

DEVELOPING A TOOL TO EVALUATE THE PLANNING
PROCESS OF A HYGIENE EDUCATION PROGRAMME FOR
WATER SUPPLY AND SANITATION PROJECTS IN
DEVELOPING COUNTRIES.

SUZANNE ANDREA REIFF

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ABSTRACT

Long term benefit of water and sanitation projects depends upon hygiene education (Boot & Cairncross 1993, Hubley 1993, Feacham 1983). This dissertation examines the approaches to hygiene education in the planning process, to determine which are the issues that have to be dealt with and the stages that have to be followed for a hygiene education programme to be developed successfully. The aim of this paper is to develop a checklist which can evaluate as well as guide the planning of a hygiene education programme. The paper defines the terms and concepts surrounding health and hygiene and outlines the evolution of water and sanitation projects and the introduction of hygiene education programmes over the last decade. The importance of the study of hygiene behaviour is reviewed, along with the cultural, social and economical determinants that influence hygiene behaviour. The research methods available for studying hygiene behaviour are described and their informative value examined. Furthermore, specific attention is given to certain resources that are indispensable to the successful planning of a hygiene education programme. Finally, the checklist is developed using the information which has been gathered in the course of this paper.

INTRODUCTION

My interest in hygiene education for water supply and sanitation projects developed subsequently to my internship with a non-governmental organisation (NGO) in one of the slums of Nairobi, Kenya. My task as a development worker was to set up a latrine construction project on the basis of community participation. Being a novice in the practice of setting up development projects, I was mainly guided by my theoretical knowledge which I had developed as an undergraduate reading 'Development Studies with Sociology and Social Anthropology' and the advice I had received from more experienced development workers. My main concern throughout the development of this project was to guide the community towards the appropriate choices, namely the type of

latrine they could afford to look after and that would be sustainable in a slum situation (appropriate technology). Furthermore, my efforts were concentrated on writing a convincing project proposal to attract new donors as our initial donor had let us down. To cut a long story short, I was overwhelmed by the number of different tasks that had to be carried out, and to get to the point, I did not even think about introducing a hygiene education component. My experience is perhaps not unique, for having now reviewed reports of various different water and sanitation project implementations, I have seen that in the past hygiene education programmes have in many cases been omitted or developed as an afterthought.

The consequences of not introducing a hygiene education component in the latrine construction project that I was responsible for could have been disastrous, and in fact could still undermine its sustainability in the long run. With hindsight I can now identify the hygiene education factors I should have focused upon. In this context it would have been mainly on the maintenance of the latrines which seemed to have been a recurring problem with other latrine construction projects in the same area. Nevertheless, the specific behaviours to be targeted change depending on the context, this issue will be one of my main focus points in this dissertation.

Interestingly enough, hygiene education is not a new issue. Although it may seem to many of us to have been developed during the growing importance of preventive medicine in the last two decades, hygiene education as a measure of disease prevention

can be traced back to the nineteenth century. Indeed it was in Europe during the nineteenth century, with the increasing influence of the 'germ theory', that attention was given to developing and improving sanitary facilities such as latrines, adequate water supply and sewerage systems. With the introduction of curative medicine many of the simple concepts of hygiene were pushed in the background until making a reappearance in the last two decades in the western world but also in developing countries. Hygiene education has thus been rediscovered as a useful tool in disease prevention. Nevertheless, although the beneficial aspects of hygiene education have been re-established, the actual planning and implementation of such a programme are considerably more complex than was at first expected. Indeed there seems to be a wide gap between policy intent and the actual adequate implementation of such programmes (Walt & Constantinides 1984). It is this aspect of hygiene education that I would like to concentrate on, going through the steps of how a hygiene education programme should ideally be set up as to maximise its potential beneficial impact. There are many factors to take into consideration and many pitfalls to be wary of. To the best of my ability I will describe and analyse the different situations that may occur in the process of planning a hygiene education component for water and sanitation projects in developing countries.

I am well aware that there will be many limitations to this paper, its restricted size as well as the constraint of my finite hands-on experience in the field have to be taken into account. Nevertheless with the growing supply of literature in forms of manuals, articles and project reviews, I hope to be able to catch the essence of the different factors

involved in the development and planning of hygiene education programmes in water and sanitation projects.

Personally, my aim in writing this paper will be to get a clearer idea of the steps involved in the setting up of a hygiene education programme. This being the reason for developing a checklist to evaluate the planning process of hygiene education programmes. Hoping in the future to be involved in the entire development process of water and sanitation projects, I believe this dissertation and the research that has been necessary to develop it will guide me in the steps and choices I will have to make in the successful development of such projects. Furthermore, I hope this paper with its checklist may also be useful for other people involved in developing similar programmes in developing countries.

CHAPTER 1

1. Introducing the concepts surrounding health and hygiene and a historical approach to the notion of hygiene education

The aim of this chapter is to give a solid introduction to the terms that will be used throughout this paper, reaffirming the idea that health is a problematic concept in itself. Furthermore, a historical background to the development of water supply and sanitation projects in the last decades, and the growing importance of hygiene education as a measure to increase the sustainability of these projects will be given.

1.1. Definitions of health, hygiene, hygiene behaviour and hygiene education

It seems appropriate in the context of this dissertation to define the terms which will be used repeatedly, namely *health*, *hygiene*, *hygiene behaviour* and *hygiene education*.

Health, or in fact *good health* has been defined by numerous bodies of knowledge, professional and non-professional. I will touch upon only some of the most popular of these definitions as a complete review of the concepts of *health* is worthy of a dissertation of its own. The problem with the term *health* is that there is no single uncontroversial meaning of this word (Seedhouse 1991). Depending on the society at hand, its culture and beliefs, the term *health* will be interpreted differently. The prevalent definition of *health* in western society has been largely influenced by the medical

profession which sees *health* as the absence of disease or other physiological malfunctioning of the body. However, as Wolinski (1988, p.76) says, this **“is not really a definition of health , but rather a definition of what is not disease”**. Nevertheless, this definition has been challenged over the past decades. Indeed with the growing importance of psychological and mental ailments such as stress and depression, the term health has expanded its definition to include not only physical ailments. The World Health Organisation’s definition of *health* has broadened the definition as being: **“...a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity”** (WHO, 1946). This definition may be considered to be a universal objective as it is more all encompassing of the different features of *health*, however, it is often regarded as a utopian dream.

Seedhouse (1991, p.10) has underlined the paradox of *health* by stating : **“health is a goal which is desired universally, but which does not have a universally shared meaning, and so cannot be desired universally”**. With this concept Seedhouse (1991) reaffirms the case that throughout the world ‘being healthy’ has a different meaning and thus refers to different ‘states of being’. Seedhouse (1991) continues in his reasoning by declaring that although the definitions and beliefs that subsist around *health* are numerous, all are based on the concept of removing obstacles to the achievement of human potential. These obstacles he lists as biological, environmental, societal, familial, or personal (Seedhouse, 1991).¹ This dissertation will concentrate mainly on this

¹ In certain cultures, religious beliefs may also constitute an obstacle.

potential of human achievement, the potential of laying the foundations and removing the obstacles to achievement (Harding 1996). Although this may be an obscure definition of *health*, within this dissertation the ‘potential to achieve a range of possibilities’(Seedhouse,1991) coincides with the concept of *hygiene* and *hygiene education* which here constitute two of the ‘potentials’ to achieve *health*. Although *health* as previously mentioned, is an extremely elusive term, in this dissertation it will most often take on the most classical of definitions, namely the absence of illness and disease, this being the primary objective of hygiene education. Nevertheless the process of hygiene education, from planning to implementing should be seen to have wider health effects as the process at its best should stimulate the community involved to take action for themselves and develop their ‘potential’ for other achievements.

The definition of *hygiene* encounters the same difficulties as defining the term health in that it is susceptible to be interpreted differently according to one’s origin and cultural background. Indeed, to be hygienic or behave in a hygienic fashion constitutes just as much a paradox as the term ‘being healthy’. A typical definition of the word hygiene is : **“the practice of keeping oneself and one’s surroundings clean, especially in order to prevent illness or the spread of diseases.”** (Boot & Cairncross ,1993, p.6) As will become clear in this dissertation, what we in western societies consider an illness or disease is often considered nothing but a nuisance in developing countries. Similarly, what westerners consider to be unhygienic will not be considered so in some developing countries and vice versa.

Although there are cultural differences in opinion about what constitutes *hygiene behaviour*, in this dissertation it will be associated with : **“A wide range of actions associated with the prevention of water and sanitation-related diseases”** (Boot & Cairncross, 1993, p.135). Indeed, it has been proven that human behaviour and in particular *hygiene behaviour* is an important factor in the transmission of diseases. In many cases these diseases are related to water and sanitation issues and they can be avoided by changing one’s habits such as *hygiene behaviour*. Changing this type of behaviour can be aided considerably by *hygiene education*, also defined as : **“The creation of learning experiences to facilitate the sustained adoption of behaviours which help to prevent illness or the spread of disease.”** (Boot & Cairncross,1993, p.135). Although it has to be accepted that hygiene education is not the sole manner of increasing the potential for health (indeed hygiene education can be useless and even counteractive if certain prerequisites and enabling factors have not been met), it is not only useful but in fact absolutely essential when new sanitary facilities are built or upgraded in developing countries. It is in this context that I will be looking at hygiene behaviour and hygiene education.

1.2. The evolution of water and sanitation projects and the introduction of hygiene education

The issue of sanitation and hygiene came at the forefront of the development initiative in November of 1980 when the World health Organisation (WHO) estimated

that 80% of all sickness and disease in the world was attributable to inadequate water or sanitation (Argawal 1985). The General Assembly of the United Nations reacted to this information by declaring the International Drinking Water Supply and Sanitation Decade (1981-1990). The official target of this decade was "Clean water and Adequate Sanitation for All by 1990" (Argawal et al, 1985). Since then numerous projects have been set up in developing countries in all continents. These projects often took the form of providing access to water and sanitation facilities for both urban and rural populations in developing countries, emphasis was put on the coverage of these populations. However, although the coverage was extensive in certain areas, it certainly did not achieve the target the United Nations had set themselves to achieve by 1990 (see appendix 1). Furthermore, many of these projects failed to achieve the impact that they were eventually meant to have: a reduction of water and sanitation related diseases. Indeed, what became clear over the years is that little or virtually no health impact was observed as in many cases the facilities were not used, or they were used in a fashion which would not maximise the potential hygienic improvement these facilities could achieve.

BOX 1

Example of a culturally insensitive latrine construction project

A quick latrine campaign in an east African country resulted in many latrines being built. They were sited along the roadside to enable the public health inspectors to monitor construction by car. However the latrines were not used as people disliked entering in the full sight of passers by.

(adapted from Barrow 1981)

The example provided in box 1 is just one of many failed projects. Indeed, in the enthusiasm of providing as many facilities as possible, most of the donor countries suppliers did not consider the human, social, cultural, environmental and economic factors upon which the proper design, implementation and usage of these facilities depended. Many of the facilities that were thus provided in the early 1980's are now standing idle, like many water pumps that are needing costly repairs to become operational again. Even worse, some facilities such as latrines have become potential sources of health risks as the un-used latrines have become local dumping grounds and have become prime breeding grounds for vectors such as mosquitoes and rats.

Since then water and sanitation projects have become more focused on the issues mentioned above. Appropriate technologies are now used where the facilities have become easier and cheaper to maintain and repair when needed (Kalbermatte et al, 1980). Also there has been a growing movement of building facilities that are socially and culturally acceptable to the people they are destined for, thus involving the community in the design, planning and implementation of such facilities (Wegelin-Schuringa, 1991). Over time the realisation developed that providing people with facilities that we in the west would associate with improving health did not in fact create this response in many developing countries. Providing the facilities was only one step towards improving health conditions. Indeed, the enabling factors such as the facilities themselves, resources, skills, etc., are essential in achieving the aim of improved health.

However, one should also take into account the predisposing factors such as beliefs, attitudes, values and perceptions of the people the facilities are provided for. Community participation was seen to be the crucial method in developing and planning water and sanitation facilities that would take these predisposing factors into account. Indeed, by involving the people who were going to be using the facilities, there would be less risk of overlooking important cultural beliefs and attitudes that would influence the use of these facilities.

The knowledge acquired concerning how water and sanitation projects could be successful, led to the development of health education programmes which came to be seen as a prerequisite for the sustainability of the projects. Indeed, as the former WHO Director General Dr. Halfdan Mahler said: **“ You can have installation of water supply and sanitation programmes without a very striking impact on health. You can have lots of nice water coming in, even piped water, but if it is not coupled properly with sanitation and with health education you will just not register the health impact.”** (in Argawal 1985, p 80). Hygiene education is part of the larger domain of health education, and is thus part of the effort to increase the sustainability of water and sanitation projects. Unfortunately it seems that although the efforts towards these projects was to be more aware of the different factors that can affect them, health education and in particular hygiene education seem to have traced the same route as the projects themselves. Wendy Quarry who has been involved for years in water and sanitation projects and has been fighting to have hygiene education included in these type of projects states in one of her

papers : **“The hygiene education components of most water and sanitation projects have failed in their attempt to bring about sustained behavioural change.”** (Quarry 1994, p 145).

The introduction of a hygiene education component in water and sanitation projects was for many years regarded as an add-on to the total development, planning and implementation of the projects. The hygiene education component was often not taken seriously and one person would be responsible for the entire hygiene education component (Quarry 1994). The reason why so little attention was given to hygiene education is related to the same assumptions that were made in the early development of water and sanitation projects. Indeed, for many years it was believed that the mere provision of water and sanitation facilities would improve health, and with hygiene education the same simplistic logic seems to have been applied as it was believed that if the users of the future facilities would be exposed long enough to the hygiene education messages they would eventually change behaviour. Once again no thought was given to the possible factors that would hamper the adoption of these behaviours, nevertheless they are no different to the factors that influenced the water and sanitation projects themselves. Albeit, from these mistakes we have learnt, and in recent years the hygiene education component in water and sanitation projects has grown in importance. The planning of these hygiene education programmes is probably the most important phase for the success of the programme itself and for the sanitation or water project it will target. Nevertheless, prior to the planning, information will be needed about what

behaviour(s) to concentrate on, whether these behaviours can be changed, the factors that may impede behavioural change etc. All these questions will need to be answered if we want the hygiene education component to be successful. This brings us to the first step in the process of hygiene education development and planning, namely the study of human behaviour .

CHAPTER 2

2. The study of hygiene behaviour for water and sanitation projects

Hygiene education programmes, as was mentioned in chapter 1, have increasingly become a prerequisite in the overall planning and implementation of water and sanitation projects. The process of devising these programmes is complex, and over the years planners and implementors became aware of the steps that had to be taken to increase the success rate and sustainability of such programmes. One of the main steps in the development of hygiene education programmes is the study of hygiene behaviour of the people who are eventually going to benefit from this programme. The reasons as to why it is important to study the hygiene behaviours of the community involved are numerous. Boot, Cairncross (1993), Hubley (1993) and many other specialists active in the field of water and sanitation projects have given specific reasons as to why the study of hygiene behaviour is essential with respect to these projects, these reasons are listed in the table 1 below and described in the next section.

Table 1
Reasons for studying hygiene behaviour

<ol style="list-style-type: none">1. Checking the Success of water supply and sanitation projects.2. Development of successful hygiene education.3. Effective planning of new projects.4. Learning about the links between behaviour and health. <p>(adapted from Boot & Cairncross 1993, p.30)</p>
--

2.1. Why and what ? The reasons for studying hygiene behaviour

One of the primary reason for studying hygiene behaviour that is often mentioned is for checking the success of water supply and sanitation projects. It is argued (Boot and Cairncross 1993, Hubley 1993, Simpson-Hebert in Kerr 1990) that hygiene behaviour studies are more efficient in assessing the success of a project than the health impact studies that were previously used. This is indeed a valid reason as health impact studies will only bring an outcome when a health impact has been observed. Such a study is really only useful if certain conditions have been established, these being the sustained and adequate use of the facilities provided. If these conditions have not been met, the health impact study is superfluous as indeed only facilities used adequately and consistently will yield any positive health outcome.

Hygiene behaviour studies in assessing the success of a water supply or sanitation project will provide more accurate information about the way people have been using these facilities, this will allow for improvements and increasing the effectiveness of the ongoing water and sanitation projects (Boot & Cairncross 1993). Although this train of thought is logical in many ways, it seems to me that the study of hygiene behaviour should be carried out **prior** to the implementation of any water or sanitation project. Indeed the study of hygiene behaviour should be the first step after the decision of the actual need for a water supply or sanitation facility has been established. The information acquired during the hygiene behaviour study prior to the implementation of a water or

sanitation project will direct the project designers towards the specific type of facility necessary, this will allow for the planning of the projects to be more in line with what is acceptable (socially, culturally, economically and environmentally) for the community.

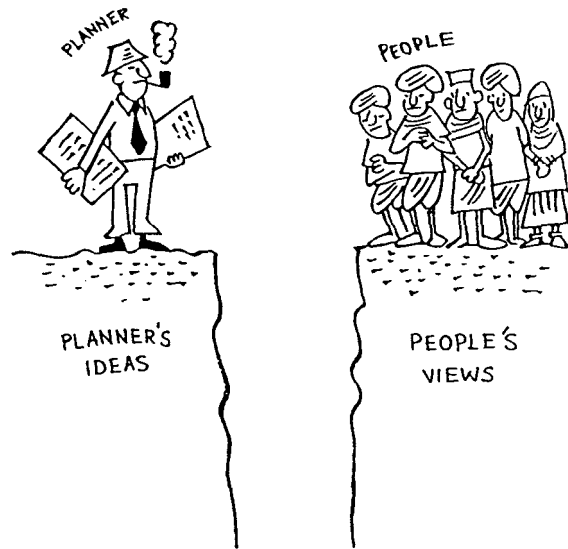


Fig.1. Bridging the gap between planners and the community (Hubley 1993, p.116)

The time at which studying hygiene behaviour is carried out is thus essential. Carrying out the study of hygiene behaviour before any kind of project implementation is carried out can save a great deal of time and trouble. Indeed learning about the reasons for specific behaviour in a community will positively influence the entire project as a hygiene education component can target the 'risky' behaviour and encourage the greater adoption of health enhancing behaviour. Nevertheless, water and sanitation projects have been implemented for decades without any thought of studying hygiene behaviour or including a hygiene education component. Many of these projects have failed to achieve

any health impact but this could change if the facilities were upgraded, repaired and an adequate hygiene education component was planned after studying the hygiene behaviours. Thus, water supply and sanitation projects that are planned **now** should introduce a hygiene behaviour study followed by a hygiene education component from the initial stages of designing a water supply and sanitation projects. Nevertheless, projects and facilities implemented without these components may still 'save' their projects by introducing the hygiene education components at a later stage. We may however believe that in the latter case it will be considerably more difficult to change the 'risky behaviours' as they were probably adopted and associated with the implementation of the facilities.

Further reasons for studying hygiene behaviour that have been noted (Cairncross and Boot 1993; Hubley 1993) are to develop successful hygiene education and for effective planning of new projects both of which have been mentioned above. The successful planning of a hygiene education component for water supply and sanitation projects depends almost entirely on the information acquired through the study of hygiene behaviour. Indeed, after having identified the specific behaviours which seem to be linked to health problems we need to know what factors influence these specific behaviours. Boot (1991) has identified three types of factors that may influence human as well as hygiene behaviour namely: *predisposing factors*, *enabling factors* and *reinforcing factors*. I believe one more factor may be added to this which in this particular domain often seems to be overlooked, I will call this the *routine factor*.

Predisposing factors

The *predisposing factors* that may influence behaviour are probably the most difficult to assess as they are numerous and complex in nature. Predisposing factors are related to the beliefs, attitudes, values, perceptions and knowledge of a person. These factors influencing one's behaviour are generally associated with one's cultural background, but also more specifically with one's socio-economic status, gender and age. Predisposing factors are thus made up of elements which are intricately webbed into the lives of people. They are one of the reason why people carry out actions in specific ways. Hubley (1993) believes however that the term 'culture' as a reason for a particular behaviour is too vague. He has found three different features within the concept of culture which according to him will influence behaviour in different ways. These features are: *shared characteristics, traditions and belief systems*.

BOX 2

The female gender: a shared characteristic with values and beliefs

In India, women pavement dwellers have to endure particular hardship because of their gender. While the men can wash themselves in most public places that dispose of a water pump or tap, women cannot bathe in public places as this is interpreted as an advertisement for immoral behaviour and will cause them many problems. As bathing during the night-time is a dangerous activity due to thugs and thieves, women in this case are less likely to keep themselves clean and are at a higher risk of ill-health compared to men in the same situation.

(adapted from Wijk-Sijbesma 1985)

Shared characteristics relates to the example in box 2, indeed gender or age may be a shared characteristic and this will reinforce their shared values and beliefs and thus also their behaviour. Traditions on the other hand refers to practices which have been maintained for a long time, they have often been passed down from parents to children and are deeply embedded into the everyday lives of the community. Long-standing traditions often arose due to very specific reasons, however over time these reasons may have become superfluous and can stand in the way of adopting newer and more modern behaviours. Finally there is belief systems, this feature of culture can be very influential as it involves religious beliefs and the traditional medical system which the community adheres to. The way in which these two belief systems can influence hygiene behaviour and thus health is not so much by inciting the adoption of 'risky' behaviours (although this is not excluded as a possibility), but rather by explaining the disease or ailment to be caused by factors other than the causative 'risky' hygiene behaviours. Indeed, in certain societies causation of illness can be put down to spirits and deities, giving here a supernatural cause of disease, or by witchcraft and sorcery , giving here a social cause of disease (Helman 1984). In both cases remedies will be sought respective to the traditional methods of curing these diseases. Thus although an ailment like diarrhoea may be simply due to unhygienic practices, this may not be the reason given by the society at hand. Their explanation of the cause of the disease will thus hamper the adoption of more hygienic practices as this will not be seen as causative. Societies that have such strong

traditional beliefs are however becoming more rare as they have been increasingly exposed to western ideas over the last decades.

Enabling factors

Having now reviewed the extent to which predisposing factors can influence hygiene behaviour we will now consider the enabling factors. *Enabling factors* are in fact another prerequisite if hygiene education components are to be adopted. Enabling factors relates to the availability of resources, skills, time, money, water supply and sanitation facilities. It seems unrealistic to expect people to adopt a hygiene behaviour when the resources which are tied to this behaviour are lacking.

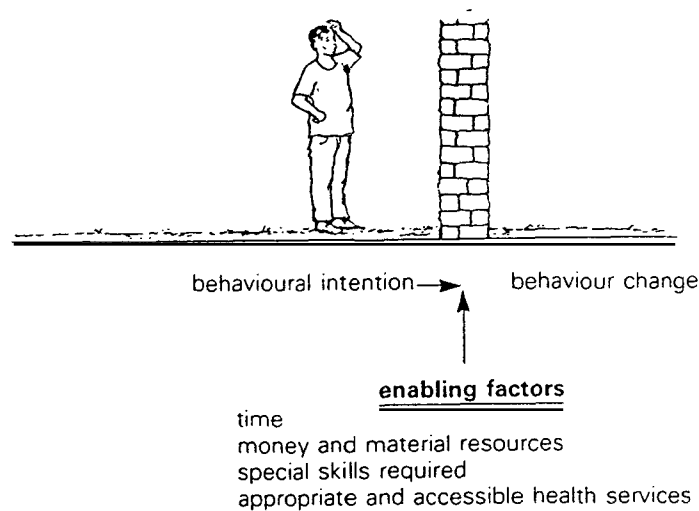


Fig.2. Enabling Factors (Hubley 1993, p.28)

Consider for example that hand washing is seen as a necessary behaviour to improve health conditions. This hygiene behaviour can only be adopted if water is readily available. Nevertheless, even if water is available, inciting people to increase their water

use for hygienic purposes can be very difficult. Indeed, people who have been brought up to see water as a scarce and valuable resource will be hesitant in washing their hands with water as it will be considered a waste. Even when water supply has improved, the irregularity that has been experienced in many cases in developing countries with water supply will lead many people to store water in large drums and use it sparingly. If the water supply cannot be maintained throughout the year for environmental or other reasons new behaviours will not be adopted. In this case local alternatives will have to be found, such as washing hands with mud or ashes. There are many other enabling factors which can influence hygiene behaviour and the adoption of safer hygienic practices, if these enabling factors are not taken into account a hygiene education component may be useless. Poverty and social inequalities are probably two of the strongest enabling factors for adoption of healthier practices, they are still important challenges which have to be taken into consideration at every step of a water and sanitation project.

Reinforcing factors

Reinforcing factors are also extremely important within the scope of hygiene behaviours. Reinforcing factors relate to the approval or disapproval of behaviours by influential people. The case with reinforcing factors is that they should not be undermined as their influence can lead to the failure of a hygiene education programme as well as its success. The influential people one may encounter varies according to the social structure of the community at hand, they may consist of elders, the chief of the village, or the local village health workers (we will discuss these influential people in

greater depth in chapter four) but also neighbours, friends and family may be influential (Hubley 1993). Within the domain of adopting hygiene practices, one may believe that the people who are most influential are those we see and encounter everyday. Family, friends and neighbours are thus important factors and can take up the role of messenger when it comes to spreading news on new behaviours.

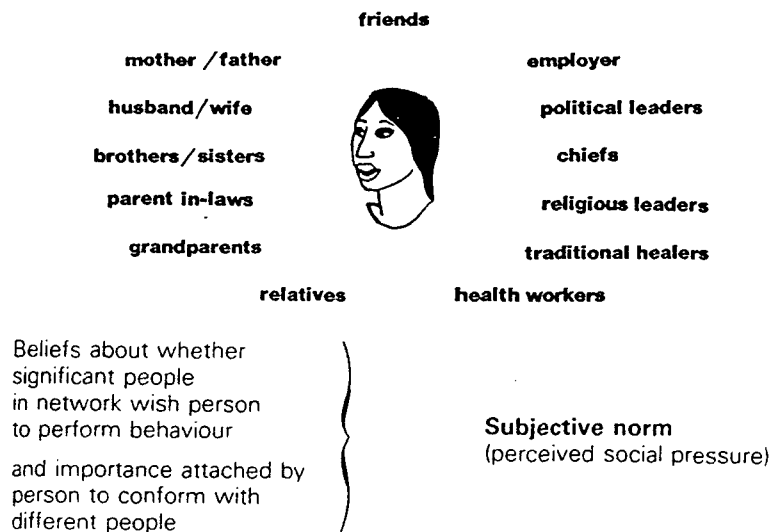


Fig.3. The Influence of Social Pressure (Hubley 1993, p.29)

The most influential relationship however is probably the parents-children relationship. Parents are important targets for health messages. Parents (and especially mothers) have a dual role in improving health conditions as not only do they improve health conditions when adopting safer hygiene practices for themselves and the family, but these new, safer practices will be imitated and adopted by their children which will increase the sustainability of these practices (Caldwell, 1993). Finally, another influential relationship

which is often overlooked is the child to child relationship. With the growing trend of school hygiene education, children are learning about safer hygiene practices and will take these messages home to other siblings. Furthermore, we may believe that these messages could also touch the parents and thus in certain cases there will be a child to parent influential relationship.

Routine factor

Finally, as mentioned in the first paragraph, I believe there is one more factor which has a great influence on hygiene behaviour, namely the *routine factor*. This factor relates to the extent to which certain hygiene education messages may be understood, all the necessary enabling factors may be present and the predisposing factors are favourable to the adoption of new practices, however the safer hygiene practices are not carried out sustainably. Habit and ease are determinants which are extremely difficult to change as they do not seem to flow from common sense. This is a problem which can be observed in developing countries in such specific cases as hygiene behaviour, but it can also be observed in developed countries. Take the example of smoking, this behaviour has been seen to be extremely dangerous to health, many campaigns have been carried out to bring this message to the population. Smokers have been warned, and encouraged to give up through campaigns, group therapy, alternative medicine etc. Most smokers are aware of the danger, nevertheless many do not change their behaviour. This type of behaviour can be seen in many different issues, and it has been observed that some people will just not change their behaviour. Within the sphere of water supply and sanitation projects, certain

new, safer hygiene behaviours will not be adopted because it is easier to continue in set ways. For example a water supply pump which is situated in a central location of a village may be further away for people living on the outskirts of the village than the pond they normally get water from. The effort of carrying the water further than necessary and delays at the water pump due to multiple users may lead these people to return to their initial water supply even if it is polluted. Even if these people know the risks that are involved in using the polluted water, they may not change their behaviour. The continuation of behaviours dangerous to health may be due to a failed hygiene education component, however in certain cases, however complete the hygiene education component, safe hygienic practices will just not be adopted (see box 3). This has to be accepted and taken into consideration, we cannot force people to adopt safer practices if they have not accepted it consists of a problem. We have to remember that certain communities are so poor and have so many worries, that hygiene behaviour is just not important enough for them to consider changing.

Box 3

The routine factor: an easy habit is difficult to change

The government of Iran installed waterpumps in the homes of many rural villages. However, many women still use the river for washing clothes because:

- a) the earth/floor of their homes become muddy if clothes are washed indoors.
- b) they enjoy the communal nature of washing clothes in the river.

(Jouzi, 1995)

A final important reason for the study of hygiene behaviour is to learn about the links between behaviour and health (Boot and Cairncross, 1993). Although the impact that human behaviour can have on one's health has been established in certain cases (i.e. the impact of hand-washing on diarrhoea), the routes of transmission can be very difficult to ascertain in others. The observation of hygiene behaviour can clarify certain of these transmission routes which may be difficult to detect through other methods of studying hygiene behaviour. Thus, after having established the reasons as to why it is important to study hygiene behaviour we will now consider the different methods of how to study hygiene behaviour. Indeed, we will review the different methods that have been used and which of these methods is most likely to yield the type of information we are looking for.

CHAPTER 3

3. How to study hygiene behaviour: the methods and their informative value

In this chapter some of the different methods that are available to study hygiene behaviour are reviewed. The aim of this chapter is to give some idea of the possibilities that are available to the researcher rather than an exhaustive list of all the research methods that can be applied (for more detailed information on qualitative research methods refer to Patton 1980; Pelto et al 1978 and Boot & Cairncross 1993). Within the study of hygiene behaviour the main aim is to assess what people are doing and why, within this context qualitative measures of research are most applicable as they will allow for behaviours to be interpreted and meaning in them to be found (Burns & Grove 1987). Quantitative measures can also be useful at a later stage when the 'behaviours of interest' (Boot & Cairncross 1993) need to be classified. The two type of research methods that I will concentrate on are *observations* and *interviews*. Both of these methods comprise a variety of sub-methods which will be discussed according to their different informative value.

3.1. Observational methods

Using observation as a method of data collection means that the researcher is watching the population sample s/he has chosen to observe: “**Qualitative researchers**

systematically watches people and events to find out about behaviours and interactions in natural settings” (Mays & Pope 1995, p.182). The difficulty with observing human behaviour is that there is so much happening at the same time, thus for observation to be reliable it needs to be **focused** and **systematic**, meaning that the researcher only observes and notes the behaviour of interest in a structured manner. The informative value of observation resides in the fact that observation provides first hand data and one can thus discover what is actually happening as opposed to what someone tells you is happening (interviews). Observational methods may vary in their informative value with respect to the presence or absence of the observer. The observer can mainly choose from three different methods:

1) *Participant-Observation*. The observer is present amongst the population observed and the population has accepted his/her presence, being fully aware of what is being observed. This method is probably the most ethically sound, however it will not always yield realistic results. Indeed if a foreigner comes to observe a specific behaviour, the population observed may change behaviour by acting in a way which they believe the observer will approve of. Another possibility is that the targeted behaviours are of a culturally sensitive nature (this can especially be the case with defecation practices) and the community will try and carry out the behaviours without the observer seeing them. One way to counteract these reactions of the population is by selecting and training locally accepted observers and to only start structured observation when people have

grown accustomed to the observer. Nevertheless there will always be a risk of the observers presence altering behaviour (Hawthorne effect).

2) Another type of observation is *non-participatory observation*. Here the researcher only observes and does not take part in the activities of the people s/he observes. Also, often the true nature of the research is not divulged to minimise the hawthorne effect. Thus for example instead of informing the people that the researcher is really observing hygienic practices of mothers with young children, one may say that the topic of interest is children's illnesses. This type of extension of the truth may sometimes be necessary if the true behaviour observed is a delicate or taboo topic within the society.

3) Finally there is a type of observation which can be called *non-participatory onlooker observation* (Boot & Cairncross 1993) where the researcher is hidden from the population studied and behaviour can thus be observed uninterrupted. This method of observation is once again only a suitable option when the behaviour studied consists of a delicate matter, also as the observer is 'invisible' there will be no impact of the researcher's presence which could taint behaviour. This type of observation, although likely to yield the most truthful behaviour is unethically sound and extremely difficult to carry out. Furthermore, observation may not be sufficient to analyse behaviour as the question of why people carry out certain behaviours is just as important, if not more important than the question of what kind of behaviour people carry out. Thus interviews and conversations about the topic may be needed to shed light on certain issues.

Unstructured or Structured Observation

The type of observation used can also differ in another way which is the possibility of carrying out *unstructured* or *structured* observation. Unstructured observation is not organised in a detailed way, this method is fairly flexible except for the need to be focused and systematic (Boot & Cairncross 1993). Unstructured observation has the advantage of leaving the researcher free to move around the community and observe behaviour in the private areas like homes, as well as public areas such as latrines, dumping grounds and public water pumps. The advantage with respect to the information gathered is that the researcher may be able to make links between behaviours. Structured observation is an organised process whereby certain types of behaviour have been specifically targeted for observation. This type of observation generally provides quantitative data, also it will allow the researcher to go into greater depth, focusing on the behaviours that are of interest. This type of observation can be very useful when preliminary observation has led to the identification of the 'behaviours of interest'. Nevertheless it should not be used without first exploring the array of behaviours that may be of interest, as it would be a waste of time to have carried out structured observation of behaviours that will not provide any relevant data.

Role of the Observer

Finally, we should mention the role of the observer which is crucial to the success of the research carried out, as here the researcher is the research instrument (Mays & Pope 1995). Indeed, apart from the non-participatory onlooker observation method, most

observers will be in daily contact with the people they are observing. It is essential that the observer is accepted within the community, if the community is hostile towards the observer the likelihood of acquiring information of interest is small.



Fig.4. The delicate role of the researcher/observer (Boot & Cairncross 1993, p.58)

There is also a fine line between how involved or distanced the observer should be with respect to the community at hand. This will obviously depend on the length of the study, however the longer the study, the more danger there is of 'going native', this will lead to perceptions being tainted by the experience of living in the community. Subjectivity in observational methods is however an impact which has to be taken into account, it is part of this method, and in fact crucial in analysing the qualitative data. The general aim of the researcher should be to be polite, understanding and be able to relate to the population without losing sight of his/her role as a researcher. In certain cases the involvement of local observers will help to increase the trust that needs to be build up between the researchers and the community observed, especially if the local observer is a well liked and respected person. Finally, one should not forget that observation can be a

one-off event, however more often it is a series of multiple observations. In the case of implementing a hygiene education component for water and sanitation projects the latter is more likely to occur as observations will be used to assess the impact of the hygiene education programme. The researcher will thus have interest in keeping a good, solid relationship with the community s/he is observing as contact with these people may extend over a long period.

3.2. Interview methods

Interviews are considered to be the second major source of information on hygiene behaviour (Boot & Cairncross 1993). Simply put, an interview is an event when two or more people meet and one person (the interviewer) will ask questions and converse with the other person(s) (the interviewees). In the case of hygiene behaviour, interviews are generally a very good method to find out people's perception of how they behave, it is often a more difficult task to find out how people really behave. Indeed, interviewing has often the effect of pinpointing a specific topic, in this case a behaviour, the interviewees are aware of what is a correct behaviour and will convey this to be the behaviour they practice, however this is often not entirely true. The interviewee in this case wants the interviewer to believe, or believes the interviewer wants to hear the appropriate behaviour rather than what they actually do. This wish to please the interviewer or desire to hide the practised behaviour as they know it is 'incorrect' has to be taken into account. It is thus desirable to carry out both interviews and observations as

this will show what practices are said to be carried out compared to the practices that are observed to be carried out. Nevertheless, even though interviews will not always render the truth, they are extremely useful to understand some of the social dynamics of a community and the practices they carry out, and a variety of different kinds of interviews can lead the researcher to discover why people do things the way they do.

Interviews can be divided up into three categories, like observational methods it includes *unstructured* interviews and *structured* interviews, however here we also have *semi-structured* interviews. Unstructured interviews are used when the researcher wants the interviewee(s) to converse and respond in their own words, this has the advantage of getting personal impression and views on a specific topic. There are a variety of unstructured types of interviews which we will now discuss.

1) *Informal conversational interviews* are defined by being flexible and spontaneous. Normally a topic is introduced by the interviewer and can be discussed openly, this interview may lead to discussing a variety of issues. Informal discussions are particularly useful with a group as it allows a range of perspectives to be established fairly quickly. Furthermore, group conversations can have the advantage of attacking more sensitive issues which would not be discussed in a one to one interview (Boulton & Fitzpatrick 1994). The interviewer or facilitator in this case has to lead the discussion without becoming the centre of the discussion.

2) *Key informant interviews* is another useful way of obtaining information. This type of interview is centred around a person who may be specifically knowledgeable about the topic of interest, in this case it may be Community Health Workers (CHW's) or a traditional medical practitioner. The information acquired through this type of interview is characterised by the fact that it provides an insiders view of what is actually happening in a community, often the key informant's view represents the views of a larger group.



Fig.5. Key-informant interviews are often very informal (Boot & Cairncross, 1993, p.72)

3) *Focus group discussions* are similar to conversation groups as it plays on group dynamics, however here a very specific topic is discussed and the range of comments will thus be much more directed towards what the interviewer wants to know. Here again skilled facilitators are needed to introduce specific issues, and open the discussion without taking it over.



Fig.6. Participatory learning can be achieved through group discussions (Boot & Cairncross 1993, p.75)

There are a variety of other unstructured interviews which can use different degrees of openness or focus on topics to discuss. The ideal situation is that the process of interviews goes from being very open to more focused, this will allow issues of importance to be identified which can then be discussed in more depth in focus discussions or structured interviews. One of the weaknesses of unstructured interviews which has to be taken in to account is that as there is no real set structure to the interviews, every single interview tends to be unique and can thus be difficult to analyse or compare with other interviews. Furthermore, we should not forget that the specific characteristic of unstructured interviews being 'open' and 'wide-ranging' calls for the interviewer to have considerable time for the research process to be carried out.

Semi-structured interviews are based on a guide with a number of questions and topics that need to be covered. The order of questions and topics may vary from

interview to interview and certain issues that are not on the list may be followed-up as long as all the essential topics are covered. Types of semi-structured interviews can range from focused interviews to case studies or life histories (for more detail see WHO 1994c). The strengths of semi-structured interviews lies with the researcher knowing what essential points s/he has to cover in the interviews without limiting the interviewees to answering specific questions. Furthermore, we may believe that within the domain of hygiene behaviour interviews may soon be exhaustive and the interviewees may not be willing to spend endless conversations about these topics. Thus, fairly focused interviews may be a good option, as it will allow some discussion while keeping in mind the topic of interest, namely hygiene behaviour.

Structured interviews are characterised by the interviewer having a list of prepared questions (attention should be given to the wording of the questions as to allow for maximum and accurate information to be recorded as well as taking into account sensitive issues which may lead to questions needing to be more general rather than focused) which are asked in exactly the same order at every single interview. Interviews have the advantage of being easier and quicker to carry out as the answers the questions call upon are limited. Structured interviews are useful to gain factual data which can be easily coded. Structured interviews should ideally be based on previous qualitative research and unstructured interviews as to make sure that the questions that are asked will provide useful data. Although the interviewer in this case may need less training than in the unstructured interviews, they nevertheless need to know how to ask the questions

and take care to be sensitive to issues that may be difficult to discuss for the interviewees.



Fig 7. The delicate role of the researcher/interviewer (Dialogue on Diarrhoea 1991, p.3)

Table 2

Selected Intervention methods for studying hygiene behaviour

INTERVENTIONS	INFORMATIVE VALUE	VALIDITY OF INFORMATION
Observational Methods	First-hand data, not influenced by the research subject.	Investigators subjectivity may affect validity. Validity can be improved by using respondent validation
Participant Observation	Can provide an extensive range of information.	Fairly low validity due to the potential danger of Hawthorne effect.
Non-participant Observation	Can provide accurate data.	Better validity than with participant observation, but community may hide important behaviours.
Non-participant Onlooker Observation	High informative value	High validity, no Hawthorne effect, but method is ethically questionable.
Interviews	Good method to find out perceptions of people.	Low validity. What people say they do, often does not reflect reality.
Informal Conversations	Can yield good information Informality of conversation can lead to the discussion of a wide variety of issues.	Relatively high validity, especial in groups.
Key informants interviews	Information yielded can be valuable. Especially if informant is knowledgeable on topics of interest. i.e. Village health workers	Within spectrum of interviews, validity can be high if informant is as objective as possible in his/her assessment of the situation.
Focus Group Discussions	Information gathered can be very useful as topics are discussed in depth. This method can lead to identifying other topics of interest	Within the spectrum of interviews validity can be relatively high as information gathered is from different sources and assessed by them.

This table is not a list of all existing research methods, it is based on methods most commonly used in researching hygiene behaviour.

Having now discussed the why, what and how of studying hygiene behaviour in some detail, we need to look further as to how we are going to use the information that is acquired through this research. Indeed, once the data concerning hygiene behaviour has been obtained, plans can be made towards setting up a hygiene education component that will suit the community targeted. There are however still issues that need to be taken into account which we have not tackled in the study of hygiene behaviour such as the importance of community participation, committees and women, as well as the role of the development agency in charge and the relevant government departments involved. These, and more issues will be addressed in our next chapter.

CHAPTER 4

4. Internal and external resources for hygiene education programmes for water supply and sanitation projects

In this chapter we will review some of the factors which have not been mentioned or adequately elaborated upon in the previous chapters but which however are extremely important in the planning of a hygiene education programme for water supply and sanitation projects. Most of these factors can be typified by the predisposing, enabling and reinforcing factors mentioned in chapter 2. However, I believe that certain factors need to be focused on and analysed in more depth as they are crucial points upon which the success of the hygiene education components hinges.

These factors I believe, can best be understood as being part of *internal resources* or *external resources* for hygiene education programmes. Internal resources relate to the people who will benefit directly from the hygiene education programme, namely the community and the people representing them (influential people, committees). External resources relate to the people who will benefit indirectly from a successful hygiene education programme, namely the development agency in charge, the planners and developers, the relevant government departments and other people involved and working on the project. Both of these resources constitute of human factors, and this indeed can be seen to be one of the most influential factor in the development of a hygiene education programme. Although I have theoretically divided these resources into two groups, this should not be the case in practice. Communication is a crucial factor in the proper

development of a hygiene education programme, as well as in any development project. It is through the communication and team work of these two groups that a hygiene education component has a chance of being successful (Wijk-Sijbesma, 1981). As we will see, it is only through team work that the tools and techniques necessary for a sustainable hygiene education component can be developed.

4.1. Internal Resources

Community Participation

The concept of community participation has been understood and interpreted in different ways. However, over the years a certain consensus among organisations active in the work of development has been reached on its working definition. Community participation is seen to have three dimensions: **“...involvement of all those affected in decision-making about what should be done and how; mass contribution to the development effort, i.e. to the implementation of the decisions; and sharing the benefits of the programmes.”** (White 1981, p.2). Although this definition of community participation has been widely accepted as a goal to strive for in most development projects, it is not always put into practice this way. In the last decade, community participation has become somewhat of an accepted ‘standard requirement’ for most development projects. In essence this is good news and shows an evolution from times when it was believed that a top-down approach was most effective. Nevertheless, although many projects claim they are using participatory methods, decisions are still

often made at the top. Sherry Arnstein developed a ladder of participation to show the variety of processes there are in community participation (see figure 8).

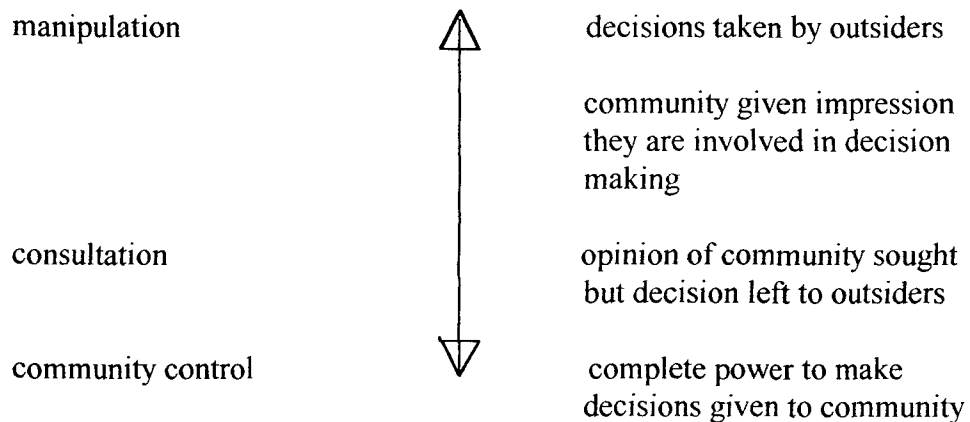


Fig.8. Simplified version of Arnstein's ladder of participation (Hubley 1993, p114).

As we can see in figure 8 , community participation does not always mean the same thing, there are varying degrees of participation, and manipulation and consultation are still the methods that are most often used. Although the aim of community participation is that eventually the community is in control of its own projects and development programmes, we have to accept that there are still many communities which need to be guided in their choices. Community participation is a skill which has to be developed by the people from the community as well as the developers and planners. Community participation thus takes time and effort on both sides and we can understand that a community may have to progress through the stages of manipulation and

consultation before it is mature enough to take its own projects in hand. Manipulation and consultation are obviously made possible by the fact that the financing of most projects is through development agencies and they thus have a voice in how the money is spent. Nevertheless, with the increasing success of projects through community participation and the community becoming self-reliant and organised, the development agency will eventually be able to withdraw its people from the field. Furthermore, eventually it will hopefully be able to withdraw its funding when the community will be able to find its own donors or finances the projects itself (Blackett, 1994).

Another issue which needs to be taken into account with respect to community participation and the degree and type of participation possible, is the variability of the communities one may work with (Isely 1982). Communities may vary immensely within a country and even within a smaller geographically defined area: from one village to the next. Variability can be seen in the enabling, predisposing and reinforcing factors previously described. However the most important variability with respect to community participation is their readiness to undertake action themselves (Box 4). This 'variability' factor within communities has to be dealt with and differing solutions will have to be adopted where appropriate.

BOX 4

Community participation and communities taking responsibility for their own welfare

...some villages seem able to solve their problems while others cannot. Some villages are victimised by conmen, their daughters seduced by recruiters for city's brothels, plagued by police looking for a rake-off, unable to stop the rivers from flooding the fields every year-while other villages ignore conmen, keep out the recruiters, get the district office to rein in the police, and build an earthen dam to hold back the river. (Isely 1982, p.39)

The importance and need for a participatory approach in development projects such as a hygiene education component for water supply and sanitation projects has been demonstrated by various existing and successful programmes. Reports of these hygiene education programmes all emphasise that supplying the communities with the relevant sanitary services is not enough to create health benefits, however nor is it possible **"...to pour health information into the empty minds of an eagerly waiting target population"** as M. Boot (1991, p.28) sarcastically remarks. Indeed, the community targeted is often well aware of their problems and they are often best positioned to know what strategy will be most effective in targeting their own people. Community participation can thus be of considerable aid in developing a successful and appropriate

The four points listed in table 3, namely the sustainability of projects, drawing on the local knowledge of the population, making programmes relevant and acceptable to the community and developing self-reliance and problem solving skills, have been mentioned in various reports concerning water supply and sanitation projects. These points are regarded as being the main reasons for utilising the community in setting up the projects, as well as for the hygiene education programmes (Hubley, 1993 & Wijk-Sijbesma, 1981). For those projects that have not used community participation measures, the lack of a 'software' component is noticed (see Hoque & Hoque 1994 and Weidner et al. 1985). In a project in Egypt (The Mit Abu El Kom case: Weidner et al. 1985) it was noticed that the provision of water and sanitation facilities did not significantly alter the behaviour of those concerned. The data did not only indicate a need for community health education but also it was concluded that: **"Lack of community participation can also impair educational efforts by compromising project continuity."** (Weidner et al. 1985. p.1267). In the projects that based their strategy on community participation from the planning process to the implementation of the programmes, their success was often seen to come specifically from the involvement of the community (Jahan et al. 1996). Community participation can be seen to be an essential prerequisite for the successful development of any project and specifically a hygiene education programme. As Isely mentions (1985); one cannot really promote community participation if one does not appreciate the interdependent relationship between hygiene education and community participation.

TABLE 3

Benefits of Community participation
<p>1. Sustainability of projects : Community participation will increase the sustainability of any project as a supportive and enthusiastic community will put effort and time in the creation and continuing success of a project .</p>
<p>2. Drawing on local knowledge: The communities targeted are often most knowledgeable about their own environment and local conditions, this information will be extremely useful when projects are to be implemented.</p>
<p>3. Making programmes relevant and acceptable to the community: If communities are involved in the planning and decision making process of projects, the likelihood of targeting locally perceived problems and expressed needs is increased.</p>
<p>4. Develop self-reliance and problem solving skills: Community participation will develop within the people a sense of responsibility for their own future, and a successful project developed with community participation will increase the possibility of communities setting up their own projects.</p> <p>(adapted from Hubley 1993)</p>

Community participation as we have seen is thus an important internal resource for a hygiene education component. Nevertheless, a community constitutes of a diverse group of people and we must pay attention to certain specific sub-groups in this community namely the committees, the influential people and women.

The committees

Community participation as one may expect, is not a process whereby the entire population of the community is working on the project. The most efficient way of working with the community is through a representative body of the community which can be the focus of consultations and the organisation of any community action (White, 1981). One of the most successful ways of developing a representative committee is to identify existing committees, these may vary from village health committees to women's groups.



Fig.9. It's important to look for existing institution that might be built upon in community participation programmes (Hubley 1993, p.120)

The benefits of seeking support from these groups is that they are often very aware of the situation in their community and they may have already taken some action in the areas which will be focused upon in the project, in this case water supply and sanitation projects.

In "*A guide to health education in water and sanitation programmes*" by Nyamwaya & Akuma (1986), the following advice was given to setting up a project on community participative measures in rural Kenya: "**The following groups can be used as entry points for health education: Women's self-help groups, religious groups, youth groups and schools. All of these can be used to motivate the community. They have a commitment that is often lacking in other formal groups.**"(p.27). Furthermore, it is important to seek their involvement as first of all one does not want to duplicate any work (such as data gathering within the community). Secondly, by not involving them one may in fact create an atmosphere of competition and offend the people in these local institutions of authority. One has to be aware of the local political circumstances and as much as possible operate within this framework. Nevertheless, for any committee to be ideally representative of the community one may want to consider having the committee elected locally so that there is a fair representation of the community (i.e. women and elderly people are often omitted), and not only members of already existing committees and other influential people.

Influential people

As previously mentioned, it is important to get the support of this particular group of people as they can influence a project positively as well as negatively (Wegelin-Schuringa, 1991). Prior to any groundwork carried out for a project, one should always identify the influential people (White 1981, Boot & Cairncross 1993, Hubley 1993, Wijk-Sijbesma 1981). This may be the village chief, or council of elders as well as the ministerial representatives who are active in the issues the project will be tackling (here ministry of public health or other equivalent). One will have to ask their permission (preferably in written) to carry out any kind of development project before any other stages of the planning process can be undertaken. By obtaining explicit permission one can be more certain of the project taking off successfully as their support will incite other people to get involved in the project. Furthermore, if there is any tension or problems during the project with other groups one may rely on some political backing from these people. Nevertheless, care should be given to the possibility of the chief or other representative of the community pressuring the project to follow his or her priority areas, although the influential people are important they should not be allowed to take over the project (see page 49).

Women

I would finally like to conclude on these internal resources by mentioning the importance of involving women in the planning of a development project especially in



Fig.10. The influence of the 'influential' people. (Hubley 1993, p.118)

the domain of water and sanitation. Also, if at all possible (there may be a problem in segregated societies where women are in purdah), it is advisable to have at least a couple of women as members of the committee (Wegelin Schuringa 1991). Women's involvement in water and sanitation projects and specifically in a hygiene education component is essential as they are often the ones who traditionally played a decisive role in sanitary issues and water collection, and who carried over their knowledge on hygiene to the children (Wijk-Sijbesma 1985). Local women can thus provide a wealth of information (i.e. where the best quality water can be found and where children defecate), which can be of great use for planning and developing a water and/or sanitation project. Nevertheless, although the importance of involving women in all the stages of development programmes has been accepted, one should take care that women are not just involved systematically as a token act. The women involved in development projects

have to be empowered and have a real voice in the decision making process of the project; “ **Limited evidence to date indicates that it is not sufficient to stipulate women’s presence, agency staff and local leaders need to support their active participation and contribution.**” (Wijk-Sijbesma 1985, p.61). Too often women have been integrated into community development projects and committees without in fact having any impact or say in the progress of events. This was the case in the committee of a latrine construction project in Nairobi, Kenya that I was involved with. Women were asked to be part of committees at the insistence of the development agency, however when committee meetings were held they would not get involved in the discussion. It has been advised (Gordon 1982) that women involved in development projects are selected and trained in leadership skills, confidence building and communication as to increase their potential of having a voice in the decision making process.



Fig.11. A successful and useful hygiene education programme needs to include women (Boot & Cairncross 1993, p.86)

4.2 External Resources

As was mentioned at the beginning of this chapter, external resources relates to the people who benefit indirectly from a successfully developed and implemented hygiene education programme for water and sanitation projects. These people are the representatives of the development agencies involved in the planning of the project, the government departments and other people active in the project. The reasons as to why these people may indirectly benefit from a successful programme are threefold. First of all we may consider the financial benefits that may ensue. Indeed, we may expect that if a water or sanitation project with a hygiene education programme succeeds in achieving a health impact, there will be less need for costly curative measures to be adopted. Furthermore, if the process of community participation is well established this will also reduce the cost of further expenses (i.e. labourers for construction of pit latrine, repairs on sanitary services if maintenance is not adequate etc.). In essence the country and the people could benefit if unnecessary expenses are reduced. Secondly, we may believe the development agency responsible for the project will benefit in that a successful project will reflect positively on the measures and methods used by this agency. These measures, and the agency concerned may be asked to provide their services again to implement other projects. This in effect may increase their funding for other projects from their respective governments or international organisations like the World Bank or the United Nations. Finally, the government of the country concerned, its population and the development agencies involved can all benefit if the measures adopted in this project will

lead to the policies concerning hygiene education for water supply and sanitation projects, being introduced into the national curriculum (Hubley 1993).

The reason why I have concentrated in more depth upon these specific resources is because as we have seen, everyone has to gain in a successfully developed and implemented project, not uniquely the potential users of the services provided. This mutual benefit however can only be achieved if collaboration and a spirit of team work is set up.



Fig.12. Representatives of the development agency working with the community (Kerr Ed. 1990, p.21)

This partnership process as the World Health organisation has termed it (WHO, 1994a), calls for two-way communication and consultation, joint decision making, implementation of agreed actions and feedback between the two parties (WHO, 1994a).

Communication between these two parties is essential as a lack of it will hamper the development of the project as well as the adequate planning of a hygiene education strategy. Indeed, if the communication between the committee and the external resource team is weak, how can we expect hygiene education messages to get across to the larger part of the community (for more details on hygiene education messages see Annexe 2). Therefore communication should thus be open and flexible (see figure 13).

In essence this chapter concludes my views and advice for the development of a hygiene education programme for water and sanitation projects. In the next chapter a checklist will be provided to assess the planning process of hygiene education programmes for these type of projects. This checklist is mainly based on the evidence and information gathered throughout the course of this paper. Hopefully it will be of use *in fulfilling the role it is devised for.*

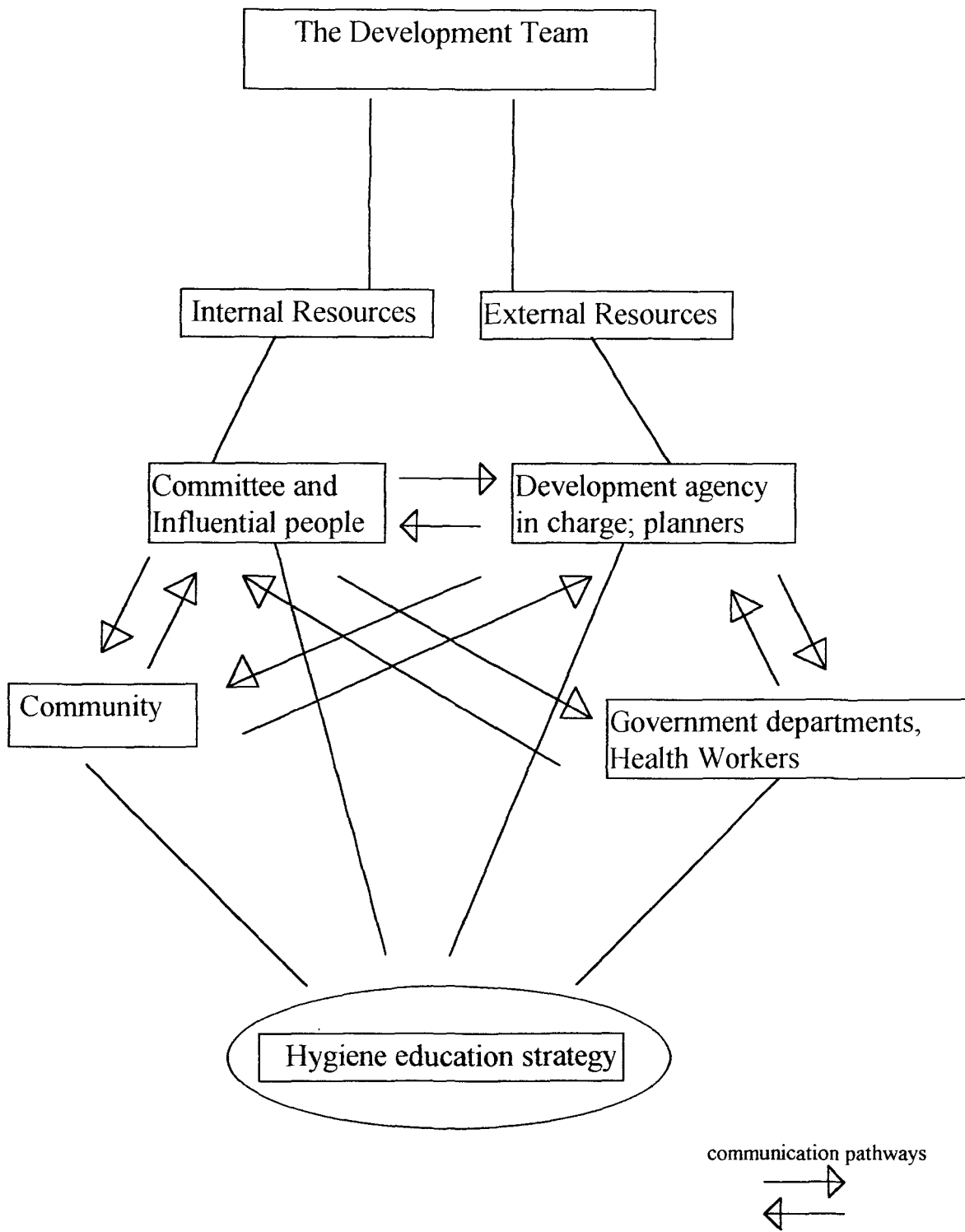


Fig.13. The Communication Pathways for a successful development project.

CHAPTER 5

5. Developing a checklist for evaluating the planning of a hygiene education programmes for water and sanitation projects

The aim of this final chapter is to synthesise all the information gathered in the course of this paper and to integrate this information in the form of a checklist which can then be used as a tool to evaluate the planning of hygiene education programmes. The checklist will consist of questions of which most can be simply answered by a 'yes' or 'no' answer. The more questions which can be answered by a 'yes', the greater the likelihood of a successfully planned hygiene education programme. Although it may seem most logical to use an evaluation checklist after the implementation of a hygiene education programme, I believe it's use can be multiple. Indeed, using the checklist prior to the planning of a hygiene education programme will allow the development team concerned to take into account the issues that are crucial in the setting-up of a hygiene education programme, thereby avoiding overlooking these issues while planning the hygiene education programme.

The evaluation process

The process of evaluation is a very useful method to assess the achievements and difficulties of a programme. An adequately evaluated programme can be very useful as it will allow the development team to make improvements on the programme at hand. The

evaluation of a health/hygiene education programme can be defined as ... “**the observation and measurement of a programme to see if it is proceeding according to the proposed plan and objectives.**” (Vazquez 1995). The advantages of evaluating a hygiene education programme are numerous. First of all the evaluation of a hygiene education programme will raise the credibility of the programme, this may lead to an increased budget. Secondly, evaluation can be part of a learning process for the entire development team. Thirdly, communication will be improved. Finally, it is an occasion to share experiences (Vazquez 1995). To improve the sustainability of a hygiene education programme it is advisable to carry out the evaluation in a participatory way (Wijk-Sijbesma 1981). Indeed evaluation will be most successful if carried out by all those involved in the planning of the hygiene education programme. This process will allow the community members involved to develop a critical attitude and will enhance their development skills.

The checklist that is to follow will mainly be concerned with evaluating the process of the hygiene education programme. There are naturally other evaluations that can be carried out on such a programme like the way it is running (impact evaluation) or the end results of the programme (outcome evaluation/long and short term) (Boot, 1991). Nevertheless, during this paper I have mainly concentrated on the issues that need to be addressed during the planning of the programme. Thus it is on these issues that my checklist will be focused. Finally, I will attempt to keep the checklist clear and concise with only a limited number of questions as to my experience extremely long checklists

will receive less attention and thus be used less. Hopefully the questions in this checklist are precise enough to obtain relevant answers, but also general enough to trigger further questions with the users, which may be more directly related to the project or programme at hand.

We may assume that prior to answering any of the questions on the checklist below, some groundwork research will have been carried out, and enough information gathered to assess the suitability of carrying out a hygiene education programme. This initial contact with the community concerned will allow for the planners and developers to create a relationship with some of the key figures of the community. Once the adequacy of the community for a hygiene education programme has been established, these people can be involved in the developing and evaluation of the planning process.

THE CHECKLIST

Methodology

- ✓ What research has been carried out with respect to the health and sanitation needs of the population?
- ✓ How has the research been carried out and are the methods used established research methods?
- ✓ If the research methods are not established how are they validated?

Aims and Objectives of the hygiene education programmes

- ✓ Have objectives been set as supported by the research findings?
- ✓ Does evidence from the research carried out show that there is an **observed** (by the development agency) and **expressed** (by the community) need for hygiene education programmes for water and/or sanitation projects?
- ✓ Does evidence from the research carried out indicate that a hygiene education programme could make a difference to the sustainability of the water and/or sanitation projects?

Potential of the hygiene education programme

- ✓ Have the potentially dangerous behaviours been identified?
- ✓ Can the important and high priority (target) behaviours realistically be changed?

- ✓ Are there any cultural or social reasons which may prevent the hygiene education programme from being locally acceptable? If so, can the hygiene education programme, as far as possible, be adapted to integrate local beliefs and traditions?

Influencing health behaviour

People

- ✓ Is there enough personnel to support the activities necessary?
- ✓ have the relevant (influential people and organisations) people been identified and their permission and co-operation been asked and granted?
- ✓ Has the community shown interest and enthusiasm to get involved in the project, and are they ready to take on the larger part of the responsibility of this project?
- ✓ Have existing local social groups been identified and their involvement been asked?
- ✓ Is the committee representing the community for the project truly representative of the community at hand (are the women, elders, representatives of the different tribes, etc...included)?

Equipment

- ✓ Does the development agency concerned have the skills, knowledge and resources to implement an adequate hygiene education programme?
- ✓ Does the community involved have the necessary resources (adequate water supply and/or sanitary facilities) to perform new hygiene behaviours?

Processes

- ✓ Is the community/committee actively involved in the planning and development of the hygiene education programme (Community Participation)?
- ✓ Do all parties involved (internal and external resources) share their opinions and views about how the *planning and development of the hygiene education programme* is to be carried out (communication)?
- ✓ Are all the parties involved in the evaluation of the *planning of the hygiene education programme*?
- ✓ Is the community involved prepared to commit themselves to work towards the long-term sustainability of the programme?

CONCLUSION AND RECOMMENDATIONS

The planning process for developing a hygiene education programme as has been described and analysed in the previous chapters, is an activity involving many different elements. The elements range from resources and skills to time and money, all are essential in developing a successful hygiene education programme. Nevertheless, the element which is indisputably the most significant in developing such a programme is the human factor. Indeed without the commitment of all the people involved in the planning and development of a hygiene education programme, such a programme is doomed to fail in the long-run. The partnership process (WHO 1994a, Hoque & Hoque 1994), where as far as possible, people are committed to a two-way communication and reaching decisions and agreements jointly, has in fact become a prerequisite in the development and planning of a successful hygiene education programme.

It has been argued in the course of this dissertation that hygiene education programmes are essential for water supply and sanitation projects, (in rural as well as urban areas) as these programmes will allow the respective projects to become sustainable. Indeed, successful hygiene education programmes will allow water and sanitation projects to keep providing their services at an adequate level. We may come to see hygiene education programmes as insurance schemes for the projects they are designed for. A hygiene education should incite people not only to adapt hygienic behaviours on a personal level (washing of hands, anal cleansing etc...), but also to adopt

behaviours as to keep the services in a good working state (maintenance, pit emptying etc...). The planning of a hygiene education programme for water and sanitation should thus ideally be integrated into the planning of the projects themselves. This will allow the target community to see that hygiene behaviour is not only about adopting a behaviour that is health enhancing or protecting for themselves, but that it also applies to adopting hygienic behaviours with respects to the services which can provide this enhanced health status.

Finally, I would like to give some general reminders and recommendations for the planning of a successful hygiene education programme for water and sanitation projects. First of all, prior to undertaking any work for a development project in a community, it is advisable to seek information about previous development projects in the community. This will avoid duplicating any work that has been previously carried out by a development agency. Furthermore, agencies formerly active in the community may have carried out research that can be used if recently carried out (so that it is still representative of the community at hand) and appropriate to the project intended. Moreover, the previously active agency may be able to supply some inside information about the community (who are the influential people) which may provide useful. Secondly, no work on a development project should be carried out without first inviting the community representatives to participate in an introductory discussion about the project. If these people are not interested in the project or do not see the need for it, one may want to reconsider continuing the project as a hostile or simply uninterested

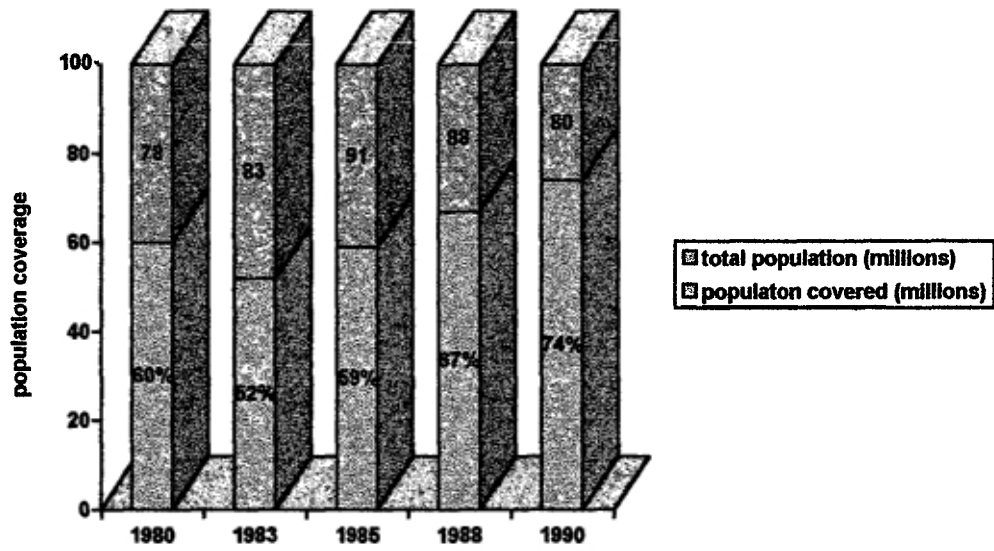
community will probably lead to failure. If the project nevertheless could be of great benefit to the community one may want to consider trying to inform and convince them of the usefulness of this project. Nevertheless, if this procedure is not successful, it is advisable not to pursue the project any further.

If the project is however welcomed and perceived as a need to the community, one should make certain that the planning of the project is carried out with several of the representatives of the community. Furthermore, as far as possible, the project should be in line with the beliefs and traditions of the community. Indeed, keep in mind the preferences of the community with respect to the services that will be provided (sitting or squatting latrine, door of latrine facing Mecca, etc.). Also try and adapt the project to the economic and environmental situation of the community that will benefit from the services. For example, there is no use in providing the community with water flush-toilets if water supply is not sustained all year round or if anal cleansing is carried out with stones or corncobs which would block such a latrine.

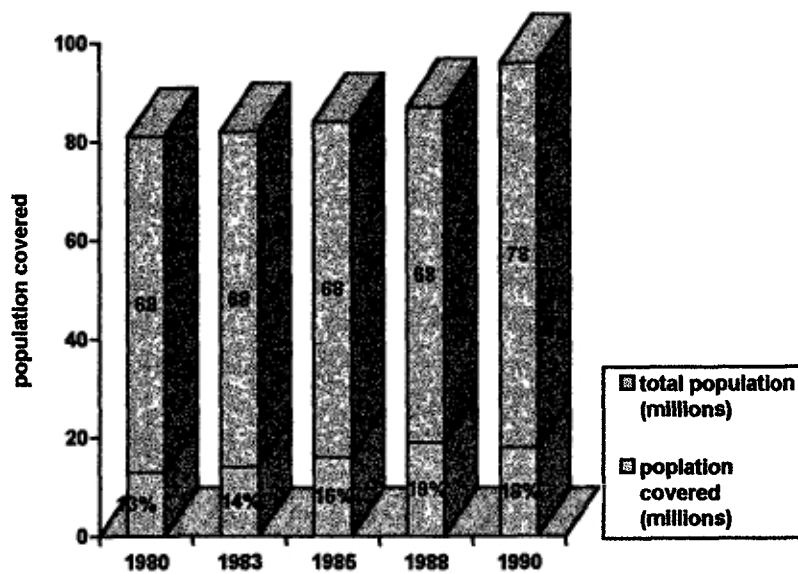
Finally, I would advise that the planning of any hygiene education programme is done as far as possible, in co-operation with local, regional and national departments of health. This will allow for the programmes to be accepted by the authorities and could possibly lead to such programmes being integrated into the national curriculum. The checklist in chapter 5 could hopefully be useful in the planning and evaluating of a hygiene education programme for water and sanitation project in developing countries, it would be interesting to pilot it on such a project in the field.

APPENDIX 1

Global urban sanitation 1980-90

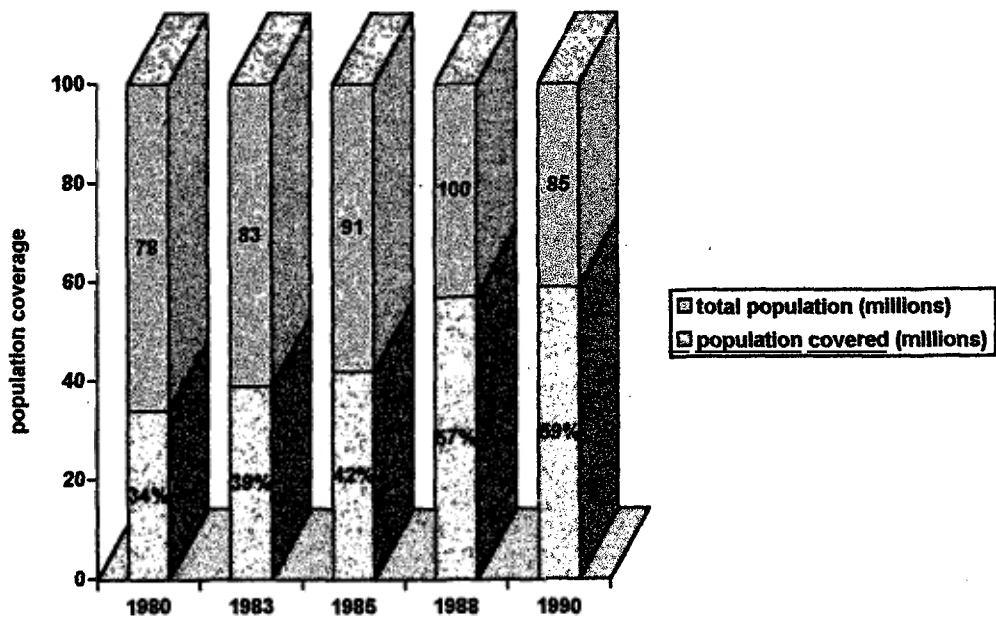


Global rural sanitation 1980-90

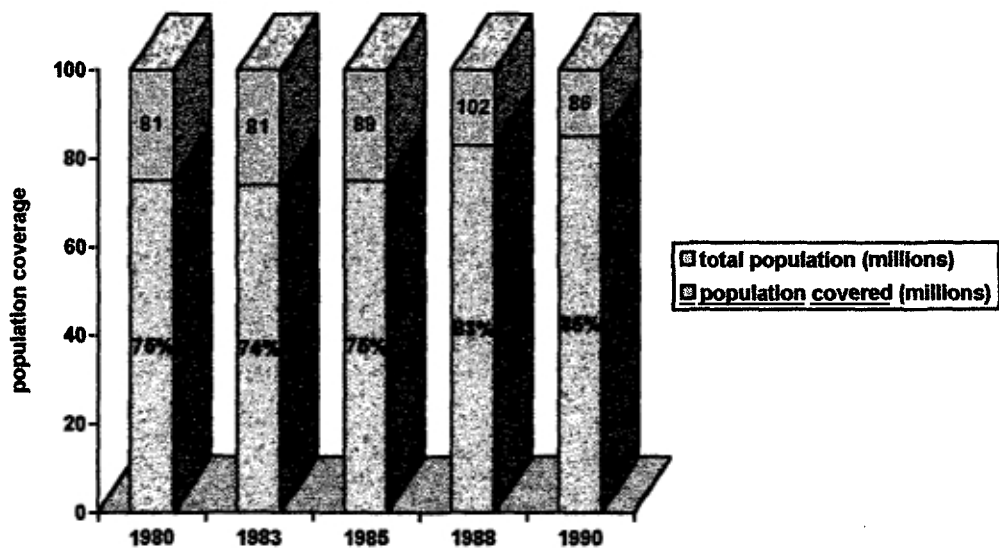


Adapted from WHO 1992, p.10.

Global rural water supply 1980-90



Global urban water supply 1980-90



Adapted from WHO 1992, p.10.

APPENDIX 2

Communication and Hygiene education messages

In this appendix we will briefly review some of the methods and tools that have been used to disseminate hygiene education messages. Indeed, as we have seen, changing health behaviour is more than just increasing people's knowledge (Boot 1991). For hygiene behaviour to change sustainably (so that a health impact can be felt), reasons as to why certain hygiene behaviours are dangerous have to be given. However, more importantly, these reasons have to be accepted by the community as being valid. It is not until people believe that taking up a certain action will change and improve their lifestyles and in this case health, that they will act upon the information they have been given. We may thus say that communicating hygiene education messages entails a certain amount of convincing. In the last two decades many methods and tools have been used and tried out to disseminate these messages. It seems that many hygiene education programmes have come to the conclusion that the best way to communicate these messages is by using locally accepted and understood styles and methods (Hubley 1993, Jahan 1996, Birchall 1996, Nyamwaya & Akuma 1986). Indeed, hygiene promotion in many development projects initially started by using western techniques of promotion such as posters.

Box 5

Using posters for hygiene promotion: the possibility of misinterpretation

In the Southern part of the Indian Punjab, posters were used to attract attention to a local problem consisting of an excessively high concentration of mineral salts in the people's drinking water. The symptoms of this high concentration of salts are back-ache, pains in your joints, stones in your bladder and yellow teeth. The poster was meant to illustrate this problem and thus a typical male villager was shown with yellow teeth and a well in the background to associate this condition with the water he had been drinking. When the poster was pre-tested with the villagers, the association that was meant to be made was not observed by the people. One explanation of the poster was : **"The man is smiling. He is happy because there are clouds in the sky. It will soon rain and fill his well, so he will have plenty of water for drinking and for growing his crops"**.

(adapted from Kerr 1990, p.241)

As shown in box 4, health or hygiene promotion techniques that are a familiar sight in the west like posters, can convey a radically different message in other countries where posters are not a standard method of diffusing messages. In table 4 below, examples will be given of some of the more popular methods of spreading messages which have been used in the context of water and sanitation projects in developing countries. The examples of methods given in table 4 are only a sample of the most commonly used means of conveying information. To increase the likelihood of hygiene education messages getting across to the community involved, it is advisable to identify some of the local traditional methods of disseminating information, and if possible, developing the necessary hygiene education messages around these traditional methods.

Table 4

TOOLS FOR COMMUNICATING HYGIENE EDUCATION MESSAGES

METHODS OF COMMUNICATING HYGIENE EDUCATION MESSAGES	VALUE
Storytelling	This method is very useful in disseminating hygiene education messages as they are understood by young and old. Stories have the advantage of relying on the spoken word and are thus particularly useful in non-literate societies. Furthermore stories are easier to remember than education sessions and thus the information can be assimilated easier.
Drama	Drama is another very effective manner of promoting health messages. It is entertaining and thus a user friendly method of communicating important information. Furthermore specific behaviours can be acted out and associated with illness or good health depending on the behaviour performed.
Song	Songs and dance are very popular in many developing countries (especially in Africa). Songs can convey information in an entertaining form and can be very effective with adolescents, especially if the song is performed by popular singers whom the young people look up to and admire.
Pictures	Visual arts is another good method to bring across information to the people. It is an opportunity for the local artists to give their views on certain popular issues. Furthermore local art may be understood better by the community than western pictures or visual representations of a certain event.

¹ This table has been adapted from Hubley 1993, Kerr 1990, Jahan 1996, and Birchall 1996.



Fig.14. Theatre for Development (Hubley 1993, p.133)



Fig.15. Learning Aids for teaching about health (Hubley 1993, p.79)

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