in health practices and associated health improvements. Changes in health practices also take a long time to happen and all too often, base-line data are not available to enable firm conclusions to be drawn.

7.6.4 Lack of expertise/knowledge of health and hygiene issues

Infrastructure projects are often led by engineers. They provide education on the use and maintenance of the facilities. Although they may give some basic advice on personal hygiene, they do not feel qualified to give formal health education and prefer to leave it to the professional health workers. This is understandable, provided links are made with the appropriate organisations to come in and cover the health aspects and provided the health professionals have the correct technical information and can apply it.

Lack of awareness on the part of project funders, policy makers or project implementing agents of the importance of linking health education and promotion to the provision of infrastructure projects is a worrying factor.

7.6.5 Pressure to deliver services fast

'Political expediency' or the need to be seen to deliver, means that there is great pressure to implement projects and provide services quickly which can lead to insufficient time being spent on time consuming, "soft issues" like health education.

7.6.6 Lack of collaboration

There are many different water supply and sanitation projects being developed under different government initiatives, managed under different departments. The lack of

awareness about who is doing what limits the potential for sharing resources and experience. There is also a lack of structures to facilitate such coordination.

7.6.7 Transformation of government departments

The current restructuring taking place within government departments, has inevitably resulted in temporary reduction of capacity as posts are still being filled, and new personnel trained. For example, one interviewee identified a situation where there was no continuity of people attending a series of meetings (different representatives attended each time).

7.6.8 Local government in a state of transition

Although local government is ultimately responsible for the provision of services, their capacity to do so varies, being very limited in some areas of the country. Therefore, the NGOs and national/provincial government initiatives, such as DWAF's community-based water supply programmes, are very important in providing support and building capacity at local level and developing mechanisms and structures for community organisations to link in with developing local government structures.

7.6.9 Funding

(i) There is a lack of funding for pre-project community liaison work. Much of the pre-project planning and community liaison work undertaken by NGOs is not covered in the project funding. Very often this is the most important phase of the project work - getting community involvement and motivation - and if it is not done appropriately, can undermine the whole project. It is also a starting point for health promotion work as the health benefits of the proposed new water or sanitation facilities and related health and hygiene practices are often introduced at this stage.

(ii) A problem with not having funding for this phase it that in the waiting period between submission of a business plan and approval of the project there is no funding to continue any community development work or health education and promotion work. This time period can last for many months, yet it is an ideal period for establishing or enhancing a health promotion process.

(iii) There is a lack of recognition by funders of the importance of educational work. It is easier to get funding for the technical side of the project than for education and awareness raising. The funds for the health education component is often mixed in with the general training and capacity building budget.

7.6.10 Lack of participatory educational skills

Technical experts from the engineering or health fields are important to ensure provision of the correct information. However, the lack of educators skilled in participatory techniques can prevent community involvement and "real" learning/education. Also, such skills are needed in the needs assessment stage to draw out the concerns and needs of the communities during the project planning stages.

7.6.11 Lack of education materials

In the review people often cited the lack of education materials as a reason for not doing education programmes.

7.6.12 Limited view of what participation means

Lack of time, resources and experience to ensure full community participation in all stages of the project. For example, although there may be a requirement to have 50% of women on project committees, interviewees have indicated that this is often tokenism and the women do not have a chance to say much.

Participation means more than just the election of a committee, or the contribution of ideas and materials. It needs to be a partnership for decisions. It takes time and skills to ensure participation of the different sectors in the community.

7.7 Health education and promotion programmes

Where health education programmes do happen they are mostly part of NGO projects and are localised. The programmes encountered in the review range from once-off, "bolt on" modules to programmes where health education is an integrated part of a complete development programme. The latter are few and far between.

The review showed some examples of innovative practice but few documented evaluations of these programmes had been done. This makes it difficult to assess their effectiveness in improving health in the community.

The following description includes some of the approaches to health education seen in the review.

7.7.1 Health education as a module in a community training programme

Where health education did take place alongside an infrastructure project it was often conducted by a training NGO or private company as part of a capacity building programme. The extract given below from a training programme illustrates this modularised approach. Many examples of this approach were seen during the review.

The education methodology used in such modules was usually one of giving information about a number of health topics. Some of the modularised training programmes used role plays, group work and practical exercises but the majority used flip charts, posters, videos, pamphlets and a didactic methodology.

THE WATER MANAGEMENT COURSE

PHASE A: (One-day - community members)

A01 IDENTIFY AND PRIORITISE COMMUNITY NEEDS
A02 BACKGROUND TO WATER SUPPLIES AND SANITATION
A03 DRAWING UP A CONSTITUTION
A04 FORMING COMMITTEES
A05 HEALTH AND HYGIENE
How unclean water and poor sanitation adversely affect health, and why it is so important to follow hygienic practices.
A06 INTRODUCTION TO THE WATER MANAGEMENT COURSE

PHASE B: (Two to three days - committee members)

B01 GENERAL COMMITTEE OPERATION
B02 CONDUCTING COMMITTEE MEETINGS
B03 DRAW UP A BUDGET
B04 GENERAL PRINCIPLES OF MANAGEMENT
B05 TECHNICAL OPTIONS FOR SANITATION AND DRAINAGE
B06 TECHNICAL OPTIONS FOR WATER SUPPLY
B07 BOOKKEEPING
B08 MANAGING A WATER SUPPLY SYSTEM

A typical modularised capacity building training programme

7.7.2 Single event approaches to health education

Drama
Drama was often referred to as a good tool for promoting awareness and discussion. Most of the drama covered during the review that was linked to infrastructure projects seemed to be done as part of a workshop. The play was used as a stimulus to promote discussion around the issue of sanitation. Often the play was followed by a presentation on the proposed sanitation programme. Professional dramatists developed the play with local people and in some examples the local university drama students were used.

It is important to note that drama (as with almost any educational resource material) is not necessarily a good educational tool in itself. It is educative when used in an informed way and within a sound drama-in-education approach (See Section 8.1.2). It is important for project planners to be aware of what makes a drama-in-education intervention educative and to assess potential drama programmes in the light of this.

Events
Community events were another common methodology. These involve the whole community and are used fairly successfully as an awareness raising tool.

Case study: Mfuleni

The Environmental Unit at the Peninsula Technikon used a roadshow to publicise their water and sanitation education programme.

We drove around Mfuleni to spread the word concerning the awareness campaign. This event caused most of the people to be very excited, people asked us to stop and explain what we planned to do and to translate. Some even asked us to repeat the times and venue as if to say "we will be there". We started the day with a quiz on environmental issues. Prizes consisting of soap, cool drinks and T-shirts were given to people who answered questions correctly. Community Health Workers then dramatised events currently occurring within the community and how to treat someone who has diarrhoea and also to always clean your container before collecting fresh water in it. Questions were phrased around the drama and prizes were allocated for the correct answers.

Case study: Thembalethu

The Thembalethu Sanitation Pilot (implementing agent: Rural Support Services) included health promotion in its demonstration phase. This extract comes from a poster presented at the Second Mvula Trust Pilot Sanitation Workshop (Murphy and Still, 1995).

"After studying the behaviours and sanitary habits (re: excreta disposal) prevalent in the community we had a presentation in May for the whole community which was called the 'Environmental Health Awareness Day'. It was basically a motivational talk by a sister in charge of training the village health workers and drama and music was performed by village health workers. We tried to reinforce this by making use of posters adapted from the Lesotho Sanitation Programme (USIT). We targeted this to coincide with the completion of the first demo toilets. People are using them and there is a heightened demand for toilets. Also people speak openly about sanitation and toilets now."

7.7.3 Social marketing approach

Umgeni Water have begun to use a social marketing approach that is focused around a community event. Social marketing is based on commercial marketing principles where something such as a certain type of sanitation facility (for example, a VIP latrine) is desirable for status reasons. The approach has been used extensively by Group Africa. The educational message is embedded in a fast moving, musical event that links with local language and culture. The use of this approach in the water and sanitation field needs to be evaluated as it holds potential for a health promotion strategy.

7.7.4 Fieldworkers

Umgeni Water also makes use of an education field officer who visits local communities and talks to people. The *E. coli* water test kit and posters developed by Umgeni Water external education service are some of the educational resources that are used. This approach is described in the Mpolweni case study (see Section 6.6.13).

7.7.5 Educational materials

"If a document about health education was made available, we would be happy to distribute it" (Provincial Housing Department).

Many people mentioned the need for educational materials. In general, a lack of useful educational materials was perceived, especially in the rural areas. The Department of Health was one of the main sources of materials but the comment often made was that the material was inappropriate for the area and too complex. Projects therefore tended to develop their own resource materials. The move towards NGOs producing their own materials is a growing one. However, an emerging international trend is to encourage community members to develop their own materials. This reflects a move away from message transmission to an emancipatory view of education and, apart from the few cases referred to elsewhere in this review, is poorly represented as an approach in this country.

Posters
Posters are widely used. For example, Tsogang Water and Sanitation uses large posters summarising key issues during the initial stages of their projects. The posters are also used as a visual aid during meetings. However, most often, posters were used in a didactic manner as illustration for a talk. The more progressive methodologies tend to see posters being used as tools to stimulate discussion around issues that face participants more immediately than can normally be depicted in a poster. The material produced as part of the Lesotho Sanitation Project (Hubley, Jackson and Khaketla, undated), especially the Ten Point Programme wallchart, was used in a number of projects.

Videos
There are some examples of health education videos. Many of these tend to be didactic and inappropriate for many rural areas.

The Nkomazi Sanitation Project used a video to show people the different types of toilets. After the showing the villagers would discuss it. However, this was not found to be very successful, largely because the video was based on examples from outside South Africa and so people found it confusing and irrelevant to them. In the light of this, there are plans to make a video based on Nkomazi, which will include latrine construction, spring protection, care group teaching and discussions with villagers (see Section 5.7.7, "Use of video" in box).

Photographs
Some education programmes used slides and prints especially to illustrate the different types of sanitation facilities. But it was reported that there are associated technical problems with slides and people can get bored during the presentations.

7.7.6 Education linked to technical booklets

Much of the health education material seen in the review linked health issues to the technical aspects of water and sanitation. The following description includes some of this material:

- *The VIP Latrine for Family Health: A community learning manual:* This is a technical manual that includes health information. It was compiled by the University of the Witwatersrand's Rural Facility (WRF) and Health Services Development Unit (HSDU) and the Communities and Health Services of the Central Lowveld District. This illustrated, 15 page booklet covers the need for VIP latrines their advantages, how they work, how to keep them in good condition and what you can do to protect family health - from handwashing to waste disposal and food preparation.

- The Institute of Natural Resources has developed some illustrated leaflets/booklets about the use of Phungalutho toilets.

- *VIP Latrine Builders' Instruction Manual*: This is an illustrated, clear guide which covers different designs of latrines, materials to use, how to construct a VIP latrine and its operation and maintenance (including hand washing). It was produced by the Amatikulu Training Centre's Appropriate Technology Group (based on material produced by the Blair Institute, Zimbabwe).

7.7.7 Local people as health promoters

One of the more systematic approaches to health education and promotion used in some areas was to involve local people as informal educators. These may be voluntary, or employed by the project. The value of such an approach is that it provides an opportunity for face to face education in the household context. The health promoters are part of the community and accepted into the household and understand the local issues. An important feature is that the education is ongoing.

Case study: Nkomazi

In the Nkomazi Sanitation Committee's project (an Mvula Trust pilot sanitation project) the hygiene education component involves care group mothers. The care group was originally formed in 1988 by Medecin Sans Frontieres (MSF), the French Medical International organisation. Care group mothers are women who have been previously trained by nurses from Shongwe Hospital as part of the National Nutrition Programme. The care group mothers had already been doing some sanitation related work and so were ideal educators to use in connection with the latrine building project. Before the sanitation project began, the care group mothers visited the families in the villages to identify their sanitation needs as well as identifying any malnutrition cases. The project is also developing links with local EHOs. This is a good example of how hygiene education can be linked in with other types of health education.

There is potential for the concept of local people being deployed as health promoters to be taken further into gathering information relating to incidence of diseases in their area, and local perceptions about the causes of such diseases (Yacoob and Whiteford, 1995).

7.7.8 Education approaches based on perceptions

Some research has been done on perceptions around water and sanitation, but there are few examples of education programmes based on this research. The use of perceptions research in education programmes ensures that the programme takes account of the local context. The Community Life Projects (CLP) approach described below uses perceptions studies and participatory education methods. See also Section 6.6.6.

Case study: Community Life Projects

Community Life Projects (CLP) is a non-profit NGO that works in a community-based way to assist people to work towards a healthier society. CLP assists communities to deal with a broad range of issues mainly in the broad health and environmental arenas. CLP has developed a specific approach to projects that makes them a valuable resource from which the health education and promotion community can learn.

A central principle of CLP's approach is to conduct careful perception studies before developing an educational programme or strategy. This provides rich data for strategy and materials development and allows CLP to position itself within community perceptions and dynamics. Perception studies also assist in handling sensitive issues sensitively; they also serve to mobilise community awareness and interest. CLP is one of the few organisations who have statistical evidence to show that behaviour changed - in this case an entire community in an urban context - and the evidence is a major drop off in the number of call-outs the City Engineer's Department received to unblock drains.

Equally important to careful perceptions studies is the establishment of representative community structures and initial organisational empowerment. This is an essential part of promoting community participation.

Another key principle is that of "saturation". During the time of the campaign referred to above the community was reached through every conceivable channel.

A learning opportunity offered by CLP is the way materials are developed and used. The main form of material is posters that are based on the initial research and perceptions studies so that community members recognise their own context and issues and so that core problems can be embedded within the posters. Posters are then used not as a form of passive information dissemination, but as tools to stimulate discussion around key issues. In this way people become involved in identifying problems for themselves and in developing solutions.

7.7.9 Integrated participatory approaches

One action research educational tool that many NGOs use prior to the beginning of an infrastructure project is the participatory appraisal method. Participatory Rural Appraisal (PRA) is an approach to engaging communities in development processes. Through the use if a number of tools, often within a group discussion format, communities are involved in needs assessment, problem identification and ranking and planning action. The Tsogang project described below illustrates how PRA can be used within an infrastructure project.

Case study: Tsogang Water and Sanitation

Tsogang is a rural development NGO that specialises in water and sanitation infrastructure provision in the Northern Province. It is part of a network known as Rural Development Services Network (RDSN). Tsogang acts as an implementing agency for RDP projects through DWAF and recently has been operating as a district programme implementing agent. Tsogang is a useful example from which the health education and promotion community can learn in that, while its main focus is on short-term provision of infrastructure, it is committed to a longer-term development orientation. The following project sequence is typical of most infrastructure projects, but the approach taken in the initial phase in particular is worth noting.

1. An initial survey of the villages is conducted to establish baseline information which can be used later in assessing the success or failure of the project. The survey may consist of interviews in each village using the Participatory Rural Appraisal (PRA) approach. PRA gives people a window into their own community and it is this that makes the initial stage so important from a health education and promotion perspective.

Tlhavhama Training Initiative (a research and training NGO based in Pietersburg) have been used to train Tsogang staff in PRA techniques (7 day course). In cases where more complex PRA work is required, Tlhavhama may undertake this on behalf of Tsogang. The Department of Health staff, local councillors and other key players are involved.

2. An "awareness-raising" programme to bring information on infectious disease transmission and ideas on preventing such transmission to the communities. This phase consists of two parts:

(i) a series of presentations in each village (at schools, clinics, churches, etc.) of a drama (about 30 minutes). The drama is supported by health education posters and photographs of completed latrines from other projects. After the drama there is a discussion. The drama that has been

used in the past was written by Venda University Drama Department or the dramas are workshopped with the support of professional actors and or students of the Giyani College of Education Drama Department.

The drama catches people's attention and is quickly followed up by the Community Liaison Officer who explains the sanitation project, types of latrines, etc. A lively debate ensues when all sorts of issues are raised.

(ii) A lottery is held to decide which two or three villagers will have demonstration latrines built for them. The lottery has proved a good impartial way of selecting the sites for demonstration latrines. Thereafter demonstration latrines are constructed (e.g. two or three different types) in each village with members of the relevant village committee assisting.

3. The initial awareness-raising phase is used to work with the community to begin developing a business plan. This is continued by means of community meetings by CLOs and technical staff to assess demand for latrine construction projects and to assist committees to prepare capital project funding proposals. These include informal information gathering and sharing about suitability of design, etc.

A problem that often arises here is that once the business plan is submitted it can take months before funding is approved. This delay, after having raised awareness and expectations, can have a negative effect on interest and commitment. It is an issue that requires attention.

4. Construction phase of the project. This includes planning and implementing a training and capacity building component. Tsogang provides technical and financial support. They have found that simply providing a series of training workshops for the capacity building skills is not enough. It needs follow-up support as people learn more through actually doing the job.

During this phase there is also on-going health education work - through household visits and workshops at schools and public places.

7.7.10 Health education and promotion as part of the development approach

Very few programmes used an integrated development approach where health education and promotion was part of an overall development strategy. An example of this approach is the Rand Water programme described below. The contextualised approach to infrastructure development, while it is part of a short-term process (infrastructure provision) represents a valuable example of a creative resolution of the tension between short term and long-term issues. Tsogang's relationship with the Northern Province's Primary Health Care Centre (Tlhatlonaneng) at Jane Furse is another excellent learning possibility for the development of a national health education and promotion strategy.

Case Study: Rand Water's Community Based Projects Department (CBPD)

Rand Water's CBPD acts as an implementing agent for water and to a lesser extent, sanitation infrastructure projects. Although this places CBPD essentially within a short-term provision context, their overall tendency is towards a longer-term development approach. Two specific examples of projects are in the Winterveld area north of Pretoria and in Bushbuckridge in Mpumalanga.

In Bushbuckridge the project started with an assessment of needs and identification of problems. This was done using participatory methods such as Participatory Rural Appraisal (PRA). In this way many issues such as the need for roads, crèches and problems with floods were identified along with the need for water and sanitation. In addition, community members were able to draw up disease trends in the area. Amongst the main diseases identified were cholera and diarrhoea. Once the initial assessment was done follow-up discussions were held to work out ways of addressing the issues. This process was designed to support the emergence of an overall development framework.

The CBDP expresses concerns about many infrastructure driven projects in which capacity building processes required in terms of RDP guidelines are de-contextualised and do not relate to local dynamics, needs and issues. Capacity building programmes carried out in this context can then become a prescriptive "skills you need to know" rather than being responsive to needs, processes and issues within the local context.

The health education and promotion strategy described by the CBPD is responsive to the broader development framework and the issues within it. Thus in the early stages of a project an integrated set of issues needs to be dealt with in ways that empower people to take decisions based on clear understanding of their local development needs. In Bushbuckridge the CBPD works in partnership with agencies such as the Health Services Development Unit, based at Tintswalo Hospital, Wits Rural Facility and the Claude Harris Leon Foundation's Community Project to ensure the broader development orientation for their infrastructure projects.

7.8 Discussion: when should education take place and what approach should it use?

The review showed a continuum of approaches, from those that were bolt-on and didactic, to those that used participatory methods within a modularised approach through to those that incorporated health education and promotion as part of a holistic development process.

> Water and sanitation projects will be more successful, and be seen as more successful, if they are seen and planned as entry points for development - meaning development in the directions that communities themselves define and seek, (Melchior-Tellier, 1992).

Ideally health education and promotion should be embedded within a community-based, development-oriented process - where health and hygiene problems emerge from the communities own exploration of their local problems and the decision to do something to change the situation (e.g. to build VIP latrines) comes from the community themselves.

However, in the short term, pressure of delivery, budget constraints, lack of human resources to fulfill such a brief and other impediments mean that the long-term approach is not always feasible and a meaningful short-term alternative has to be explored. This represents a core tension that emerged from the research. The challenge for us in South Africa is to find a creative solution to this tension rather than a contradictory one. As the above section shows, there are isolated instances of creative projects that could make a valuable contribution to meeting this challenge.

One possible framework within which this tension might be creatively resolved is DWAF's "National Training and Capacity Building Audit Project" where a new approach to the training component of the project is presented. This entails changing from a project-based approach to a programmatic approach. It takes into account the important role of (a) the pre-project planning stage including awareness raising, community involvement and needs assessment work and (b) the post-project follow-up support phase. Neither of which are fully covered in current project funding systems (DWAF, 1996a: Directorate of Organisational Development).

This new programmatic approach is a move towards a more holistic approach to short-term, infrastructure-based projects. As such it represents an important conceptual framework for achieving the creative solution to the tension between short and long-term approaches identified as a key concern earlier.

Using this programmatic project cycle it should be possible to integrate health education and promotion into the pre-project planning stage where education will focus on the link between water, sanitation and health. Education should continue through the technical stage of the project and in the post-project follow-up support phase.

International experience (Burgers, Boot and van Wijk-Sijbesma, 1988; Narayan and Srinivasan, 1994) suggests that education programmes at all these levels need to be as participatory and empowering in approach as possible. Education materials need to be developed with the local context in mind, based on local perceptions, and the more the community is involved in the development of the materials, the better. These materials should be tools to encourage participation and focus on helping people solve their own

local problems.

It is possible to develop programmes and resources of this nature that can be used in short- term education situations. These materials need to be facilitated by educators who understand a participatory education approach. This suggests the need for large scale training programmes linked to the materials for existing professionals such as trainers and EHOs. Trained educators with participatory tools for education who are an integral part of the project cycle are a possible answer to the challenge mentioned above.

In line with the social mobilisation model described in Figure 2 (see Section 4.1), these on-the-ground initiatives linked to project cycles need to be supported by local or national mass media campaigns.

The next section of this report identifies some of the potential programmes that could be used to develop these on-the-ground education initiatives and also highlights the principles that should inform a mass media campaign.

7.8.1 The role of training organisations in a future HEATT strategy

At this point it is worth mentioning the role that training organisations could play in a HEATT strategy. Most of the community water supply and sanitation provision projects undertaken by DWAF are covered by the RDP guidelines which require capacity building, training and the need for awareness campaigns. In accordance with the terms of RDP criteria, community representatives should be involved through all stages of the project through a Project Steering Committee. The aim of the projects should not be just to install the water services, but to leave a trained, community-based group with the skills to maintain, operate and administer the service, in line with the appropriate local government structures. This means that a key component of such projects is skills training and capacity building. For this reason private sector and NGO institutions who specialise in training in capacity building and organisational development have become significant role-players in infrastructure projects.

Another aim of infrastructure projects is to improve people's health. This requires that an integrated health education and promotion programme be included as part of the regular training programme.

However, this review found that most of the training is related to providing the project steering committee with the skills needed to run the project, operate and maintain the services and establish new services in the future. Health education and promotion is usually dealt with as a discrete, short module, if at all.

DWAF's current audit to identify training and capacity building organisations will result in a list of organisations involved in this field from which infrastructure projects can draw for project level work. If suitable organisations can be identified to provide health education and promotion using sound methodologies, then a further element of the solution begins to fall into place.

In spite of the limitations described above, however, many of the organisations identified during the review do represent an important potential source of health education as part of

a short-term strategy because of their close involvement with water and sanitation projects. A national health education and promotion strategy needs to look at an education programme for these training institutions that will introduce them to the need for health education and the methodologies to implement it.

7.8.2 Educational approaches

In the ideal situation, what kind of health education and promotion should be taking place in this sector?

The social mobilisation model described in Section 4.1, may be of some help in answering the question of how to resolve this long-term/short-term tension.

We need to devise education programmes that will contribute to building sustained development in communities and complement these sustained programmes with high energy programmes that make use of mass media or social marketing techniques like that adopted by Group Africa, that are really local use of mass media

HEATT needs to begin to promote the development of participatory and empowering educational resources for use in localised situations. Materials also need to be constantly evaluated and updated as contexts and situations change all the time. These education programmes and resources must be participatory in nature and be implemented by educators who understand participatory methodology.

Once these local face-to-face programmes are in place they can be complemented by local and national mass media campaigns.

Section 8 describes some participatory programmes and materials that are already used in South Africa. These are the kind of education resource that can promote sustained, on the ground development in a participatory way.

7.9 RECOMMENDATIONS

1. In most of these recommendations, the energies of existing resources (e.g. training centres, experienced participatory trainers, programmes, etc.) that have already been identified in the review should be harnessed, rather than establishing new structures.

2. HEATT should publish guidelines for implementing health education and promotion in a document that is accessible to project managers, training agencies, health workers and others who may be involved in this sector. These guidelines should present the range of possibilities from the narrow, "bolt on" approach to the development-oriented approach. It should present the latter as the ideal and deal with strategies for achieving this.

3. A strategy for marketing and promoting awareness of new approaches to health

education and promotion should be devised aimed mainly at project managers and health professionals.

4. A broader strategy than the above needs to be devised that promotes an enabling environment for participatory, development-oriented health education and promotion to take place. This could, as a point of departure, begin by addressing the constraints listed in Section 7.6.

5. Intersectoral collaboration needs to be promoted as a fundamental principle of health education and promotion within infrastructure projects. As far as possible, existing resources for health education and promotion (in particular district-based PHC personnel) need to be integral to infrastructure related health education and promotion.

6. Funding arrangements need to be developed that enable comprehensive health education and promotion activities related to infrastructure projects. In particular, the pre-project phase and the period between initial awareness and project approval need to be examined for their major health education and promotion possibilities.

7. An education programme framework (flexible, adaptable to local situations) based on participatory education principles should be developed. It should be designed for integration with the project cycle.

8. A range of flexible materials to support the education programme need to be developed.

9. In order to meet the need for trained facilitators of participatory health education and promotion programmes, a training programme for health and other personnel needs to be developed. The training process should draw on existing experience and skills as well as the learning opportunities represented by existing projects or programmes. The short courses already in operation, for example those based at the University of the Western Cape, could be models for part of this initiative.

10. Guidelines for monitoring and evaluating health education and promotion programmes should be developed as part of establishing a research base for the sector.

8 PARTICIPATORY, FACE-TO-FACE EDUCATION AND MASS MEDIA

SUMMARY

This section combines the mass media and face-to-face, participatory communications because, as is argued, an effective health education and promotion strategy should include sustained, on-the-ground participatory programmes backed up by national and local mass media.

The first part of this section gives a description of a number of participatory approaches to health education and promotion. Key points there are that materials should be used as tools to promote discussion and interaction, programmes should be based on careful perceptions studies and should reflect the context in which people live.

The review then examines the role of mass media in South Africa.

The review shows that the mass media do have a role to play, aside from the more obvious function of providing campaigns and organisations with public profiles. There will always be important messages that can be couched in universal terms, for instance, the idea that all faeces are potential sources of infection or that babies with diarrhoea need to be rehydrated.

Moreover, the recent appearance in this country of multi-media "edutainment" programmes means that educators have access to highly popular, cost-effective vehicles that are capable of contexualising messages to some degree and which are often supported by materials that can be used in a variety of mediated contexts, offering opportunities for the messages to be adapted to local conditions.

However, the mass media should be used with great care. Media - along with the educational messages they carry - need to be thoroughly researched and constantly re-evaluated. Moreover, the messages communicated through the media need to be supported on the ground. Without support and mediation educational messages could cause frustration or even be misinterpreted.

8.1 Participatory, face-to-face approaches

This section of the report explores some of the possible participatory education approaches that could be adopted in a health education and promotion strategy.

It is important to note that the kinds of methodologies mentioned in this section such as plays and workshops, are not necessarily effective in themselves. If they are didactic they can disempower audiences. Any face-to-face approach must allow interaction. Facilitators need to be trained to involve audiences and allow them to take control of the learning experience.

The area of HIV/AIDS education is one area in which the urgent need to address the

epidemic has given impetus to the development of dynamic and innovative educational programmes and media which could serve as useful models for the development of water and sanitation programmes. Learning points from this sector are described in Appendix 3.

8.1.1 PHAST

Participatory
Hygiene
And
Sanitation
Transformation

... is an innovative approach to hygiene and sanitation education and promotion and community management of facilities. It is an adaptation of the SARAR participatory learning methodology which builds upon people's innate capacity to address and resolve their own problems. SARAR stands for Self esteem, Associative strengths, Resourcefulness, Action planning and Responsibility. It was developed during the 1970s and 1980s by Dr Lyra Srinivasan and colleagues for a variety of development purposes. PHAST approaches the objective of community empowerment and management of water and sanitation-related diseases through health awareness and understanding and ultimately through environmental and behavioural improvements.

It uses methods and materials that stimulate participation of women, men and children in the development process. It relies heavily both on training of extension workers and on the development of graphic materials, sets of which are called "toolkits" that are drawn on site to reflect the actual cultural and physical situations of communities in a common culture area. Thus, PHAST requires trained extension workers, trained artists and materials production.

The objective of PHAST is not only to teach hygiene and sanitation concepts, but, more importantly, to enable people to overcome constraints to change through a participatory process involving all members of society. (This material was extracted from Sawyer, Simpson-Hebert and Clarke, 1995).

8.1.2 Drama-in-education: a face-to-face methodology

A very successful and well evaluated participatory approaches that allows interaction and involvement is the drama-in-education method.

Many water and sanitation policy documents mention drama as a useful educational tool and some NGOs are using drama in this way. But not all drama is useful. Drama can be as didactic as a lecture. Research in the field (Dalrymple and Du Toit, 1991; Harvey, Stuart and Swan, 1995) suggests that drama is a very useful tool in the area of health education and promotion if it is participatory.

Drama-in-education groups in South Africa around the country have worked in a number of educational contexts, for example, AIDS and sexuality education; sexuality issues and condom use; violence and the abuse of women and children; social rehabilitation; gender empowerment; environmental education; industrial health and safety; health issues and

water and sanitation.

Drama-in-education proponents derive their work from the theory of participatory education defined by Paolo Freire:

- no education is neutral - it has to be contextualised
- education must deal with what participants perceive to be relevant and serve their interests and motivations
- education needs to be dialogic (promoting dialogue, interaction)
- learners should be the subjects of their own learning and participants in their own problem solving
- education needs to involve action and reflection by participants on their learning process
- education should be socially transformative.

The techniques are derived from an approach used all over the world called "Theatre of the Oppressed" which uses the forum theatre approach. Forum theatre is participatory theatre where various solutions to real social problems are explored by participants.

The following two principles are an important part of forum theatre:

- **Role play:** Participative education involves dialogue; people learning through sharing experiences, ideas, opinions and perceptions. Role play involves taking this a step further and invites people to act out feelings and ideas in imaginary situations. In role plays people assume the role of the character they are playing and so the focus is taken off them as individuals. This gives players the opportunity to explore options and act out different choices safely without having to suffer the consequences in real life. Role plays are a vital way of practising scenes that could happen, experiencing alternative options and projecting possibilities for the future. Role play has been extensively used in AIDS and sexuality education contexts where people's attitudes and perceptions have dictated their behaviour. Practising or playing out changes of behaviour in role plays is likely to facilitate change more successfully than more didactic approaches.

- **Reframing:** A play is presented to the participants and they then use role play to reframe the story. In this process the play is shifted to the participants' paradigm or life experience. Information and education needs to be contextualised in the ethos of the participants. An example of this was AIDS education work done with rural youth in KwaZulu-Natal. The trainers used a bio-medical paradigm to explain germs and how AIDS is transferred. The youth were confused by this explanation. When they were given the opportunity to reframe the information in their own paradigm they replaced the medical definitions with their own cultural equivalents, and suddenly it made more sense. International research places great emphasis on the need to frame education programmes around water and sanitation issues within local perceptions. This drama approach is a powerful method for doing just that.

There are a number of organisations in South Africa who have experience in the Drama-in-education methodology. Their work has been extensively evaluated in the AIDS

education sector and any national health education strategy should draw on this expertise. One of the organisations that has worked extensively in this area is Dramaide.

Dramaide

Dramaide has done extensive work in the area of drama-in-education and its programmes are well documented and evaluated. Based at the University of Zululand the project started in 1992 under the former KwaZulu Department of Health who were looking for alternative and innovative ways to do AIDS education beyond the basic transmission model. Initially the project worked in 700 KwaZulu secondary schools; and later in ex-Natal Education Department schools.

In 1995, the national Department of Education funded projects in Gauteng, Northern Province and the Eastern Cape. Dramaide works with other university drama departments which have the same theoretical backgrounds and with psychology departments which monitor the process according to the psychological processes of learning.

Dramaide projects are managed by the University of Natal. At the moment their capacity ranges to ten teams in the field - two teachers and two nurses in each team.

Dramaide's education process: The project described here is school-based, but the approach would be equally effective in a whole community.

Firstly, plays are presented at schools. These plays are performed in the vernacular and are usually written or guided by the nurses. The plays take into account the cultural ethos of the local community and usually play to audiences of about 500 students. After the play, there is a question-and-answer session and pamphlets (Department of Health origin) are handed out. But the process doesn't end there. This is just the introduction to the real education process.

In the next phase, the drama team come back to the school. They workshop the same play with teachers and with each class separately. Using role play, the original play is adapted according to the participants' input. In this phase, the play is often reworked or reframed. In the case of many schools in KwaZulu-Natal, the play was reworked to include indigenous dance forms, songs and poetry and often reflected an eclectic approach to music forms such as rap. The culmination of the reworked plays was a performance day where students could perform their plays for their parents and the rest of the community. This event has often been attended by the chief, traditional healers and other figures of authority, has lasted most of the weekend and has become an important event on the social calendar. This open day has also become an opportunity for the whole community to learn.

As a follow-up to the success of the Dramaide workshops, another project has been launched called Act Alive. This is still an embryonic project and will concentrate on focusing more generally on health promotion. At the moment there are 10 to 15 schools involved in the project. Students in each school have formed "health promotion" clubs which are visited each week by the drama teams. The clubs are broadly "life skills" or guidance groups - they offer students the opportunity to gain entrepreneurial training and self-sufficiency skills such as raising their own funds for projects. Role playing forms the core of these workshops and enables students a safe way of projecting alternative futures

and life options.

Dramaide sees the teacher as an important figure and their approach includes an in-service teacher component.

The following drama-in-education groups were contacted in the review:

TTEDA (Tsogang Theatre Education Development Association)
AREPP (African Research and Educational Puppetry Programme)
Grassroots/Tsogang Rural Development
Shoestring Productions and Workplay Training
Theatre for Africa
Delta Environmental Centre's Industrial Theatre Initiative.

8.1.3 Participatory action research methodologies

There are many approaches and tools that can be used to involve people in education. Most of these methods are rooted in the theory of Paolo Freire (see Section 8.1.2). One of the most widely used approaches is the Participatory Action Research model (PAR). PAR involves three elements, namely research, education and socio-political action.

The techniques used in PAR involve:

- collective research
- critical recovery of history
- valuing and applying folkhistory
- production and diffusion of new knowledge.

The aim is to help an oppressed people transform their environment through their own practice. The commonly used Participatory Rural Appraisal (PRA) falls into this category of methodologies. There is a widespread network of PRA practitioners in South Africa and they should be drawn on by HEATT for the training courses recommended in other sections of this report.

8.1.4 Training for Transformation

Training for Transformation (Hope and Timmel, 1995) is a Freir an education approach to enabling people to understand the structural causes of their problems. It consists of a series of resource books and manuals that emphasise small-group interactions and a process of self-discovery through exploration of key questions in innovative forms such as games, role-play, drama and discussion. The approach has been used extensively in Zimbabwe and Kenya and holds many possibilities for use within water and sanitation education and promotion programmes.

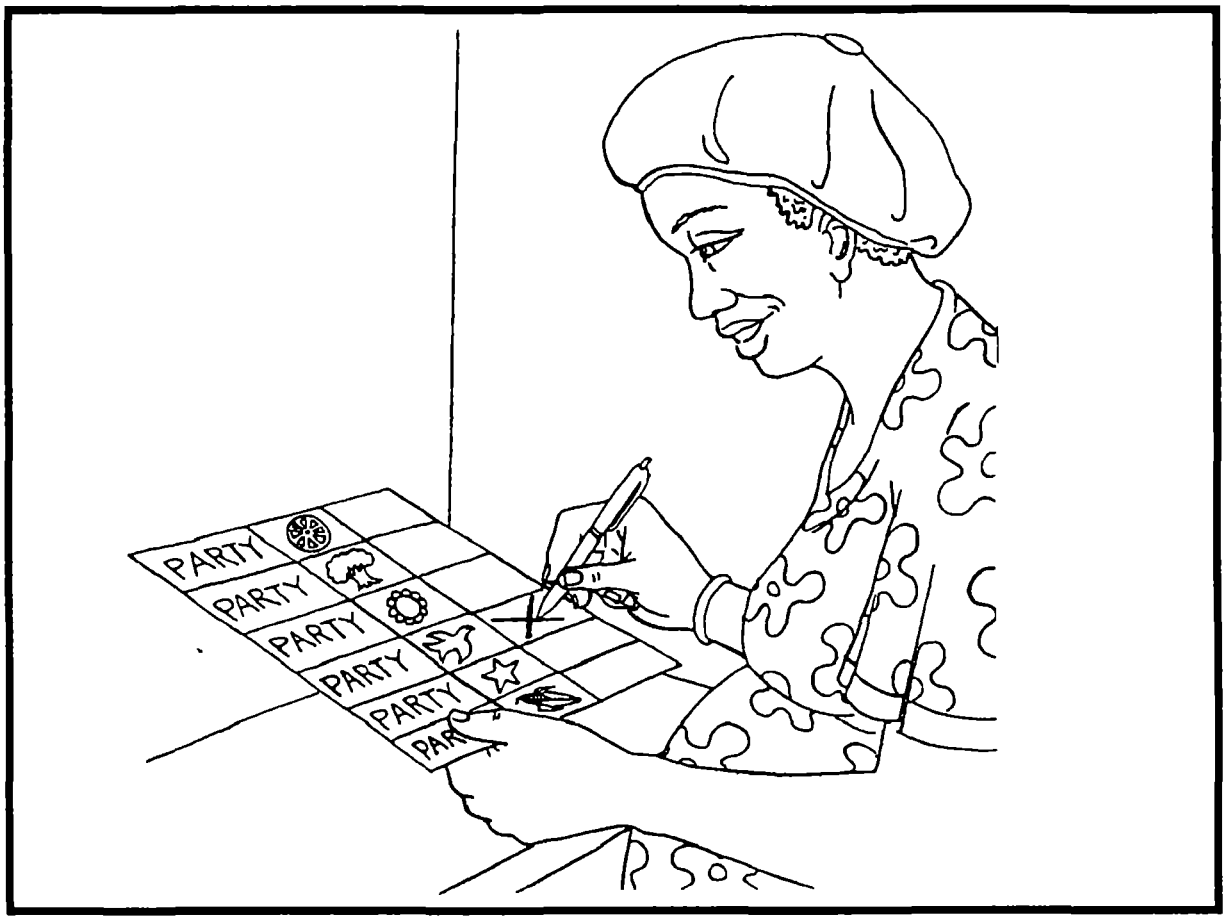
8.1.5 Materials for face-to-face communication

All materials can be used interactively if educators understand and are trained in a participatory approach. But it is also possible to create materials that have to be used in an interactive way. In a participatory approach materials such as comics, posters, videos,

etc. are tools to encourage participation rather than ends in themselves. An important characteristic of the materials described below is that they take into account the context in which people live.

Interactive posters

Posters are the educational tool most often mentioned by EHOs and other fieldworkers. Is it possible to produce interactive posters? A voter education project gives us this example of an interactive poster.



Electoral education poster: IDASA and the Storyteller Group, 1994

This and other posters were developed with people from rural areas all over South Africa. They attended a one-day consultative workshop. An artist participated in the workshop. The people attending the workshop came up with images that they thought would communicate a particular message. One group had to illustrate the principle of secrecy, that is, a person's vote should be secret. The group decided to depict the idea of a secret through the image of a pregnant woman. They argued that for rural women the date that the baby is due is considered to be a joyful secret, so rural people and particularly women, would be able to relate this experience of secrecy to the forthcoming process of voting.

The posters were used in voter education workshops and the subsequent evaluation of the posters carried out by the Institute for Democracy in South Africa (IDASA) suggests that the posters played a central role in stimulating participants' recall of information.

A similar project was undertaken by the Rural Advice Centre (RAC), a water provision NGO, in 1993. Posters explaining how the RAC worked in a community were designed in interactive workshops similar to the workshops described above. Fieldworkers worked with an artist to design the posters which were to be used as a focus for discussion with community groups. The posters consisted of single images representing a theme that the fieldworkers had identified. The workshops had a secondary aim and this was to introduce and train the fieldworkers in a participatory education approach. A manual for fieldworkers was produced to accompany the posters. The posters were also designed so they could be reproduced as cards to be used in a sequencing exercise to help a village water committee plan the steps of a project.

Heart to Heart

A good example of this kind of material is a comic, called "Heart to Heart", produced in 1993 by the Storyteller Group. Heart to Heart was workshopped in a rural area around the issue of teenage pregnancy and sexuality. It begins with a story that presents a realistic and authentic story about a girl who becomes pregnant and willingly gives up her dream of becoming a social worker. The comic writers felt this story that came from the workshop participants conflicted with what many girls might actually feel. On reflection they realised that the boys had dominated the initial workshop. They therefore returned to the rural area and ran another workshop. This time they encouraged the girls in the group to challenge the original story. This time a very different story emerged. The writers include both stories and the story of how the two stories were written, including some of the dialogue from the workshops. What emerged was an educational resource that provokes discussion and makes students grapple with important issues.

Half a million copies of Heart to Heart have been distributed by the Department of Health as part of their sexuality education programme. This kind of interactive dialogic material could be developed around water and sanitation issues.

Materials based on perceptions

One of the challenges faced by HEATT is to find appropriate mechanisms for health promotion. This is especially difficult in South Africa where class, culture and language mitigate against effective communication between health promoters and their audiences. The production of health education materials is largely professionalised with intended audiences isolated from the needs assessment, the conceptualisation and the implementation process. What we need is to involve the "target audience" in a participatory process that allows for the organic development of materials.

One of the ways of achieving this is through careful research with the target audience, whether adults or children, before the materials development process begins. This is the approach adopted by Soul City (see Section 8.2.7). Important work into children's perceptions of their health problems is being undertaken at the University of the Western Cape that could form the basis for materials development (see Section 6.6.6). The Community Life Projects (CLP) approach also uses perceptions studies as a basis for developing materials and programmes (see Section 7.7.8).

The love scene in "Dream Love"

The same scene re-worked for "True Love"

Extracts from Heart to Heart (Storyteller Group)

8.2 Review of the mass media

Does the mass media have a role in imparting knowledge, creating awareness and influencing behaviour in the realm of water and sanitation?

One of the important conclusions of this review, and of the HEATT Think Tank workshop (1 - 3 October), is that health practices and sanitary conditions vary widely across different regions and communities. In order to be truly effective, health promotion needs to be carried out in tandem with local communities, using participatory methodologies, and as part of a longer-term developmental approach. However, mass media - by their very definition - deal in generalities, and are conventionally used as vehicles for messages devised by "experts" of different kinds. In the light of the above, do the mass media have a role to play in health promotion?

In this section we will argue that the mass media do have a role to play, aside from the more obvious function of providing campaigns and organisations with public profiles. There will always be important messages that can be couched in universal terms, for instance, the idea that all faeces are potential sources of infection or that babies with diarrhoea need to be rehydrated.

Moreover, the recent appearance in this country of multi-media "edutainment" programmes means that educators have access to highly popular, cost-effective vehicles that are capable of contexualising messages to some degree and which are often supported by materials that can be used in a variety of mediated contexts, offering opportunities for the messages to be adapted to local conditions.

However, the mass media should be used with great care. Media - along with the educational messages they carry - need to be thoroughly researched and constantly re-evaluated. Moreover, the messages communicated through the media need to be supported on the ground. Without support and mediation educational messages could cause frustration or even be misinterpreted.

8.2.1 The media and health promotion in the past

Historically, primary health care education and promotion has not enjoyed a high profile in the mass media, and within this water and sanitation-related topics have not formed a major focus. There have been a few TV documentaries screened at off-peak viewing times that dealt with general health issues, as well as talk-shows on radio and educational supplements in newspapers.

Fortunately for would-be educators, many of the recent mass media education campaigns have been followed up with nation-wide qualitative and quantitative evaluations - a first in South African history. The 1994 national election and the 1995 community elections led to some of the largest ever national media campaigns to be aimed at all sectors of our society. Evaluations of these campaigns by CASE - the Centre for Applied Social Enquiry - provide us with important insights, and raise crucial questions, about the potential role of mass media in education in South Africa. We will summarise these findings before looking at a case study: the multi media health care campaign of the Institute of Urban Primary Health Care (IUPHC), called Soul City, after its flagship TV series.

8.2.2 Mass media and attitude and behaviour change

Often huge claims are made for mass media's ability to change attitude and behaviour. Usually this belief is linked to a "slot-machine" model of communication that views people as the passive recipients of messages. It is assumed that if the messages are well designed and the medium accessible and suitable then people will respond appropriately.

It is true that the mass media are able to wield extremely powerful, often negative, influences on consumer behaviour. One thinks, for instance, of the role of the advertising industry in promoting unnecessary commodities, unattainable needs and unhealthy lifestyles - lifestyles which usually include the consumption of tobacco, alcohol and unhealthy foods. "Short-term gratification of needs" and "status" are powerful marketing "buttons" - which educators need to bear in mind - but we need to be careful not to lose sight of our target audiences' complexity and capacity to make choices.

This review is based on a number of understandings about mass media, education and the role of mass media in education:

- that the ideal role of the educator is to provide information that empowers people to make informed, critical choices responding to their needs and to their environment;
- that human behaviour change is the result of a complex, inter-meshed number of variables and is often part of a longer-term process;
- that people have life-styles adapted to local circumstances, and their behaviour may be based on insights and knowledge acquired over years of trial and error;
- that people make sense of new information in the light of their own meanings, perceptions and cultural backgrounds;
- that even if mass media interventions do coincide with reports of behaviour change (as happened with Soul City) it is extremely difficult to show that this is solely attributable to the media intervention (or that it will continue over the long-term);
- that mass media cannot replace face-to-face communication, and needs to be supported by local-level intercessions.

Mass media can, however, play an important catalytic role in providing knowledge, raising awareness or providing a common frame of reference. The media are able to reach huge numbers of people at a relatively inexpensive cost. For instance the IUPHC campaign reached more than eight million people and cost R8,2 million. To quote the CASE evaluation: "At R1 per person reached, the IUPHC has provided South Africa with remarkably cost-effective health education," (Everatt, Stevens, Orkin and Jennings, 1995).

8.2.3 Access to different forms of mass media in South Africa

South Africa has a well-developed media infrastructure relative to the rest of Africa. According to 1993 figures, in a report commissioned by the SABC, South Africa has one television set per 11 people, one radio for every six people and a daily newspaper circulation of 41 per 1000 people. During the 1995 community elections some form of SABC voter education reached 71% of all adult South Africans (Fenyves, Everatt, and Jennings, 1996).

Television

Television is becoming an increasingly popular medium in South Africa. In 1995 around 60% of all South African adults watched TV daily or weekly. Broken down according to racial categories: "African" viewer percentages, although much smaller than other races, were still incredibly high. Figures in the Soul City evaluation suggest that more than 52% of adult Africans (sic) watched television *regularly*, that is, once a week or more. Slightly more African men (57%) than women watched television (48%). These figures rise, of course, when children are included (Everatt, Stevens, Orkin and Jennings, 1995).

Of course, access to television is biased by area and income. In 1995 around 72% of African adults in formal dwellings in metropolitan and urban areas had access to television on a daily or weekly basis. This compares with 46% of those in informal areas and 39% of those who live in rural areas. Only 39% of Africans earning less than R1000 per month had access to television on a daily or weekly basis.

Radio

Radio remains the most ubiquitous mass medium in our country as is often pointed out by educators. In 1995 around 68% of all adult South Africans listened to the radio daily or weekly. Here African listnership figures were the highest. 73% of all African adults listened to the radio three times a week or more. More than 70% of African adults in *all areas* (and of all incomes) had access to a radio on a daily or weekly basis. More men listened than women on a daily or weekly basis.

The further growth of community radio stations in the last year may even increase radio's popularity. Certainly small studies of programmes carried by Alexandra community radio suggest that a huge number of Alex residents listen to community radio. Community radio also presents opportunities for targeting very specific areas - within broader mass media campaigns - as exemplified by the running of "Healing Hearts" in Zulu on Alex FM.

Print

Mainstream print media is far less ubiquitous than electronic media. Among the problems bedeviling the use of print media are the limited and monopolised distribution networks and the lack of a popular reading culture in South Africa. The lack of a reading culture is considered to be a greater impediment than the oft-quoted statistics of illiteracy, particularly among marginal and rural groups. Literacy statistics usually rely on a very narrow definition of reading and also overlook the fact that literate people read texts to other non-literate people.

Despite these limitations the role of print media should not be disregarded. 29% of adult Africans read a newspaper on a weekly or daily basis. A higher percentage of readers tend to be men (57% of African women never or seldom read a newspaper) According to the CASE evaluation of Soul City, 2 394 000 people saw the newspaper inserts. As we shall see later the synergy of newspaper and TV or newspaper and radio in the voter education campaigns and in Soul City proved to be very positive.

Aside from the mainstream print media, there is scope for independent publishers of print media to make an impact using alternative distribution networks which do not rely on market forces. Since 1990 the Storyteller Group has distributed around 10 million free

comics to a largely African audience comprising children AND adults. A CASE survey (Everatt, Stevens and Orkin, 1994) found that the 2 million voter education comics were read by between twelve and thirteen million people. Many Storyteller comics have been serialised in newspapers and magazines, excerpts have also been included in books and on television. Currently some comics are being republished as Adult Readers and as school texts.

8.2.4 Using the mass media to educate voters during the 1994 elections

When the Independent Forum for Electoral Education (IFEE) was formed in 1993 it faced a daunting task: to try and reach 24,4 million voters, the majority of whom would be voting for the first time. Initially the mainstream media campaigns focused on motivating people to vote; following research the campaigns switched gear and changed their focus to an educational one. It had become clear that potential voters needed and wanted information on the voting process, the documentation required, eligibility criteria, and so on.

An evaluation of the IFEE media campaigns carried out by CASE (Everatt, Stevens and Orkin, 1994) on the eve of the successful election showed that the IFEE voter education media in all its forms reached more than 15 million people:

- 11,2 million adult Africans saw the edutainment TV series "Khululeka" and 8,8 million people saw the IFEE advertisements.
- An average of 9,8 million people heard the five IFEE radio advertisements, with 13,8 million people hearing the "Child Song" advertisement. Other IFEE radio programmes were heard by fewer people. "Voteline", the most popular of these, reached 6,6 million Africans and just under half a million "Coloureds".
- Far fewer African and "Coloured" people read newspapers and magazines; nevertheless some form of voter education in print reached the majority of African and "Coloured" readers - more than 5 million people.
- IFEE's below-the-line media also reached large numbers of people: an average of 9 million people saw the different posters; 12-13 million people viewed the comic; video vans reached 1,6 million African voters; 4,4 million people attended workshops; and 3,2 million attended plays.

8.2.5 Tentative patterns and areas needing further research

- Respondents were asked which form of voter education had taught them the most. Television was perceived to have taught more than radio. Posters were the preferred form of below-the-line media (i.e. media interventions other than radio and TV). Interestingly enough, of the 10% of Africans who chose posters, the majority had seen Khululekha and a third had attended a voter education workshop.
- Successive media evaluations carried out by CASE since 1990 have revealed that many viewers trust television because "it shows things as they are". Print and

radio are regarded as being more open to manipulation.

- Television edutainment does seem to have been a highly a fective educational medium. When the levels of knowledge of viewers who watched Khululekha were compared to the levels of knowledge of television viewers who didn't watch the series, viewers of Khululekha knew more about voting than non-viewers.

- When the knowledge of voting procedure of those with access to voter education only via radio was compared to those only via TV, TV viewers scored significantly higher.

- As is to be expected, those who accessed radio, print and TV scored higher than those who had only watched only TV or radio. This finding as we shall see is contradicted by other mass media campaigns.

- Those who accessed all the mainstream media and below-the-line media and had face-to-face education scored the highest of all. However the combined media scores were not significantly higher than the scores of people who had had face-to-face education and had watched television. To quote the CASE evaluation: "Television and face-to-face voter education have emerged as two of the most effective single educative mediums in this survey - in combination they seem similarly powerful" (Everatt, Stevens and Orkin, 1994).

- When low education respondents were compared to high education respondents, the broadest mix of media allowed the former to score almost as well as the latter. "Importantly television and face-to-face as single mediums of instruction score very well for the low education group and in combination lead to the highest score for this group." It's worth noting that there was also a significant difference in the scores of the low education group between radio as a sole medium and radio mixed with face-to face instruction.

These findings raise interesting questions, particularly regarding the poor performance of radio as a sole educator. This could be attributed to a number of factors: the mistrust mentioned above, the fact that TV evokes more senses and can show processes, patterns of listening versus patterns of viewing (many people listen to the radio while working or doing other things) and so on. It should also be born in mind that television voter education embraced a number of different formats (including edutainment) whereas the radio formats were more limited.

8.2.6 The 1995 SABC Voter Education Campaign

In 1995 a second set of elections were held in most of the provinces. SABC commissioned CASE to evaluate its community voter education campaign which consisted of TV, radio and print inserts (Fenyves, Everatt and Jennings, 1996). Some of the findings which corroborate or contradict the patterns suggested by the evaluation above have been selected here.

- Once again a new series of Khululekha proved to be one of the most popular forms of voter education. Its popularity no doubt was boosted by being screened in

a prime-time slot. The quiz shows and endorsements and other documentary-type programs were slightly less popular.

- 89% of informal dwellers and 80% of rural dwellers who watch television remembered seeing Khululekha. TV viewers with little or no formal education remembered and claimed to have learned the most from the edutainment series.

- However, when the scores of knowledge of viewers who recalled particular programmes were compared, this time Khululekha emerged as the least educational programme. Viewers of the quiz shows and endorsements achieved much higher scores.

- Far fewer resources were put into the different kinds of radio programmes which included adverts, talk shows, interviews and an edutainment series the "Gang Story".

- Radio listeners were asked if they had heard any programmes to do with voter education, without prompting. Half of the respondents recalled adverts, two-fifths talk shows and news items, one-third interviews and only one-seventh the edutainment series. More women than men recalled the "Gang Story".

- The overall correct scores for knowledge about voting were lower for radio than for TV; those who had heard voter education on the radio scored an average of 61% and those radio listeners who had not, scored 57%. Those who heard voter education on TV scored 65% and those TV viewers who had not heard voter education scored 58%.

- Talk shows on radio and the "Gang Story" were both successful in increasing knowledge. However, those who heard only the talk shows scored, on average, 3% higher than those who heard only the "Gang Story".

- Respondents who had been exposed to SABC voter education but not to both TV and radio, scored slightly higher than those with multimedia exposure. According to CASE, "this may reflect scores being pulled down by a less successful radio campaign, and thus some kind of 'interference' effect", (Everatt, Stevens and Orkin, 1994).

8.2.7 "Soul City" - the IUPHC Campaign

In 1995 the IUPHC launched a major multimedia campaign focusing on eight important mother and child health topics. Secondary themes such as AIDS were also explored.

The IUPHC vehicle consisted of:

Soul City a thirteen part multilingual TV drama series screened on CCV at 18h00 on Mondays and repeated on Saturdays at 13h00.

Healing Hearts a 60 part radio drama series broadcast by Radio Zulu, Radio Sotho and Radio Xhosa at approximately 11h00 in the language of the station

Easy-to-read health information pages coinciding with the TV series and distributed through major newspapers.

A booklet of all the insert pages distributed through BP service stations and health centres. Over a million copies were eventually printed and distributed.

A marketing and public relations campaign to popularise Soul City before, during and after the run of the series, and to define a social advocacy role. Components of the campaign included strategic release of articles about the particular health issues, competitions on the radio, a "health care worker of the year" competition, promotions of the youth role model concept of "Soul Citizens", and a competition to find a new, young "star" actor for Soul City 2.

An education package for use in adult basic education centres and clinics consisting of video episodes from the original series, six comic book adaptations, tapes of the comics, flipcharts and a user's guide.

Development of the materials

Soul City is probably unique in South Africa, if not the world, for the amount of research and the degree of care put into the development of the materials. Initially an advisory group consisting of health promotion, media, and mother and child experts was set up to assist in message and material development.

After selection of the eight topics, a literature review was performed and important areas of communication concern identified. A primary target group of black South African young women between the ages of 16-45 years from lower socio-economic backgrounds and with education levels of up to seven years of schooling was selected. (Women of lower socio-economic backgrounds older than 45 and men over 16 of similar backgrounds formed the secondary and tertiary target audiences respectively). Research into the messages then took place using 50 focus groups around the country, mainly with urban and rural black women of low income. A few of the groups consisted of men. Each group discussion covered the eight mother and child health topics.

After testing a pilot episode for TV and radio, scripts were commissioned. Each television and radio script was tested with two on-going panels of women (one in Alexandra township and the other in a deep rural area in KwaZulu-Natal). Each script was also passed through a panel of consultants to check the accuracy of information.

The evaluation

The evaluation was conducted by CASE (Everatt, Stevens, Orkin and Jennings, 1995) using a mixture of qualitative and quantitative methods. Two series of focus groups were held: ten halfway through the project's broadcast period and ten within three weeks of the final broadcast. The quantitative research involved a random cross-sectional descriptive survey of 800 African respondents nationally. The survey covered all areas.

Because of budget limitations and other considerations Soul City decided against doing a baseline survey. Acknowledging the difficulty of "objectively" proving a mass media intervention to be a sole cause of knowledge, attitude or behaviour change, the evaluation focused on self-reported knowledge, attitude and behaviour change. A highly intricate

questionnaire design meant that CASE was able to analyse respondents' knowledge level in direct relation to their exposure to specific episodes of the radio and television series.

Results of the evaluation

The IUPHC Campaign was extremely successful reaching over eight million people (despite less than optimal scheduling times).

- 4 354 people recalled seeing the Soul City TV series
- 3 242 people recalled hearing one of the versions of Healing Hearts
- 2 394 000 people recalled seeing the press inserts
- 3 378 000 people recalled seeing the booklet, although it had only just begun to be distributed.

Soul City reached their primary and secondary targets with 51% of women accessing one or more of the four components and 47% of men. Viewers, particularly women, were drawn by the dramatic content and empathised with the characters. During the second round of focus groups, participants recalled stories - and their messages - literally months after seeing them. There is strong anecdotal evidence that Soul City attracted a large following of young people beneath the age of 16.

The evaluation showed that a considerable number of people reported learning new information from the IUPHC campaign. An overwhelming majority of respondents said they would use the information in the future, a small number acknowledging that they had already used the information. 60% of this number reported a change in behaviour as a result of using the information.

Aside from the quality, one shouldn't underestimate the role that marketing played in attracting audiences. (Soul City 2, first broadcast in 1996, which has a prime slot at 20h00 and has been widely advertised is attracting even larger audiences.) An expensive, high quality multi-media series for children called Spider's Place (see Section 6.6.8) performed well in pilot evaluations, but was not marketed in any way, attracted very little attention when it was screened on TV.

Tentative patterns and areas needing further research

- Not surprisingly Soul City had by far the greatest reach of the media in urban and metropolitan areas. However when one looks at media reach in rural and informal areas there were some surprises:
  - Healing Hearts only reached 15% of respondents in rural areas. This unexpectedly low when compared to Soul City (12%) the glossy booklet (15%) and even the newspaper inserts (8%)
  - Healing Hearts performed far better in informal areas reaching 43% of all respondents compared to Soul City (26%) the glossy booklet (33%) and the press inserts (20%).
- Topics such as diarrhoea, child abuse, paraffin and respiratory illness where the message was integrally woven into the drama tended to be remembered more

often. Messages that were incidental to the drama such as infant nutrition tended to be remembered less often but there may have been other variables at play.

- Interestingly enough, when comparing the scores of those who accessed the messages via a particular medium with scores of those who watch the same medium but never accessed those messages, the different media score differently on different messages. For instance those who only watched the TV episodes on child abuse or only read the press inserts showed a far greater increase in knowledge than those who only listened to the radio episodes. For diarrhoea this was completely reversed. Those who only listened to the radio episodes or read the press inserts learned far more than those who only watched the TV episodes. These kind of comparisons are tricky given the different educational profiles of radio listeners versus TV viewers, but they do suggest that Healing Hearts proved, in some instances, a powerful educator. Up until now radio has fared rather badly in all the evaluations.

- A similar pattern to the one in the evaluation of SABC voter education emerged when examining media synergy. One would expect that the more people are exposed to a message via different media the more they will learn. This happened very powerfully with TV and print but not with radio and TV. Those who accessed the messages via radio *and* TV showed less increase in knowledge than those who accessed the messages via the individual media. In one instance - the immunisation message - those who accessed the message via radio and television appeared to have less knowledge than those who never accessed the IUPHC media. The CASE team caution against reading too much into this pattern giving the low sample size and suggest further research in a future evaluation. There are many possible explanations: there was interference between the way the messages were communicated in the two stories, Healing Hearts and Soul City are very different stories, the lower educational status of radio listeners, and so on.

Soul City - the future

This year the IUPHC launched a second multi-media campaign with the same components, and preparations are being made for a third and a fourth series.

1. The first Soul City series was re-screened on TV1 and achieved an even bigger audience.

2. Healing Hearts was run in Zulu on Alex FM with a phone-in program. It reached a third of women radio listeners in Alex, two thirds of whom also listened to some of the phone-in discussion programmes. The percentages of right responses for each topic were generally very high, but the scores of non-listeners were also very high, in some cases even higher. Once again, possible variables make it hard to interpret the findings.

3. The second series began its run in August on TV1 at the prime time slot of 8pm. It is currently the third most popular program on television. This time around the marketing campaign has been even more powerful.

4. A greater number of radio stations have taken the new 60 part Healing Hearts.

5. The newspaper inserts have been expanded into supplements and carried by a number of newspapers.

6. An even more comprehensive evaluation has been conceived involving four "sentinel sites".

The evaluation which this time has included a baseline study will be able to monitor the audience's responses to all the media components on a three monthly basis over a two year period.

8.2.8 Conclusion

HEATT should consider making use of a multi-media edutainment vehicle, as a cost-effective and powerful means of reaching a large number of people

At the moment with the absence of other multi-media initiatives Soul City seems to be almost ideal:

- the respective settings of Soul City and Healing Hearts will be able to show sanitation messages in appropriate contexts;
- the broader package offers materials to facilitate face-to-face communication;
- the on-going evaluation will allow, hopefully, for even more effective mass media interventions and appropriate back-up strategies tailored to specific contexts;
- themes being explored in future series of Soul City include energy, land and housing - these messages complement sanitation messages and thus fit into the holistic model promoted in this report;
- the costs of the series would be shared by a number of funders and sponsors.

8.3 RECOMMENDATIONS

1. HEATT should form a communications unit to develop a comprehensive communications strategy. The unit could hold its own "think tank" to help inform the development of this strategy.

2. . HEATT should consider making use of a multi-media edutainment vehicle, as a cost-effective and powerful means of reaching a large number of people

3. Careful on-the-ground research needs to be done in designing a message brief for any mass media intervention, but especially for a story vehicle.

4. Scripts need to be carefully tested to make sure that they achieve the right balance between powerful drama and educational content. The educational content should not lose its efficacy by being translated into story - and should be intrinsic to the drama, as far as possible.

5. Structures need to be put in place to support the media with face-to-face communication and to promote and support potential behaviour change. For instance, to use an energy example, it's no good promoting the usage of low-smoke coal as part of a national campaign if it isn't affordable or available in certain parts of the country. This would create frustration and undermine the credibility of the media vehicle.

6. Face-to-face communication should be carried out using participatory and empowering methodologies.

7. Education programmes and materials around water and sanitation that can be applied in different local situations need to be developed. Facilitators (ideally existing resource people) to implement these programmes need to be given training and support.

8. The role of radio needs to be carefully assessed - it doesn't seem to be as effective as it could be even when we take into account the lower education profile of some listeners who only have access to radio

9. HEATT needs to think carefully about the ways in which different media achieve synergy. Different media need to be tested together to avoid some kind of "interference" affect.

10. The efficacy of mass media and access to mass media should be constantly evaluated - this requires money to be done properly. Comparisons between Khululekha and Khululekha 2 underline the importance of on-going evaluation.

9 CONCLUSION

This report gives an indication of what is happening in the field of water and sanitation-related health education and promotion. The review covered a wide range of players and uncovered a complexity of structures, activities and methodologies.

The review showed that it is not only a lack of access to water and sanitation infrastructure, nor even only a matter of adopting appropriate hygiene practices that define the problem (and hence inform the strategy), but the realisation that the core problem - people dying of preventable water-related diseases - is located within a complex and interacting set of constraints. Any strategy that does not acknowledge this complexity is unlikely to succeed.

The report provides information about institutions and structures, policy developments, numbers of employees, approaches, methodologies and trends. However, in keeping with the multi-level problem analysis described above and in order that an emerging strategy is more able to reflect all levels of the problem analysis, the report also identifies resources and opportunities that are available to HEATT in developing a strategy for water and sanitation-related health education and promotion in South Africa.

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11 Appendix 1: List of people and organisations contacted

National Government
- Environmental Health - Thuso Ramaema
- Health Promotion - Gonda Perez
- Education - Kenau Swart
- Department of Water Affairs and Forestry - Simon Hartley, Isabel Blackett, Jenny Evans

Regional/provincial government offices in **all** provinces
- DWAF
- Housing and Local Government
- Health

Gauteng Provincial Dept Health Promotion - Jackie Marneweck
Gauteng Education Department
- Norma Rudolph Early Childhood Development specialist
- Heather van Graan, Training and Learning Facilitator
- Cassim Seth, Training and Learning Facilitator
- David Gulston, Training and Learning Facilitator

Local government offices
- individual EHOs
- Benoni LA
- Carletonville LA
- Elandsfontein LA
- Heidelberg LA
- Lenasia LA
- Vaal/Vereeniging LA
- Lekoa Vaal LA
- Durban City Council
  Gill Thacker (Health Promotion)
  Dr Andrew Robinson (Health, Dysentry Working Group)

Individuals
- Colleen Crawford - participatory education consultant
- Ann Hope - participatory education consultant
- Alet Crous - ex DET health education

African Research and Educational Puppetry Programme
AFRICON - Alan Ross
Aids Consortium
Akanani - Andrew Kotane
Amatikhulu Training Centre - Steven Knight
Amatikulu Primary Health Care Centre
AUSAID - Glen Chandler
Balisa Educational Comics
Besters Camp
Cape Tecnikon - Chris Derry
Capricorn Trust
CASE - David Everatt
Community Based Development Programme - Frank Mlotswa

Community Based Programmes Department (Rand Water) - Graham Reid
Centre for Health Policy - Helen Schneider
Child to Child - Bill Holderness and London office - David Wheeler
Claude Harris Leon Foundation - Malcolm White
Community Aids and Information Centre
Community Life Projects - Phillipa Davis
Creative TV - Sally Smith
CSIR - Building Technology - Aussie Austin, Ian Pearson
CSIR
Delta Environment Centre - Di Beeton, Rina van der Watt (Industrial Theatre Initiative)
Development Action Group - Jackie Boulle
Development Bank - Barry Jackson
Dramaide
Eco-link - Martin Dimba
EDA - Dan Mogale
EECI - Heila Lotz
Foundation for People Centred Development
Grassroots Productions
Health Systems Trust - David Harrison, Peter Baron
Health Care Trust - Brigid Lloyd, Whitey Jacobs
HSRC - Ana Meyerweitz
KwaZulu Training Trust - Baba Kamanga
LAPC - Rosalind Kainyah
LIMA - Duncan Stewart
LJA Development Services - Len Abrams
MRC - John Seager, Liz Thomas
Mvula Trust - Ilse Wilson, Ken Jeenes, Andrew McDonald, Rob Dyer
Natal Parks Board - Rob O'Donoghue
National Progressive Primary Health Care Network - Janey Speelman, Cheryl-Anne Shishkin-Cox, Peter Long, Irwin Friedman
New Housing Company - Ms D Bowler
Nkomazi sanitation committee - Jean Louis Hayes
Operation Hunger
Peninsula Technikon - Ken Salo
Planned Parenthood Association
Project Green - Rob O'Donoghue
Rand Water - Grant Pearson, Graham Reid
Rural Foundation -
Rural Foundation - Felicity Gibbs
Rural Development Services - Andy Green
Rural Support Services - Leslie Steele
SABC - Charles Owen
Shandler and Associates - David Shandler
Share-Net - Linda Paxton
Shoestring Productions
Society for Family Health
Soul City - Sue Goldstein
South African Land Development Organisation -
South African Housing Trust - Mr Hosking
Stocks and Stocks
Storyteller Group
Thukela Joint Services Board - Siya Mkhehele
Thuthuka - Patrick Mbanjwa/Gordon Chrystal

Tlhavhama Training Initiative - Leah Nchabeleng
Toens and Company
Trust for Christian Outreach and Education
Tsogang Water and Sanitation - John Kings
Tsogang Theatre Education Development Association
Umgeni Water - Steve Camp, Isaac Ngwenya, Simon Masheko, Penny Gumede, Bongi Thabede
University of Cape Town, Child Health Unit - Elizabeth Hoogendoorn
University of Pretoria, Department of Community Health - Ina de la Rey
University of Natal Durban - Adult Education - Esther van Kotze
University of Cape Town, Env Support Unit, Farieda Kahn
University of the Western Cape, - Centre for Continuing Adult Education - Joe Samuels, Tony Sardien
University of the Western Cape - Environmental Unit - Ken Salo
University of Sellenbosch - Danie Schreuder, Schools Water Project
University of the Western Cape, Department of Public Health - David Sanders, Khalipha Bility
University of Natal Durban - Jean Prinsloo
Valley Trust - Clive Bruzas
VM Rural Development Services - Ken Vinson
Wildlife Society - Jim Taylor
WWF SA - Leslie Richardson

12 Appendix 2: Sample questionnaire used for review

National Health Education and Awareness Task Team
Questionnaire for providers/funders of water and sanitation related infrastructure and services

Please fax completed form **by 13 August 1996** to: the HEATT office **011-726 3633.**

Government department .....

Address (postal) .....

.....

Telephone ..... Fax ..... E-mail .....

Contact name .....

1. Do you have directives or guidelines for including education or awareness programmes in infrastructure projects (for example, in the form of a policy document)? (please tick Yes or No)

Yes [ ]

Please give details (or fax relevant pages or post the entire document to: HEATT office PO Box 613, Auckland Park, 2006).

.....

.....

.....

.....

.....

No [ ]

2. When providing, or funding, infrastructure and services do you include water and sanitation related health education or awareness of any kind? (please tick Yes or No)

Yes [ ]

Please describe briefly the education/awareness component

.....

.....

.....

.....

.....

(question 2 continued)

Please list the projects which have such an education or awareness component. To help us obtain more details please include the name, telephone/fax number of a contact person for each project.

.....

.....

.....

.....

.....

.....(continue on separate sheet if necessary)

No [ ]

Please state briefly why not .....

.....

.....

.....

.....

3. Many government departments contract out infrastructure related work to private companies. If you do this, please supply names, addresses and telephone/fax numbers of companies working on current projects. We could then interact directly with them about health and hygiene promotion.

.....

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4. We would welcome any other comments or suggestions you think may be useful for this survey, or about the HEATT programme in general.

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Thank you for your help

13 Appendix 3: Aids education programmes - learning for the health sector

In recent years, much research into the effectiveness of AIDS education initiatives in South Africa (and internationally) has pointed to the failure of many initiatives in achieving appropriate behaviour changes. Broadly, the research has highlighted that one of the main factors for the ineffectiveness of these programmes is that sexuality education cannot be separated from the complexity of personal, economic, cultural, political and historical factors that determine an individual's values and life choices.

Health communication materials have largely come from the "professional" arena and have largely excluded target audiences from needs assessment, conceptualisation and implementation processes. The result is communication messages that have appeared to be "value-free", such as the "Stop AIDS" poster and pamphlet campaigns, which have not been effective on an ongoing basis. Firstly, these messages are not value-free or neutral, but rather seem to be coming from an authoritarian and moralistic position. Secondly, these media have not involved their diverse audiences in the processes of their development or in any education and awareness programmes which would enable them to participate in the process of their own learning. The emphasis on AIDS awareness and information in much of the existing media has often obscured the deeper reasons for the lack of attitudinal and behavioural changes. These underlying causes for the lack of change include socio-economic circumstances, media miscommunication because messages have assumed homogenous audiences; and these audiences' variety of assumptions and preconceptions about social and sexual relationships and gender roles, cultural taboos and sexual discrimination.

Currently, there is broad agreement among HIV/AIDS educators that sexuality education should be part of comprehensive life skills education; and that only through acquiring these skills can people use information and make informed choices about their lives. Receiving information is not enough. People need to be able to understand and assimilate information in the contexts of their own lives. The National Aids Consortium South Africa (NACOSA) has defined life skills as:

> The personal skills needed by each individual to act in a constructive and creative manner in the following areas of life experience: learning, work, play, personal social develop-ment, and interpersonal relationships. These are the skills needed to empower each indiv-idual to take responsibility for promoting his/her own health of body, mind and spirit.

In this context, sexuality education and media production are not value free or neutral, but rather involve people's whole life experience and allow them to evaluate and learn through their experience.

Sexuality and health educators have increasingly come to endorse participatory education models as effective means to challenging people's values, assumptions and choices of behaviour. Participative education places emphasis on the active participation of people in their own learning process; on people learning through taking part in group experiences. Participatory education contextualises the learning process in people's own life situation - where they are and what their circumstances and attitudes are. In the AIDS education field, there have been many initiatives which have used integrated learner-centred group activities as a basis for discussions, debates, role-plays and in the development of appropriate and accessible sexuality education material across a range of communication media, such as booklets, radio, newspaper, television and comics.

14 Appendix 4: Water related diseases

[This information is based on work done by Genthe and Seager et al, (1996) and von Schirnding, Yach and Mathee, (1993).]

There are four types of water-related diseases, generally classified according to how the pathogens are transmitted within the water environment. The box below summarises the main types, and gives an indication of their relative incidence in South Africa.

It is important to note that there is a lack of reliable data on the incidence of infectious diseases in South Africa. The sources that currently exist are fragmented. Such data is necessary in order to determine the effectiveness of health intervention/promotion programmes. However, this is something that the Department of Health is addressing.

Water-borne diseases
The water acts as a passive carrier for the bacteria, virus or other pathogen which causes the disease.

Examples: Diarrhoeal diseases caused by bacteria (e.g. Shigellosis, cholera, typhoid), protozoa (e.g. amoebic dysentery); viral diseases (e.g. poliomyelitis, hepatitis).

Routes of transmission: drinking contaminated water, eating food that has been washed in contaminated water. Re-infection is through the faecal-oral route.

Preventive measures: improve water quality by boiling water, or using chemical purifying treatment; avoid re-infection by safe disposal of faeces, adopting safer hygiene practices, preventing pollution of water supplies.

Incidence of notifiable diseases in South Africa:

Polio: few cases are now reported in South Africa, and vaccination is helping to reduce incidence.

Cholera: the last cholera outbreak in South Africa was in 1987 when there were in excess of 20,000 cases. However, there has been a steady increase in cases in neighbouring countries, in line with a global pandemic. Increased movement of people from such countries means that there is always a chance of outbreak. Overcrowding in urban areas, linked with inadequate water and sanitation increase the risk of spread and epidemics.

Typhoid: a problem in certain areas of South Africa - former Gazankulu, Transkei, Lebowa, KwaZulu. Linked to poor quality of rural sanitation and water supply. Recent reported declines in incidence. But as with cholera, increased migration from endemic areas to cities will increase the risk of incidence in urban areas, and overcrowded living conditions with inadequate water and sanitation facilities increase the risk of epidemic disease.

Water-washed diseases
These include diseases that are ingested and affect the gastrointestinal tract, often leading to diarrhoea, and those that affect the body surface, causing skin and eye infections.

Examples: scabies, trachoma, conjunctivitis

Preventive measures: improved domestic and personal hygiene through increased washing. It is the availability of water that is important here rather than quality.

Water-based diseases
In these diseases, the pathogen spends part of its life in an aquatic animal (e.g. snail).

Examples: Bilharzia (schistosomiasis), penetration through skin; guinea worm (ingested).

Preventive measures: avoidance of infected water bodies - measures rely on cultural/social behaviour.

Incidence in South Africa: It has been estimated that two million people in South Africa are infected with schistosomes (intestinal helminths) of which less than 10% experience morbidity or disability. Endemic areas mainly in Durban/Pinetown and northern cities.

Water-vectored diseases
These are diseases transmitted by insects which either breed in water (e.g. malaria-carrying mosquitos) or which bite near water (tsetse fly).

Preventive measures: avoiding unnecessary pools of standing water, e.g. around stand pipes, and drainage channels.

Excreta-related diseases
Tapeworms, contamination from animal faeces, e.g. pig.

Preventive measures: as for other faecal-oral re-infection routes.
It is the water-borne and water-washed diseases leading to gastrointestinal disorders such as diarrhoea and dysentery that are the most widespread in South Africa and which give the most cause for concern. In addition to their long-term debilitating effect, such diseases are one of the main causes of death in children under 5 years of age. In South Africa, it is estimated that every year there are 1.5 million cases of diarrhoea in children under the age of 5. Statistics from 1984 indicate that diarrhoea accounted for 27.7% of all deaths of children under 5 (von Schirnding, Yach and Mathee, 1993). The present review shows that most health impact assessments of water and sanitation interventions and most existing education programmes focus on water-borne diseases. It is important to keep in mind the need for localised education programmes where other water-related diseases may need more focus.

Breaking the cycle of infection
The best way to lower the incidence of water-borne, and water-washed diseases, and other excreta related diseases, is through breaking the cycle of re-infection. The main route for re-infection is faecal-oral. There are three important ways to break this transmission route:

1. Safe disposal of excreta (to prevent contact from flies which can carry the pathogens to food, hands, eating utensils; and to avoid pollution of water sources). "Safe" disposal methods can vary from the simple burial of faeces to use of VIP latrines, or flush toilets.

2. Personal and domestic hygiene measures, especially washing hands after defecating and before preparing food. This relies on the availability of water in sufficient quantities.

3. Improving quality of water and preventing its recontamination. Methods include:
   - boiling or chemical treatment of water that is used from rivers/dams/springs/wells;
   - provision of piped water of "adequate" quality;
   - ensuring water storage containers are clean and avoiding re-contamination by covering them so flies cannot get in;
   - using clean scoop/cup to take water out of container.

From the above it is clear that many of the preventive measures are not necessarily associated with improvements in water or sanitation technology at all. Rather, they are based on an understanding of the disease cycle and adopting appropriate hygiene practices to reduce the chance of re-infection.

It is also clear that the provision of water and sanitation facilities without following safer hygiene practices will not necessarily break the re-infection cycle

> "The mere material improvement of water supplies and sanitation facilities would doubtless prove to be less effective than if the people were advised by means of health education of the sources of their particular disease problems and how to avoid them. It is, therefore, essential that an intensive education programme should form an integral part of any sanitation or water supply project." (Genthe, Seager *et al*, 1996)

Water quality vs. water quantity
(This section taken from Bassett, Sanders, Todd and Laver, 1992

There is now ample evidence in the international literature that provision of adequate quantities of water have a greater impact on diarrhoeal disease, and probably skin and eye infections than simple provision of clean water. Water supplies must be ample and accessible. The expenditure of time and energy in carrying water is immense, and water use is only increased significantly if water sources are in close proximity to the homestead. Women will generally use the closest water supply and not the cleanest. We have observed women take water from an unprotected shallow well 50m from the homestead instead of walking 500m to the borehole with a bushpump.

In Zimbabwe the importance of water quality has been and still is over-emphasised in water supply programmes. This fails to take into account the realities of water use and is often at the expense of a stress on water quantity and the need to encourage hygienic practices. Too much significance is placed on the finding of (usually relatively low numbers) faecal indicator bacteria in small water supplies. These bacteria are not themselves necessarily pathogenic, and should rather be recognised as markers of environmental faecal contamination. In the case of water becoming contaminated during storage, this is because of faecal contamination of hands and utensils.

Most diarrhoeal disease is not water-borne; the corollary is that provision of clean water alone has little impact on the prevalence of diarrhoea. In reality, diarrhoea is probably transmitted on the hands and utensils, either directly (e.g. rotavirus) or by contamination of

food, which provides an excellent culture medium for many pathogens. In preventing schistosomiasis, the case for emphasising water quantity rather than quality is stronger still. Schistosomiasis may be transmitted by contact with infected water bodies (streams, irrigation ditches, swampy areas, etc.) Such contact occurs during such activities as swimming, bathing and washing clothes, for which large volumes of water are needed.

Saugestad and others have commented on the traditional view of the preciousness of water supplies and the need to conserve water, because it is so often scarce. She found that most families use between 5 and 8 litres per person per day (other studies suggest that this may be a rather low estimate) and that after the implementation of the water programme, water use remained moderate. We suggest that the undue emphasis placed on water quality may have positively reinforced this "culture of scarcity" with regard to water: even when it is plentiful. Furthermore, it results in inappropriate, time-consuming and potentially environmentally damaging advice such as "boil your drinking water".

Cairncross *et al.* estimate that water consumption per person of 20 to 25 litres per day is required in order to achieve health benefits. However, it is true that water may still remain scarce even after the implementation of a water programme, because of drought, which is frequent in Zimbabwe, bad siting of wells, or pump breakdown, so apparent parsimony with regard to water use has a rational basis. Furthermore, reaching a level of consumption of 20 to 25 litres per person per day requires the water supply to be located very close to, if not inside, the home.