KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING ENVIRONMENTAL HEALTH SERVICES IN HOSPITAL HILL, JOHANNESBURG METROPOLITAN COUNCIL, SOUTH AFRICA

by

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DECLARATION

I, Lydia Mmapula Tjale, declare that this research report is my own work. It is being submitted in partial fulfillment for the degree of Master of Public Heath at the University of Limpopo (Turfloop Campus). It has not been submitted before for any degree or examination at this or any other university.

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Student's Signature

ACKNOWLEDGEMENTS

DEDICATION

I would like to dedicate this to my precious daughter Lehumo, whom I affectionately call "Sponono" which is loosely translated to mean pretty and precious. I dedicate this with a warm heart as I sacrificed the time we should have spent together involved in the research project and who despite her tender age had an exceptional understanding that I was busy working and thus did not seek undue attention.

ABSTRACT

The purpose of this study was to establish the community's knowledge, attitudes and practices regarding environmental health services (EHS) in the informal settlement of Hospital Hill. A qualitative, cross-sectional study was conducted using focus group discussions among study participants that satisfied the inclusion criteria. Each focus group discussion had varying duration ranging from one hour to one-and-half hours. The study revealed that there was lack of knowledge about EHS, with participants citing provision of water and sanitation facilities as the various roles that EHPs played. Participants' attitude towards EHS and EHPs showed marked dissatisfaction due to their inaccessibility and unavailability. The lack of consultation, follow-up and community initiatives fuelled their negative attitudes towards EHS. Culture and beliefs, school dropout, human resources and lack of access to information discouraged the community from using EHS.

A number of suggestions were made which revealed the community's need and desire for EHS provision because environmental health problems were dealt with in different ways and these varied from one household to the other further signifying the need for a uniform approach was needed to deal with environmental health problems. The community of Hospital Hill was found to be experiencing discrimination evidenced by inexistence of EHS and consequent limited knowledge of EHS, negative attitudes and practices regarding EHS.

DEFINITION OF CONCEPTS

1. **Attitude** – is defined by the Collins Concise Dictionary (1995: 88) as: "the way a person views something or tends to behave towards it, often in an evaluative way". In the context of the study it is regarded as the way in which the community members view Environmental Health Services and behave towards them.

2. **Disease prevention** – this covers measures, not only to prevent the occurrence of disease, such as risk-factor reduction, but also to arrest its progress and reduce its consequences once established (World Health Organisation, 1998: 4)**.**

3. **Environmental health** – these are the aspects of human health, including quality of life, that are determined by physical, chemical, biological, social and psychosocial factors in the environment. It also refers to the theory and practice of assessing and controlling factors in the environment that can potentially affect the health of present and future generations (McCarthy & Pritchard, 2002: 9).

4. **Environmental Health Practitioners (EHPs)** – the officials appointed by the mayor of a metropolitan or district council in the employ of the council in question, as a health officer for the relevant municipality in terms of Section 80(1)c to monitor and enforce compliance with the Act in terms of Section 81 (South Africa, 2003: 29).

5. **Environmental Health Services (EHS)** – this refers to the municipal health services (South Africa, 2003: 77), are a collection of services that are provided by local authorities, a third tier of government. They can be defined as:

   o water quality monitoring;
   o food control;
   o waste management;
   o health surveillance of premises;

- surveillance of communicable diseases, excluding immunizations;
- vector control;
- environmental pollution control;
- disposal of the dead; and
- chemical safety.

6. **Practices** – this refers to health services seeking behaviour or activities undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health, whether or not such behaviour is objectively effective towards that end (World Health Organisation, 1998: 8).

7. **Informal settlement** – unplanned and unauthorised residential areas accommodating people who cannot afford to access housing in the formal market (Huchzermeyer, 2010: 129). The areas are characterised by intolerable housing conditions, often referred to as squatter camps whose residents frequently share toilets with hundreds of other people, live in overcrowded and insecure neighbourhoods and are constantly facing the threat of eviction. These residents are more likely to contract water-borne diseases, such as cholera and typhoid (Hurskainen, 2004: 64; Warah, 2003: 2).

8. **Knowledge** – the awareness of or familiarity with a fact or situation (*Compact Oxford English Dictionary, 2005: 562*).

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CHAPTER 1   INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This Chapter covers the topic under investigation, background to the study, as well as explaining the research framework.

1.2 BACKGROUND

Environmental health risk factors are responsible for the mortality and morbidity amongst millions of mothers and children throughout the world. It is estimated that 24% of the disease burden (healthy life years lost) and 23% of all deaths (premature mortality) globally are attributed to environmental health risk factors (Pruss-Ustun & Corvalan, 2006: 7). Diarrhoea, lower respiratory infections, various forms of unintentional injuries, malaria, respiratory infections, including chronic pulmonary disorders, lung cancer and asthma head the list of all diseases caused by environmental factors.   These environmental factors, especially threatening for low income countries include but are not limited to unsafe water and food, inadequate sanitation and indoor air pollution from burning solid fuels. It is of concern to note that these diseases are not only treatable but preventable, yet they are responsible for high mortality and morbidity in many parts of the world resulting in severe economic repercussions and adversely affecting countries' productivity (World Health Organization, 2007a: 5).

It is estimated that 233 000 deaths could be prevented each year globally. South Africa (SA) on the other hand could see an estimated 109 000 deaths prevented each year through healthier environments (World Health Organization, 2007b: 40). In the United Nations Millennium Development Goals (MDGs) 2008 Report (United Nations, 2008: 3) highlighting the progress made since the adoption of MDGs in 2000, the Secretary-General Mr. Ban-Ki Moon indicated that there have been gains since the pledge was made to halve the world's poverty by 2015. In the report, a number of successes have been identified with maternal and child mortality, morbidity and mortality from

HIV/AIDS, malaria and other diseases from preventable causes still remaining unacceptably high particularly in Sub-Saharan Africa (SSA). Knowledge of and utilisation of health services including Environmental Health Services (EHS) could prevent and reduce the aforesaid morbidity and mortality. Thus it is crucial that efforts are made to involve all stakeholders, including the community members, to take urgent and concerted actions in reducing health inequalities and ultimately eradicating diseases through preventive strategies, as this will not only bring about positive change to health status, but lead to sustainable livelihood (South Africa, 2002: 57).

In his quest to provide an overview of currently used methods for economic evaluation and to discuss implications of using methods for evaluating environmental health interventions, Hutton (2000: 1) pointed out that environmental health interventions differed from core health services in a number of ways. Amongst the points he highlighted was that environmental health interventions were exclusively preventive, but their benefits may not be realised until the distant future. Nevertheless they potentially conveyed considerable non-health benefits, such as saving time and increasing amenity. It could be assumed that if community members' knowledge, attitudes and practices (KAP) regarding EHS were anything to go by, they would be better utilised to save time and increase amenities related to experienced incidents of diarrhoea and vomiting in the study area. This is so because according to the Africa Academy for Environmental Health (2010: 7), ill health is known to consequently result in reduction of about half of life expectancy in residents living in developing countries compared to individuals living in developed countries. The reduction of life expectancy is due to inadequate water supply, sanitation and food hygiene ending in an estimated 1.7 million young children dying annually from diarrhoeal diseases and another 1.4 million dying from respiratory infections due to indoor air pollution. The claim is further supported in Takanashi, Chonan, Quyen, Khan, Poudel and Jimba (2009: 602), where a study to investigate the potential factors of food-hygiene practices of mothers on the prevalence of diarrhoea amongst children in Vietnam was conducted. The study was necessitated by the prevalence of diarrhoea which was found to have been responsible for malnutrition, leading to impaired physical and cognitive development amongst children less than five

years of age which led to11.3% morbidity and an estimated 7 900 annual deaths in 2000. The study revealed that food hygiene practices of mothers, such as preparing food on the ground contributed to diarrhoea, which might be a common practice in many developing countries. Although the study did not attempt to establish why mothers cooked on the ground, it could be assumed that the households' economic status might determine the availability of a table on which to cook, thus reducing the chance of disease spreading.

Based on the above it became crucial to understand how KAP regarding EHS influenced one another, as this understanding would help appreciate a number of factors that could be responsible for community members' utilisation or supposed non-utilisation of EHS. The information obtained would help in drafting intervention strategies that would impact on increased awareness of EHS, as well as heighten EHS utilisation in health promotion and disease prevention. It would further help to look at what steps have been taken and what progress has been made in terms of achieving relevant MDGs in Hospital Hill, particularly because of the time left to reach the 2015 deadline.

1.3 RESEARCH FRAMEWORK

The section that follows presents the problem statement, the research question, the aim and objectives of the study.

1.3.1 PROBLEM STATEMENT

A study was conducted to monitor change in living conditions and health status in the selected study sites within the City of Johannesburg (CoJ), South Africa over a 5-year period from 2006 to 2010. High levels of vomiting and diarrhoea attributed to environmental factors with 14% and 19% two week recall for the informal settlement of Hospital Hill was found during September 2006 to August 2007 (World Health Organization Collaborating Centre for Urban Health, 2007: 9). Although it is unknown if these conditions resulted in mortality in the study area, it was important to establish what

the community members' KAP regarding EHS were. To establish these KAP, this study was conducted.

1.3.2 RESEARCH QUESTION

What are the knowledge, attitudes and practices (KAP) regarding environmental health services (EHS) among the community members in the informal settlement of Hospital Hill?

1.3.3 AIM AND OBJECTIVES OF THE STUDY

1.3.3.1 AIM

The overall aim of the study was to establish the community's knowledge, attitudes and practices regarding environmental health services in the informal settlement of Hospital Hill.

1.3.3.2 OBJECTIVES

The following were study objectives:

- o to determine the level of knowledge of EHS provision;
- o to assess the community members' attitudes towards EHS; and
- o to explore the practices related to EHS.

1.4 CHAPTER OUTLINE

Several studies have been conducted globally on various environmental health interventions. These studies focused on the impacts the interventions have on disease prevention and control, but little research has been done to explore the KAP regarding EHS. Based on the above, efforts were then made to understand the link amongst KAP

regarding EHS. A number of findings were made which suggested that individually and collectively knowledge, attitudes and practice had an impact on either EHS utilisation or perceived non-utilisation. In order to get a clearer picture of what is happening in Hospital Hill, a study was conducted and in the section that follows the information is delineated as to how the latter was achieved.

Chapter 2: Literature Review

In this chapter a review of literature was done. The literature consulted focused on the knowledge, attitudes and practices regarding environmental health services.

Chapter 3: Research Methodology

Here an outline of the study methodology, including the study site, study design, ethical considerations, sampling, data collection and data analysis is made.

Chapter 4: Findings

In this section findings are presented in a narrative format. Graphics including a table and figures are added to the narrative format used to present the findings.

Chapter 5: Discussions, Recommendations and Conclusion

This chapter focuses on discussing the findings, interpretation of the findings, the limitations of the study, suitable recommendations offered to the identified gaps as well as giving concluding remarks.

CHAPTER 2:   LITERATURE REVIEW

2.1 INTRODUCTION

In this section, the review of relevant literature was conducted and disproportionate differences were revealed as no single factor was found to influence the KAP regarding EHS. Based on this, the review was then limited to knowledge of environmental health services, the attitudes, as well as practices towards EHS.

2.2 KNOWLEDGE OF ENVIRONMENTAL HEALTH SERVICES

The main objective of environmental health is to address all the physical, chemical and biological factors external to a person and all the related factors impacting behaviour. It is about taking a preventive approach to tackling disease and ill-health rather than a curative approach (Africa Academy for Environmental Health, 2010: 7; McCarthy & Pritchard, 2002: 9). Knowledge and utilisation of EHS can among others prevent death of millions of children in developing countries from preventable causes, which account for 13 times more deaths within the first five years of life, than children born in industrialised countries. Furthermore, the leading causes of death, namely pneumonia, diarrhoea, malaria and measles can also be prevented through simple improvements in basic health services and proven interventions, such as oral rehydration therapy, insecticide-treated mosquito nets and vaccinations (United Nations, 2008: 21).

Access to and utilisation of health services can in addition to the above lead to an improvement of health and prevention of premature deaths that lead to people living longer, healthier and more productive lives (South Africa, 2002: 56). It is on this premise that an urgent action to address the determinants of health including knowledge of EHS is made as this will not only promote equitable and improved access to affordable and efficient health care services, but will also invariably lead to a reduction in environmental health threats (South Africa, 2002: 57). Worldwide, as many as 13 million deaths could be prevented every year by making environments healthier through well-targeted

interventions including but not limited to EHS. In order to effectively prevent diseases, it is crucial that the cause of an illness and conditions that permit it to occur are fully understood, because without fully understanding the cause of an illness, it may be difficult to intervene to prevent diseases (O'Fallon & Dearry, 2002: 155). Understanding of how knowledge of EHS provision can affect utilisation trends cannot be overstated as attaining this information is a crucial starting point for any endeavour. Although far from sufficient to effect sustained change and improvement towards EHS utilisation, it can often act as a rallying point or compass when expanding and incorporating specific characteristics related to effective disease prevention (Bahamon, 2006: 663). Based on this realisation, it is only logical that it is established if and what relevant knowledge of EHS provision exists amongst people who are supposed to utilise them to enable them to prevent ill health attributable to environmental factors.

Paraffin is a frequently used fuel for cooking, lighting and heating among people living in low-income communities lacking electricity in low and middle income countries. Although a reliable energy source for low-income communities, it has multifaceted risks leading to amongst others paraffin-related burns and poisoning. The risk is greatest among children accounting for about 60% of paediatric poisonings in Kenya and South Africa. The risk is exacerbated by its consistency and appearance of water and because in some places it is stored in reused beverage containers without child-resistant caps it predisposes unsupervised children to high risk of consuming it (Schwebel, Swart, Hui, Simpson and Hobe, 2009: 700). Since little is known about the beliefs and behaviour of individuals at risk for paraffin injury, a study was conducted among two low income housing districts near Cape Town, South Africa with the aim of developing safety-related interventions. One study was conducted in Phillipi on a plateau area located east of Cape Town and the other one in Du Noon in the northern suburbs (Schwebel et al, 2009: 701). An 18-item questionnaire to assess knowledge about the dangers of paraffin, the ways to prevent paraffin-related injury and the first aid to be applied in response to paraffin-related injury was then developed and used for this purpose. In the study it was found that people at risk of injury from paraffin knew relatively little (64%) about paraffin safety which further suggested that without basic knowledge about safe practices, people

cannot possibly engage in them. The lack of knowledge was further compounded by the level of education, with a mean of 9.3 years of formal education found to be positively correlated with knowledge of EHS provision, with more knowledgeable individuals engaging in safer practices. However, what was also remarkable was that safe practices (37%) lagged substantially behind knowledge. In other words, participants did not always practice safe behaviours even when they knew what the safe thing to do was. The realisation brought to the fore the need to design interventions that would increase knowledge of EHS provision, improve safe practices and lead to the accurate perception of the risk of injury from using paraffin (Schwebel et al, 2009: 703).

Another study was conducted to investigate the impact of education on knowledge, agricultural practices and community actions for mosquito control and mosquito borne disease prevention in rice ecosystems in Sri Lanka. It was found that education was positively associated with improved knowledge of mosquito ecology and disease epidemiology, changes in agricultural practices and an increase in environmentally sound measures for mosquito control and disease prevention (Yasouka, Mangione, Spielman and Levins, 2006: 1036). The revelation was made following a 20-week pilot education programme to improve community knowledge and mosquito control and later, evaluated using pre-educational and post-educational surveys in two intervention and comparison villages. Of significance in the study, was that there was a variety of actions taken for mosquito control and disease prevention in the intervention compared to the comparison village, concluding that knowledge was a good predictor of EHS utilisation (Yasouka et al, 2006: 1036).

The latter is supported in Metwally, Saad, Ibrahim, Emam and El-Etreby (2007: 63), where a participatory follow-up study to monitor progress of community behaviour changes, as a result of the integrated environmental interventions implemented in the four pilot communities of Upper Egypt was conducted. In the study, it was concluded that when the hygiene promotion component start right at the beginning of any programme, as part of effective pre-planning, it helps villagers make informed decisions about whether to opt into environmental interventions as well as to identify their priorities. The

strategies not only afford villagers opportunities for meaningful community involvement and participation in planning, operation and maintenance of facilities and services, it also helps with desired behaviour change, information and capacity building (Metwally et al, 2007: 63). It could be argued from the above that unless communities have knowledge about EHS provision, it will not be possible to scale up disease prevention, thus demonstrating a connection between literacy, health and the range of benefits derived from health-literate societies.

2.3 ATTITUDES TOWARDS ENVIRONMENTAL HEALTH SERVICES

In the previous section, knowledge was found to be a good predictor of EHS utilisation. However, what remains unknown is how attitude influence EHS utilisation. Although the practice of taking appropriate prevention measures has great potential to reduce occurrence of severe or life-threatening child illnesses, perceived illness severity has been greatly seen to influence prevention efforts and thus delayed treatment (Van den Berg & Viljoen, 1999: 7).

In one survey round of the Nairobi Urban Demographic Surveillance System (NUDSS) to assess the influence of socio-demographic, economic and disease related factors in seeking health care for child illness among slum dwellers of Nairobi, only 604 of the 999, who reported to have been sick, sought medical care. The main reasons given for failure to seek health care outside the home were lack of finances (49.6%) and a perception that the illness was not serious (28.1%). Based on this, seeking health care was more common for sick children in the younger age group, with diarrhoea symptoms associated with fever considered reason enough to sought health care than for coughing. From the findings it could be seen that the perception of the severity of the illness was strongly associated with seeking health care. Thus necessitated improvement of caretakers' skills to recognise danger signs as this might enhance the behaviour of seeking health care (Taffa & Chepngeno, 2005: 240).

The latter confirms the perception or attitude towards EHS, where society tends to focus more on treating the sick than they do on preventing diseases thus making them associate health with doctors, hospitals and all other sectors needed to cure the sick. It is for this reason that public and policy makers need to shift their mindset if the target of disease prevention is to be reached because due consideration of environmental health interventions is very important, as they are not only cost-effective but yield benefits that contribute to the overall well-being of communities (Pruss-Ustun & Corvalan, 2006: 14). The sentiment is particularly important as community members do not see themselves as significant role players in preventing diseases but rather see it as government's and others' responsibility.

Evidence of benefits of community based intervention has been documented in Ghimire, Pradhan and Maskey (2010: 219) in a study of community based interventions for diarrhoeal diseases and acute respiratory infections (ARIs) in some districts of Nepal. In the study it was found that case fatality rate due to diarrhoeal diseases and ARIs declined across the country from 2004 to 2007. The success was attributed to integration of case-control study intervention, which yielded positive results. The results found that where expected pneumonia cases received the correct treatment, the treatment group's results nearly doubled as opposed to the referral group. The case-control consisted of women volunteers with one group involved in diagnosis and treatment, while the other group was tasked in diagnosis and referral of cases to formal health facilities. Based on the success of the referral group, a community-based ARI and diarrhoea control programme was established where women were trained as Community Health Volunteers (CHVs). The role of these CHVs was to diagnose, assess disease severity and danger signs, treat children with oral rehydration therapy and to refer them to health facilities. Training curricula and modules were simplified and adapted to make them interactive and suited participation by the CHVs. Due to the community-based intervention, cases of diarrhoea with some dehydration or severe dehydration, as well as national case fatality rates for acute diarrhoea decreased significantly. Although the national pneumonia incidence remained unchanged at around 0.13 episodes per child per year, the proportion of ARI with pneumonia or severe pneumonia declined. The ARI mortality rate remained low

and did not show any significant decrease (Ghimire et al, 2010: 221). From the study above, it could be seen that people's attitudes towards EHS were significantly shaped when they were empowered with decision-making and implementation skills thus leading to a reduction in both diarrhoea and ARI. It can be argued from this premise that unless communities are empowered with decision making and implementation skills, they are not likely to feel they have increased control over their own health leading to disease prevention and reduced mortality (World Health Organization, 1986). It should however, be noted that knowledge of EHS provision alone cannot predict utilisation of EHS, as attitudes can have a profound effect on EHS utilisation, as was seen in the Kenyan study.

2.4 PRACTICES TOWARDS ENVIRONMENTAL HEALTH SERVICES

In the section that follows an old proverb "*Prevention is better than cure*" will be explored in detail as this will hopefully shed some light on how knowledge and attitudes influence the behaviour of seeking health services (practice) that prevent diseases. People all over the world use various types of services ranging from private to public, traditional and/or faith-based health care services for their health care needs. A number of reasons are known to influence health services utilisation or non-utilisation and they range from the availability and affordability of health services to the failure or success of treatments within the popular or folk sectors and the perception of the problem by the community (Aslan, Ozcebe, Billir, Vaiizoglu and Subasi, 2006: 37; Knight & Maharaj, 2009: 18).

Although, indisputable that some commendable progress has been made that yielded declines in under-five year old mortality globally, the question still remains as to why there are so many children still dying from preventable diseases, particularly if the above idiomatic expression is to be considered. Could it be because of basic human nature where humans play the odds, of "*wait and see*" or could there be other unexplored reasons? Despite people's awareness of the crucial relationship amongst human health, disease causing organism and the environment there is still a tendency to separate the three, leading to many deaths that could be avoided if they were integrated. People need

to be made aware of the interwoveness of the host (human being), organism (disease causing agent) and the environment in the causes, spreading, prevention and control of diseases. The interwoveness of the host-organism-environment is based on the fact that a causative organism always has to be present to cause the host's illness. By breaking up the links between the host, organism and the environment, it is possible not only to prevent the disease but also an outbreak if it should occur, to implement the necessary control measures (Van den Berg & Viljoen, 1999: 6). Solving of environmental health problems needs a multipronged approach. One way in which this could be done is to provide education to the public about EHS as this will go a long way in ensuring community members have improved knowledge of day-to-day environmental health practices, thus facilitating disease prevention and proactive approaches towards environmental health risks (George, Fulop and Wickham, 2007: 17).

Failure to provide education might result among others in misconceptions about personal risk as was the case amongst travellers visiting developing countries. Many travellers visiting developing countries put themselves at risk by failing to take the necessary precautions recommended by the World Health Organization. In order to determine where travellers going to developing countries obtain travel health information, what information they receive and what preventive health measures they employ, Van Herck, Zuckerman, Castelli, Van Damme, Walker and Steffen (2003: 76) conducted a pilot study to evaluate current travel health knowledge, attitudes and practice. A number of reasons were found to be responsible for failing to take vaccinations against a number of infectious diseases. A total of between 20 to 30 % of travellers claimed they were not at risk, 10% disliked vaccinations and less than 10% claimed it was not important and finally, 4% cited cost as a reason for failure to vaccinate. Of concern were the sources consulted for advice with many respondents citing sources that have demonstrated to be unreliable, such as family and friends, travel agents and/or diplomatic representations.

In Sub-Saharan Africa (SSA), child mortality rates are approximately four times higher than in developed countries, mortality is even higher in children from rural and poor families and whose mothers lack basic education (United Nations, 2008: 21). A negative

association between the respondents' knowledge of preventive measures and the number of unprotected containers in and around respondents' homes was found when an extensive entomology survey was conducted. The survey was conducted with the aim of testing the hypothesis that correct dengue knowledge was positively associated with respondents' knowledge of preventive measures in two sub-districts of Kamphaeng Phet province, Thailand. The survey revealed that lack of knowledge about dengue prevention was closely linked to lack of container protection practices resulting in an increased likelihood of a house being infested with one or more adult *Aedes aegypti*, a causative agent of dengue fever (Koenraadt, Tuiten, Sithiprasasna, Kijchalao, Jones and Scott, 2006: 692). It could thus be concluded from the above that knowledge is a good predictor of prevention practices leading to decreased disease incidents among those with knowledge about prevention practices. The notion is further supported in El-Mohandes, Katz, El-Khorazaty, McNeely-Johnson, Sharps, Jarret, Rose, White, Young, Grylack, Murray, Katta, Burroughs, Atiyeh, Wingrove and Herman (2003: 1326) in a study to determine if a community based intervention programme focusing on educating parenting has an impact on preventive health care utilisation behaviour amongst low-income, minority mothers in Washington D.C. where a positive association was made. The study revealed that when parents had knowledge about preventive health services and their inherent benefits they were more likely to utilise the service, which translated to a reduction of infant mortality rates. It is evident from the studies above that there were differences with regards to prevention efforts where existence of knowledge was positively associated with taking prevention measures, while the contrary was also true. The latter confirms the crucial role that knowledge has with evidence showing for instance, that an increase in a primary or secondary education for mothers is associated with a reduction in the child mortality rate, and that educated parents have better nourished children, which in itself will have an impact on achievement of the other Millennium Development Goals (United Nations, 2009: 15).

It is apparent that EHS can yield far reaching benefits, however, with such a high rate of preventable deaths occurring, particularly in developing countries it is only logical that exploration is made to get an understanding as to what motivates or discourages people

from utilising EHS. A number of factors could be individually or collectively responsible for EHS utilisation or perceived non-utilisation. Although the following are by no means an exhaustive list of factors, they together with many others could be responsible for the disparities that exist in terms of EHS utilisation and thus, consequent disease and death prevention. For the purpose of this study only health literacy, human resources and access to information will be explored as possible factors responsible for EHS utilisation or supposed non-utilisation.

2.4.1 Health literacy

Although malaria is both preventable and treatable, it still remains one of the biggest killers in SSA (Williams, Martina, Cumming and Hall, 2009: 288). The lack of access to preventive measures, the household's income and incorrect use of malaria nets were found to be responsible for the mortality and morbidity in a small rural community of Bufuula, Uganda. It was however concluded from the study that for malaria control programme to be effective, mosquito nets were to be provided with an effective education programme in entire districts simultaneously, rather than on a per community basis, confirming that health-literate societies are able to facilitate disease prevention and take proactive approaches towards environmental health risks (Williams et al, 2009: 290).

A challenge however still remains, with regards to people accessing education that will prepare them for various life's challenges. Although the world is edging closer to universal primary education, it is still slow to meet the MDG-2 target of ensuring that everywhere boys and girls alike will be able to complete primary school education (United Nations, 2009: 15). In the developing world as a whole, enrolment coverage in primary education reached 88% in 2007, up from 83% in 2000. Major breakthroughs have been achieved in SSA, where enrolment increased by 16% from 58 to 74 in 2000 and 2007, respectively (United Nations, 2009: 14). Some marked improvements in school enrolment have been made in SSA; however the number of children of primary school age that are out of school is alarming. South Africa has particularly experienced an estimated 43% of children drop-out by the end of the seven years of primary school in

1999/2000. The problem is rife in larger and poorer provinces with the Northern and Eastern Cape, as well as the Limpopo Province experiencing a high dropout, repetition and failure rates (Pillay, 2006: 67). Based on these figures, it further points to the problem that school dropouts represent. School dropouts might not be adequately equipped with skills needed for growth nor are they adequately prepared to tackle many of life's challenges (Pillay, 2006: 68). It is for this reason that intensified efforts need to be made to ensure that everywhere, boys and girls alike will be able to complete primary school education. This is solely so because achieving the MDGs will also require targeting areas and population groups that have clearly been left behind particularly the rural communities, the poorest households and ethnic minorities, all of whom will have a hand in shaping the world's common future (United Nations, 2009: 5).

2.4.2 Human resources

Recruitment and retention of skilled human resource in underserved areas of South Africa is in addition to health literacy supposedly responsible for the perceived non-utilisation of EHS. The lack of appropriately qualified Environmental Health Practitioners (EHPs) compounds to inadequate environmental health practice and enforcement, inappropriate environmental health policy and strategy for action, the lack of sound information for priority setting and planning, the absence of a suitable set of environmental health indicators as well as the lack of an appropriate performance indicator system (Hess, Dyjack and Bliss, 2007: 51; Osaki, Hinchey and Harris, 2007: 12).

Based on the above, there is thus a need to retrain, limit openings and redistribute personnel in over serviced and in underserviced areas respectively (African National Congress, 1994: 50; Osaki et al, 2007: 12-15).

2.4.3 Access to information

It needs to be borne in mind that disease prevention activities should be multipronged, involving the use of various forms of interpersonal channels of communication. Despite appreciation and acknowledgement of the role that multiple approaches have on disease prevention, there could be a number of constraints that might thwart these efforts. The problems of limited access to primary school education leading to low health literacy and human resources could be compounded by people being denied access to information, making it difficult for people to utilise EHS. Provision of EHS should be such that it embraces an expanded mandate which is sensitive and respects cultural needs. Failure might lead to lack of support towards the needs of individuals and communities for a healthier life and open channels between the health sector and broader social, political, economic and physical components (World Health Organization, 1986).

When communities are denied access to information they tend to negate their responsibility towards health promotion and disease prevention (O'Fallon & Dearry, 2002: 155), as was evidenced by a Zimbabwean study conducted to determine the extent of stakeholder participation in water quality monitoring and surveillance (Nare, David and Zvikomborero, 2006: 708). The Ministry of Health and Child Welfare generally only released information to rural communities when it was deemed necessary for their welfare making them further disassociate in public forums geared towards health promotion and disease prevention (Nare et al, 2006: 708).

2.5 CONCLUSION

Although disease causation is multipronged, KAP regarding EHS can play a very significant role in EHS utilisation or non-utilisation. A variety of factors, which individually or collectively could have had an impact on EHS utilisation were explored. These factors ranged in no particular order inclusive of health literacy, human resources and access to information. A number of remarkable findings were made, which further

brought to the fore the need to integrate EHS into the mainstream health sector as this would go a long way in ensuring that relevant MDGs are reached by the year 2015.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

In the previous Chapter relevant literature related to KAP regarding EHS was reviewed. In this Chapter, focus will be placed on methodology of the study which was used to answer the research question. The methodology used, the research approach, research design, sampling, data collection, ethical considerations, data analysis as well as validity of the research, will be discussed.

3.2 RESEARCH APPROACH

Two distinguishable types of research approach can be used namely, quantitative and qualitative (Welman, Kruger and Mitchell, 2005: 78). The former approach includes experiments, surveys and content analysis. Experimental research differs primarily from the non-experimental approach in that the researcher can control the action of the specific variables being studied (Brink, 2006: 92; De Vos, Strydom, Fouche' and Delport, 2005: 133). The researcher manipulates the action of the independent variable or causal variable(s) and observes and measures the action or outcome on the dependent variable(s). The latter on the other hand is concerned with exploration of meaning or description and promoting understanding of human experiences, which might be difficult to quantify (Brink, 2006: 113).

From the distinction made above, it became justifiable to consider qualitative research as a suitable design. This was so because of its approach to have few preconceived ideas, which stresses the importance of people's interpretations of events and circumstances rather than the researcher's interpretation (Brink, 2006: 11). In this type of research the researcher relies on data in the form of words and further believes that immersing oneself in the research context is a good way to understand meaning (Badenhorst, 2008: 23).

3.3 RESEARCH DESIGN

A cross-sectional study was conducted using focus group discussions to establish the community's KAP regarding EHS in the informal settlement of Hospital Hill.

3.4 STUDY SITE AND POPULATION

3.4.1 STUDY SITE

Hospital Hill is a peri-urban informal settlement situated 40km south west of Johannesburg and comprises of 1650 households (Naidoo, Mdala, Mphake and Chidley, 2007: 59). The area falls under Region G (*The seven regions*) and is described as the most deprived ward in Johannesburg and the 22nd most deprived ward of 420 wards in Gauteng (World Health Organization Collaborating Centre for Urban Health, 2008: 7).

http://www.joburg.org.za/regions
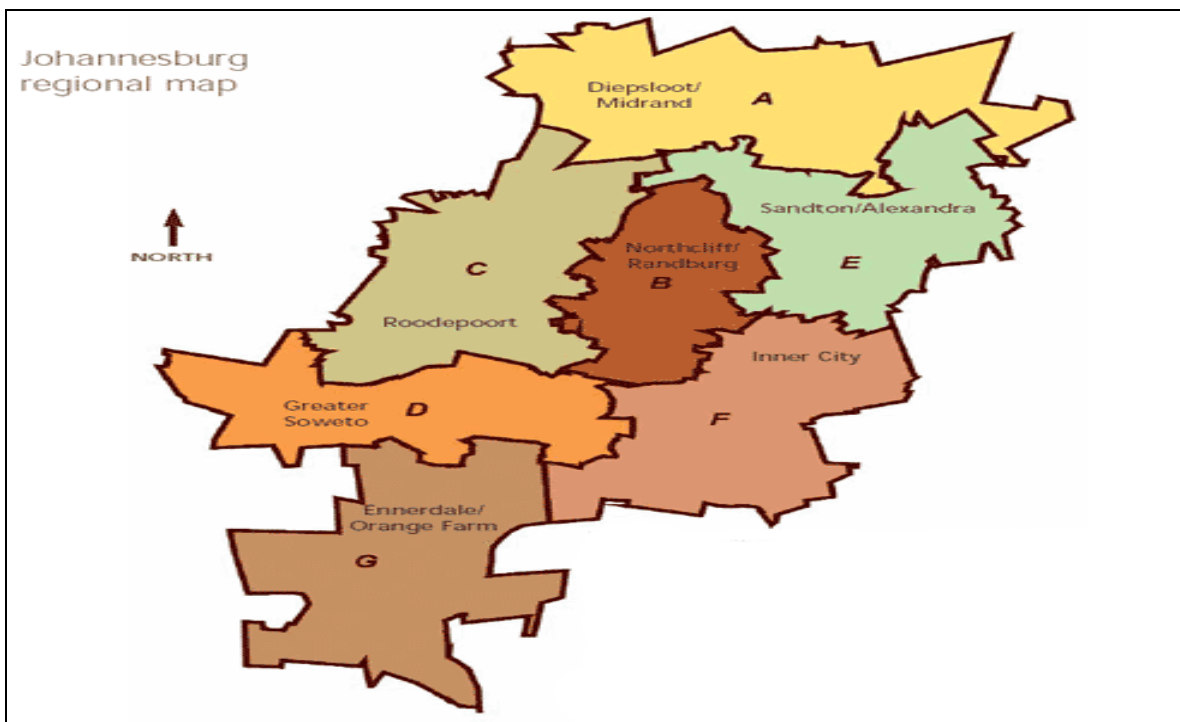
Figure 3.1 Geographical map of the study area

It is densely populated with a physical layout making it challenging to introduce roads, pathways, drainage, water and sanitation services. Like many informal settlements in SA, Hospital Hill is serviced through communal facilities where a number of people share a tap and a toilet. As a consequence, people vandalise and misuse services, hence the provision of water and sanitation facilities in informal settlements are usually considered unsustainable (Naidoo et al, 2-8). The community relies on communal outdoor water supplies and sanitation services and use unclean energy sources including but not limited to paraffin, coal and wood for cooking and other household energy needs. As could be expected the area has the lowest access to hot water, necessitating use of time and effort to heat water for domestic and personal hygiene purposes thus, predisposing them to risk of burn injuries from the use of open fires (World Health Organization Collaborating Centre for Urban Health, 2009: 15).

3.4.2 STUDY POPULATION

Hospital Hill is an indigenous African settlement with 7% of the households not from South Africa, 75% from outside Gauteng, including 17% and 1% from the Eastern Cape and North West Provinces respectively (World Health Organization Collaborating Centre for Urban Health, 2007: 10). Existing community groups, namely youth, home based health care and a stakeholder forum were approached to take part in the study. Participants recruited to take part in the study had to satisfy the following inclusion criteria:

- o be 18 years and above;
- o be of either gender;
- o be of any ethnic group;
- o belong to one of the identified groups; and
- o belong to any socio-economic class.

The criteria helped in defining and deciding whether participants would or would not be classified as a member of the population in question (Brink, 2006: 124).

3.5 SAMPLING AND SAMPLING TECHNIQUES

Non-probability sampling was considered the most suitable due to its nature of being less complicated, convenient, economical and unrepresentative of the sample (Brink, 2006: 131; Welman et al, 2005: 68). Once the research problem had been defined and research approach decided, it became crucial to choose participants that would take part in the study (Beaglehole, Bonita and Kjellstrom, 1993: 60). Non-probability sampling was used, ensuring that only participants who knew most about the phenomenon and were able to articulate nuances were selected (Brink, 2006: 132). No specific set of rules was followed in determining the sample size, but rather snowball sampling was done, where participants acted as informants and identified other community groups for inclusion in the sample until data saturation was reached (Welman et al, 2005: 67; Brink, 2006: 134). A total of four focus group discussions were conducted with the size ranging from six to twelve participants within a group. Two out of the four groups were homogeneous whilst the other two were heterogeneous. This enabled participants, to discuss their experiences and opinions regarding research problems leading to new ideas, thus allowing them to reconsider their initial responses (Brink, 2006: 136).

The sample was not representative but rather adequate as too many groups would have clouded the issues and would have increased the complexity of the analysis process (Brink, 2006: 136). Due to this, the findings were thus not generalised but made valid in the defined research setting and not community groups in general (Brink, 2006: 124).

3.6 METHODS OF DATA COLLECTION

Data collection took place over a two month period from mid-July to mid-September 2010 using focus group discussions. Each focus group discussion had varying durations ranging from a minimum of one hour to a maximum of one-and-half hours. Time limits were set in order to guard against creating the expectation of participants that they would be told what to do (De Vos et al, 2005: 310). It also ensured that adequate time was

allowed to complete the sessions and allow participants to consider a range of views before answering the questions (Brink, 2006: 152).

Although participants were encouraged to be spontaneous when responding to research questions, they were also conscientised about respecting each other's opinions. In order to ensure that the latter was accomplished each group set and agreed on a number of ground rules, which everyone had to abide by for the duration of the session. Amongst the rules set, were that each participant had to switch off their cellular phone and that they could excuse themselves from the discussion, if they felt a need without interrupting the discussion within the group. Once ground rules had been set and agreed upon, the focus group discussion begun with the use of main questions that guided the conversation (De Vos et al, 2005: 293). During the initial phase of the discussion, some participants seemed to be uneasy and showed signs of distress. On observing the latter, efforts were made to calm them by careful structuring of questions and allowing them to ask questions and raise concerns. Under those circumstances, indirect questions were asked and these enabled them to respond to what seemed like difficult questions in terms of reactions or feelings of other people (Welman et al, 2005: 203). Occasionally, laughter was explored by either teasing or making jokes related to the issue under discussion (De Vos et al, 2005: 288-290). The technique helped participants to say more, while at the same time, it allowed them to reflect back on what they had said earlier and thus expanded on their initial ideas. However, the technique was used with caution so that control could be maintained. For this reason steering questions were used to guide the group back to the main theme under discussion (Welman et al, 2005: 203).

In instances where statements were unclear, clarification was sought by asking questions and following up on what participants said. Although it took more time to respond to certain questions than others, due to the silence that followed it was not disrupted but rather acknowledged and recorded as such (Welman et al, 2005: 203). On more than one occasion, participants were allowed to ask questions in order to get clarity on questions posed. Questions were also allowed to be asked back and forth amongst themselves, as this created a platform for enhanced discussion. In order to maintain objectivity,

questions they considered not satisfactorily answered were asked again. This gave the participants an opportunity to reflect on what they thought about a particular issue, as well as to reflect on possible explanations to the question (Lannon, 2007: 357). That way the issue of source bias was avoided as participants did not understate or overstate certain facts while trying to answer questions in a way that they thought was expected. Attentive listening was maintained which further facilitated understanding and respect of participants' views (De Vos et al, 2005: 295).

3.6.1 PILOT STUDY

The pilot focus group discussion provided the information needed as it determined the appropriateness of the questions and identified areas that needed to be modified, deleted or added to as well as reassessing the feasibility of the study (Brink, 2006: 54; Welman, et al, 2005: 149). Although prior arrangements were made to do a pilot study with research participants, an unforeseeable situation presented itself with all but one participant showing up. Attempts to get them to come in were in vain, as they indicated other commitments which took precedence over the pilot study. The situation made it impossible to continue with the piloting of the tool as no discussions could take place with just one participant thus defeating the purpose of pilot testing, which aimed to among others afford the researcher an opportunity to notice non-verbal behaviour (Welman et al, 2005: 148). Employees of Impact Cleaners, a cleaning company contracted to the University of Johannesburg's Doornfontein Campus were approached as they displayed similar characteristics as that of the study population to take part in the pilot study. In the presence of the research supervisor, the tool was pilot tested where participants were solicited for their opinion on the relevance of the questions in order to avoid ambiguous questions that could compromise quality during data collection (De Vos et al, 2005: 309).

During the process, special attention was paid to the manner in which questions were posed. When it became apparent that the questions posed were not clearly worded and formed, an attempt was made to steer the participants in a specific direction (Brink, 2006:

166; Welman et al, 2005: 148). Based on the participants' recommendations, the focus group discussion guide was modified and several questions that proved ambiguous were deleted, whereas others were rewritten. The focus group discussion guide was then modified and later used during the data collection process that took place at the research site thus, avoiding pitfalls and errors that could prove costly had the latter not occurred (Brink, 2006: 166).

3.6.2 FOCUS GROUP DISCUSSIONS

A focus group discussion guide made up of questions adapted from "*Excerpt of the Focus Group Discussion Guide used for the Study of Health Effects of Lead Exposure*" was used to facilitate focus group discussions (Adebamowo, Agbede, Sridhar, Adebamowo, 2006: 1472-1473). The research assistant was recruited to assist with recording focus group discussions on a voice recorder and taking field notes and capturing nonverbal responses from the participants. This was done after receiving informed consent from all study participants and after it was established that they understood the type of information needed as well as that they had a choice whether to give consent or not (Brink, 2006: 35). As the groups' facilitation continued, the research assistant ensured that distractions were minimised, as well as responding to unexpected interruptions. The assistant printed and conspicuously displayed a "Please Do Not Disturb" sign on the door so that everyone wishing to access the venue would be aware that discussions were taking place. Furthermore logistics were handled by the assistant who ensured refreshments were provided to participants as this tended to promote conversation and communication within groups (De Vos et al, 2005: 307).

Participants were allocated and addressed by fictitious names thus ensuring anonymity and guarding against overlapping during data capturing. The notes collected by both the researcher and the research assistant were later compared to compile a comprehensive research report. The focus group discussion guide was translated from English into seTswana, the language that participants were familiar with (Appendix A). SeTswana,

was then used to ask questions and to capture verbal responses. Responses were translated back into English for data capturing purposes.

3.7 MEASURES OF RELIABILITY AND VALIDITY

Qualitative research is viewed with scepticism and often criticised for lack of rigour (Brink, 2006: 118). Based on this premise pro-positivists regard it as having no valued contribution to make to the advancement of knowledge but dismiss it as radical, non-rigorous and subjective. Some scholars caution against this denunciation as it might result in qualitative research being rejected as a science (Tobin & Begley, 2010: 388-390). Arguments in literature about the scientific nature of a specific research paradigm reflect the differences in views that various scholars hold for both qualitative and quantitative research, respectively. Nevertheless it is important to note that whether various scholars consider qualitative research to be a science or not, is beyond the scope of this study, but rather to acknowledge that methods of establishing reliability and validity in qualitative research differ from those used in quantitative research (Brink, 2006: 118). It is also worth noting that establishing reliability and validity in qualitative research cannot be done without rigorous methods used in establishing trustworthiness, credibility, transferability, dependability and confirmability. It is for this reason that reliability and validity is often rejected in qualitative research in favour of the latter concepts that will be explained below. The processes undertaken lend themselves to principles of ethics, integrity and competence and thus legitimising the qualitative research process as a science (Tobin & Begley, 2010: 392).

3.7.1 CONTROL OF BIAS IN THE STUDY

The potential occurrence of bias was limited by administering a uniform focus group discussion guide to all study participants. The latter ensured uniform and consistent data collection thus enhancing the completeness of the data.

3.7.2 CREDIBILITY

The research participants were afforded an opportunity to review, validate and verify interpretations and conclusions, to ensure that the facts had not been misconstrued. During discussions an interventionist style was adopted, urging debate to continue to encouraging groups to discuss the inconsistencies, both between themselves and within their own thinking. Participants were further encouraged to elucidate their point of view and to clarify why they thought the way they did. When disagreements within a group were apparent, participants' help was sought, facilitating further discussion, which was paraphrased and what had to be recorded was agreed upon.

3.7.3 TRANSFERABILITY

Completeness is important in qualitative research, as it allows for recognition of multiple realities. The principle of triangulation, which allows for a variety of sources in data gathering, was used. It enlarges the research, offers a deeper and more comprehensive picture, as well as enhancing for easy validation and cross-checking of findings (De Vos et al, 2005: 314; Tobin & Begley, 2010: 392). For this purpose voice recordings and non-verbal responses were compared to compile a comprehensive research report, thus enhancing the completeness of the data.

3.7.4 DEPENDABILITY

In order to ensure dependability or trustworthiness peer-debriefing was done. The service of a neutral, independent researcher experienced in the field of qualitative research was enlisted. The independent researcher probed the possible researcher's biases, explored meanings and clarified the basis for particular interpretations (Brink, 2006: 119).

3.7.5   STABILITY

In order to ensure that there was consistency, one group had two focus group discussions within a relatively short period of time, i.e. within two weeks of each other. During the second discussion, the responses from the first discussion were compared to examine differences and similarities.

3.7.6 CODING

Coding was done to organise the data collected during the focus group discussion and this was initiated as soon as the data collection process began. In order to ensure reliability and to ensure agreement, a seasoned researcher within the qualitative research field recoded the same data that was initially coded.

3.8 METHOD OF DATA PROCESSING AND ANALYSIS

Transcripts of the focus group discussion, along with field notes taken by both the researcher and the research assistant were used as a basis for analysis. Analysis was done by breaking up data into manageable themes, patterns, trends and relationships with the aim of ultimately understanding the various constitutive elements of data through an inspection of relationship between concepts, constructs or variables and to see if there are any patterns or trends that could be identified and isolated. Questions of analysis (Badenhorst, 2008: 128) were used to help with this analysis. Using these questions facilitated analysis and helped in breaking up, separating and disassembling research materials into pieces, parts, elements and units. With this grounding it further assisted with the sorting and sifting of facts by breaking them down into manageable pieces, classes, sequences, processes, patterns or wholes.   Interpretation and validation of the themes was done in addition to write-ups and findings were presented in a report that consisted of figures and a table (Badenhorst, 2008: 129).

It is worth noting that the process can however be complex and daunting for a novice researcher due to the heavy demands that the process of qualitative research places on writers. The demands are further exacerbated by unclear and ill-defined fieldwork, data analysis and genres for reporting qualitative research (Paltridge & Starfield, 2010: 129). To overcome this challenge certain common steps for data analysis, which began at the start of the data collection phase, were followed (Brink, 2006: 184). Typical steps included coding of themes and categories, trends and patterns that reappeared within a single focus group or among various focus groups (Brink, 2006: 184; De Vos et al, 2005: 311). Data was further compared for similarities and differences, which were analysed in greater detail on how they relate to debates in literature (Badenhorst, 2008: 182).

As already mentioned, analysis in qualitative research is complex due to the massive amount of data in the form of words that the researcher have to examine, thus the rationale to combine many different elements of qualitative research. Husserl's approach which involves four main steps: bracketing, intuiting, analysing and describing were used (Hamill & Sinclair, 2010: 16). Using bracketing allowed for identification and setting aside of preconceived beliefs and opinions about the phenomenon under investigation so that every available perspective could be considered. Although the process tended to be cumbersome, prior knowledge was acknowledged and kept in abeyance. Failure could have resulted in undue regard of how the social world is actively constructed, made sense of and interpreted by each individual (Hamill & Sinclair, 2010: 23). Based on this notion it was possible to bracket and thus not influence participants' understanding of the phenomenon, but new knowledge was then created. Throughout the research process self-criticism and self-awareness of participants' values and how that might have influenced question phrasing, data collection and analysis were made. The willingness to be wrong, facilitated going back to participants to check with them the validity of the data captured.

Intuiting on the other hand, enabled development of an awareness of the 'lived' experience by constantly reviewing the data until there was a common understanding. Contrasting and comparing the final data to determine what themes emerged was also

done (Brink, 2006: 113-114). Having followed a number of steps in order to analyse data it was then imperative to close the findings by giving a brief summary of these findings which will be highlighted in the "Findings" section.

3.9 SIGNIFICANCE OF THE STUDY

The study will impact on increased awareness of EHS and optimise opportunities for heightened utilisation of EHS thus promoting health and preventing diseases.

3.10 ETHICAL CONSIDERATIONS

It was imperative that the proposed study be validated prior to beginning the research project (Brink, 2006: 42). For this reason, the research proposal was submitted to the University of Limpopo Ethics Committee to determine the ethical acceptability of the study. The research problem was found to be significant, the design scientifically sound while selection of participants considered ethically appropriate. Based on this ethical clearance, the researcher was then granted permission to conduct the study (Appendix B). However, since qualitative research often generates specific ethical problems because of the close relationship that researchers form with participants, issues such as right to withdrawal, informed consent, the dignity and privacy of the research participants, voluntary participation and protection from harm had to be addressed (Holloway & Wheeler, 1995: 225). The City of Johannesburg ethics committee was also approached to approve the study and it also deemed the approach to be ethical and granted their permission (Appendix C) to have the study take place amongst community members.

3.11 PERMISSION TO CONDUCT THE STUDY

Despite permission granted from both committees, it was also important to obtain permission to enter the area. The latter ensured that participants knew what the project sought to accomplish, as well as to avoid manipulation that could be introduced if many people knew about the project (De Vos et al, 2005: 279). By this time it had already been

established that the elected Ward Councillor had strong community ties, was trusted and accessible within the community, which justified the approach to involve him to serve as a gatekeeper. Through him, permission was first sought before direct interaction with the actual participants took place (De Vos et al, 2005: 91). The process was followed in order to negotiate trust and enlist cooperation amongst participants who according to De Vos et al (2005: 57), had to be seen as co-researchers who had to be fully informed about the research goals, process and the outcomes. Once all participants were identified they were then informed about the purpose of the study (Appendix D). Procedures and the duration of the focus group discussion, as well as the potential risks and any discomfort that taking part in the study would involve, were also explained.

Once that had been established and agreed upon, all participants signed and submitted informed consent forms before the study could begin. Participants were assured that their identity would remain anonymous, in addition to being protected from any harm during the research process (Welman et al, 2005: 201). Participants were also guaranteed confidentiality meaning that all data gathered during the study was not to be divulged to other people, except for publication for the benefit of other researchers in the field (Brink, 2006: 35). Several days before the scheduled focus group discussion, participants were called to remind them about the date and time of the session. Calling them ahead of time ensured that they were ready and prepared for the session. The community centre was deemed to be within a walking distance of all participants' homes, non-threatening, comfortable and provided privacy. It was because of this that participants agreed to use the community centre to conduct the focus group discussions, where they had to present themselves on an agreed upon date and time (De Vos et al, 2005: 294).

Although participation was voluntary, the participants were urged to engage in discussions but were also informed that they would be allowed to discontinue at any stage of the study, if they felt uncomfortable or threatened in any way whilst taking part in the study. Using a participant consent form (Appendix E) participants were assured of confidentiality and anonymity and this was achieved through addressing them by

fictitious names. Furthermore, they were assured of the results being published only in aggregate format without their identity being revealed.

3.12 LIMITATIONS

All sessions were conducted with no interruption; however the data collection process was stretched beyond the target period. Despite having factored in extended time during the planning phase, a number of challenges were encountered and will be highlighted in Chapter 5 under Study Limitations.

3.13 CONCLUSION

In the sections above, a concise discussion of the research methodology used in the research process was done. In the discussion, an attempt was made to distinguish between the two types of research methods, namely quantitative and qualitative, respectively. Based on the research problem, a qualitative design was considered the most suitable due to its ability to explore meaning and promoting understanding of human experiences. The selection was based on its approach that it enhanced understanding and interpretation, allowing for "entering" of the participants' "life world". Conversations and interactions were analysed.

Sampling, which is the integral part of the research process, was also described and how selecting the entire population as a sample would defeat the purpose of sampling. Focus was placed on sample adequacy, which supported the justification of using small sample sizes for qualitative studies as the contrary would increase complexity in the analysis process. Data collection was done through use of focus group discussions where participants shared their thoughts with one another. During the data collection and throughout the research process, ethical issues were considered, in order not to undermine the scientific process as failure might have led to negative consequences. Even before the research could take place, ethical clearance was obtained from the relevant Ethics Committees in addition to informed consent being obtained from all participants. As a

way of ensuring that quality research was produced with meaningful results that as accurately as possible reflected reality, it was important that errors were reduced to the lowest possible level. The way, in which the latter was achieved, was through testing of validity, which in qualitative studies is concerned with representation of what was researched as was described in the "Validity of Qualitative Research" section.

CHAPTER 4 :   FINDINGS

4.1 INTRODUCTION

This Chapter presents findings of the study based on the focus group discussions. It places emphasis on participants' descriptions.

4.2 RESEARCH FINDINGS

Focus group discussions elicited a number of responses and for objectivity only those related to research objectives will be discussed. Analysis will also be limited to study objectives which are summarised into three main themes namely knowledge of EHS, attitudes towards EHS and practices of EHS and several sub-themes under each main theme.

Study participants consisted of males and females from four community groups composed of two youth groups, a home based health care group and a stakeholder forum. Table 4.1 below shows the groups that took part in the focus group discussions.

TABLE 4.1:   GROUPS' COMPOSITION

Name of Group	Number of Participants	Number of Females	Number of Males	Number of Sessions	Duration of Session
Home Based Health Care Group	6	6	0	2	1hr, 3 min.& 1hr (1st & 2nd sessions respectively)
Stakeholder Forum	7	0	7	1	1hr,16 min.
Youth Group 1	10	6	4	1	1hr,18 min.
Youth Group 2	11	5	6	1	1hr,27 min.
Total	34	17	17	5	6hr,4min.

4.3 KNOWLEDGE OF ENVIRONMENTAL HEALTH SERVICES

Questions relating to participants' knowledge of EHS revealed a range of responses as will be described under the following sub-themes.

4.3.1 Understanding of Environmental Health Services

In order to establish participants' knowledge of EHS, they were steered in a particular direction using probing questions. There were very few responses to the question. Hereunder were some of the responses given by participants in the various groups. A female participant responded by summarising her understanding of EHS as follows "*I don't know how to explain it better, but in a nutshell I think it concerns the cleanliness of the environment*".

One male participant's view about his understanding of EHS was: *"When we talk environment it includes things like safety, even the air we breathe is not safe..."*. Some other participants viewed EHS as those services that had to do with provision of water borne toilets, which reduce flies and disease transmission as well as provision of household taps as opposed to communal taps. One other participant further associated EHS provision with: "*Provision of water which solve a range of problems including diarrhoea...*".

4.3.2 Existence of Environmental Health Services

Questions relating to participants' view of knowledge of EHS revealed a range of responses that indicated their general knowledge of EHS existent in the area. One participant had this to say about existence of EHS in the area, "*...our area has a disadvantaged background, it's a squatter camp and normally services provided in these types of settlements are extremely slow*". Another view was expressed by another participant who was convinced if they had EHS in the area they would not experience such incidents "*People come and give children expired foodstuffs and these make them*

sick leading to them being hospitalised". To support the previous participant's statement a male participant added that because of the inexistence of EHS, they were often treated inhumanely by neighbouring communities and he had this to say: *"Dead dogs are dumped by people from the neighbouring suburb…These acts cause nuisance, unpleasant odours and further pose a health hazard to children who play in the streets".*

Expired foodstuffs and dead pets were according to participants however not the only waste dumped in the area, but other waste of unknown origin from business operators around the area. A male participant mentioned: *"They however are not the only culprits, we have firms in the neighbouring areas such as…those dump their waste here…a certain firm came and dumped an unknown chemical here, after a while it rained and the chemical exploded, it continued to burn for five consecutive days. You see the dangers that people have to regularly deal with. When people want to get rid of their waste they come here, because they think that people in informal settlements do not have brains",* an indication of frustration due to inexistence of EHS.

Two participants in two separate groups however mentioned they came across some people conducting health inspections before the 2010 Soccer World Cup Tournament. Those people were in addition to conducting inspections, issuing out notices of contravention to those households presumed to be in an unhygienic state. Although participants had never before seen those people in their area, they assumed they were EHPs supposedly providing EHS. One participant boldly remarked *"Health inspectors are not available in this area, they only became visible prior the World Cup".* The sentiment was supported by a participant in another focus group who had this to say about existence of EHS: *"We were also given warning letters for all those yards that are untidy in order to keep our yards clean, which specified that if one's yard isn't cleaned within seven days they would be charged with contravention of the law".*

To reiterate the notion that EHPs were only visible during specific time periods rendering EHS non-existent, another participant echoed a sentiment: *"The EHPs do not take the initiative to make people aware about the services they provide and the municipality as*

well does not inform the community about the services they provide". The visibility of EHPs during specific time periods rendered EHS non-existent. Adding to the previous statement another participant mentioned: "*Although there are procedures that need to be followed before services could be given to people, ideally the councilor should brief the community about services that will be provided, but officially nothing has come to the fore, but early before the World Cup there were health inspections"*. The above statements were further confirmed by one participant who seemed to be more knowledgeable about the affairs of the area who reiterated: *"Our place has not been proclaimed by the surveyor general as yet, as a result services are not fully provided and until that have been done, no formal services have been provided"*.

"I wouldn't say they're available because they are provided say once in three months. I wouldn't say they're available or not" was a sentiment echoed by another participant in one of the groups. The inexistence of EHS was primarily attributed to the locality, which participants believed was far from authorities' sight.   One participant remarked "…*they don't give us anything here in Hospital Hill, they only give attention to people at…"*. Another remark was made by another participant in the same group to add on what the previous participant mentioned: "*We are always sidelined at Lenasia South"*.

 "…*if we could have someone from the Department of Health it would be better, a lot of things would change for the better"* was a statement made and at this time with emotions rising to signify participants' frustration about the presumable inexistence of EHS. "*We are undermined at Deep South…There is no one who could come and say let us come together, someone who can be a light for us things would be better and everything would be alright",* was another contribution made further signifying the frustration that participants indicated the community had to regularly contend with.

4.3.3 Provision of Environmental Health Services

Based on views expressed about inexistence of EHS, it became imperative to know if participants knew about EHS provision. It revealed that besides the inconsistent and

unreliable waste collection service that Pikitup Johannesburg (Pty) Ltd, the city's official waste management service provider herein referred to as Pikitup, provided within pockets within the area there was no EHS provision. One participant had this to say about the service: "*Up to so far in terms of health the standard is low it's not nice, people do not have information about health. Pikitup, only provides cleaning services*". Participants further mentioned that because of this unsustainable waste collection service, waste accumulated resulting in rodent infestation and regular incidents of food poisoning. "*It's easy for a person to get diarrhoea or many other diseases because since people have been relocated to the other side, toilet pits that were used are left uncovered and people remaining behind use them as dumping sites*". Another participant expressed a view that because they did not know of EHS provision, it exacerbated the rodent infestation that the area experienced. He had this to say about the rodent infestation problem: "*…there are a number of rats that inhabit these unattended open pits, as they freely roam the streets and enter various households and this could in itself bring a number of diseases. These rats are bigger than normal household rats because they feed on excreta, bringing with them a number of diseases*".

Some of the participants in the groups were silent when asked about their knowledge of EHS provision and when further probing the question, a female participant cited the following example to signify her knowledge of EHS provision: "*Sometimes a child might spend up to two days without food and once they get access they immediately consume these foodstuffs irrespective of whether they have expired or not. Even adults consume these foodstuffs so what I can say is that, we lack knowledge and we need health professionals to educate us*".

4.3.4 Benefits of using Environmental Health Services

Although participants in all four focus groups responded that they believed that there were benefits associated with using EHS, most were unable to describe what it meant to them. Participants either responded with soft tones followed by long silence or did not answer the question entirely. They appeared to be guessing when they did answer. Their

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guess work made them to maintain minimal eye contact following the question. The following citations support the claim above. "*If they can give right clean water, toilets, waste disposal services as well as good roads*", was one female participant's contribution. An older male participant had this to say: "*If water borne toilets could be provided. Although we have VIPs it would be more appropriate if we have these types of toilets as they would reduce the flies. We would further appreciate it if water was supplied in each household instead of communal taps*".

One other participant summarised benefits of EHS as: "*Education campaigns can be made which can equip the community with knowledge…Provision of services to the community and this would ensure they knew where and how to dispose of their waste*". Another participant indicated: "*EHS could also curb untidiness and this could be done by provision of communal bins which are normally put at convenient locations for all to access*". In another group, a female participant mentioned that EHS had to do with "*…provision of individual taps in each household leading to reduction of a number of problems*". Overall, participants believed that what they knew about EHS was not sufficient to enable them to lead healthy lives.

4.4 ATTITUDES TOWARDS ENVIRONMENTAL HEALTH SERVICES

Understanding participants' attitudes towards EHS was challenging, because there were a number of analytical difficulties including but not limited to the following:
- o do participants know what EHPs actually do, and what their problems and constraints are?; and
- o how involved are participants in provision of EHS and do they feel they can influence EHS provision?

Overall questions posed to identify attitudes towards EHS revealed that lack of consultation, follow-up and community initiatives were believed to be responsible for community's attitude towards EHS. The participants also stated that most community

health problems could be prevented only if their existence and experience were duly acknowledged by authorities.

4.4.1 Lack of consultation

Participants were of the view that lack of consultation was responsible for the community's attitudes towards EHS. They were adamant it should be done correctly because the community reacted in several ways when authorities appear to know-it-all about their circumstances. Participants were convinced this was responsible for the community's lack of co-operation and support for EHS. A statement by a female participant's revealed the following to signify the lack of consultation that the community experienced: "*When there is shortage of water, a tanker comes in to deliver water but we don't know the source of this water and this raises a serious concern as we don't even know if this water is purified prior to it being delivered to the area as it can cause diseases like cholera*". Another remark made to reiterate the lack of consultation: "*We do not know where the water comes from and people throw things like plastics and used condoms in those tanks and those who drink it get ill*".

Although lack of consultation seemed to be the norm when EHS projects were introduced, those that particularly stood out for participants were two recent ones that involved relocation of community members as well as installation of fire hydrants. According to participants the community retaliated against the relocation by leaving toilet pits uncovered leading to rodent infestation and development of an array of diseases. One participant had this to say: "*Before development started things were good but now things are bad, it's easy for a person to get diarrhoea or many other diseases because since people have been relocated to the other side, toilet pits that were used are left uncovered and people remaining behind use them as dumping areas*".

Installation of fire hydrants was also seen by participants as authorities' way of deciding community needs thus continually undermining their inputs. A male participant had this to say: "*…before development started it was easy to get water but now that development*

started it's difficult to get water from these taps as you would need a spanner to open the tap. The water coming out of these taps is not always clean". Participants indicated that community consultation was not done, instead fire hydrants were installed to replace communal taps they used to have. Community members were as a result reliant on those fire hydrants for water which was often not suitable for their needs, "*The ones installed now are fire hydrants used to extinguish fires in case of shack fires."* was a statement made by a young male participant. The fire hydrants were according to participants not a reliable source of water as they were often tightly closed leading to use by community members of tools including spanners to open the nozzle in order to get water. Lending and borrowing of tools was according to participants a common practice which facilitated access to water. However the practice brought with it challenges to those community members who did not have their own tools, leading to water inaccessibility due to their reliance on neighbour's availability. Water was as a result not easily available as a young female participant mentioned: "*It's a challenge you would have to wait for them (neighbours) to come back (before you could have access to water)".*

Although participants indicated this as a means of getting water they were concerned about the long term effects of using tools to get water from fire hydrants. One male participant was particularly concerned and he had this to say: "…*so in a way the spanner has a negative effect on the nozzle because it deteriorates it".* Participants were of the view that, had they been consulted about development and its benefits a lot of problems that emanated as a result could have been avoided. They were particularly concerned about the meetings called to give them information instead of having discussions about issues that concerned them as another male participant highlighted: *"We had a public meeting and were told that maybe we could have taps and toilets but nothing has been done. We were told that each yard will have its own tap".* One female participant highlighted that due to broken promises, the community resorted to use of fire hydrants as a water source leading to them being damaged "*In a lot of sections the taps have been closed off because they constantly drip leading to water wastage".* **"***You see the problem is that we were not informed about the quality of the water.* A sentiment echoed by a male participant further highlighted the impact that lack of consultation had on

community's attitude towards EHS, *"Nobody informed us that we should not use it because of its likelihood to be unclean"*.

4.4.2 Lack of follow-up

Participants indicated that constant follow-up was necessary as it was responsible for the community's attitudes towards EHS. A female participant remarked and said this about the lack of follow-up: *"The community …as well as these people are both to blame because as much as the community is doing nothing about the information they gained, these people also do not come back to make follow-ups to check if it's practically implemented"*. To add on what she had already mentioned, the same vocal and yet enthusiastic female participant echoed this sentiment: *"It's a vicious cycle because although a number of people come to the area to conduct workshops there is a problem because as I have already mentioned, there is no follow-up to check if the teachings are being implemented"*. Another comment was made by a visibly reserved female participant: *"…they only come for campaigns after that they relax and do not follow-up on the community"*.

A vocal male participant corroborated statements made by other participants: *"These are the dangers that we are exposed to, as long as these professionals do their campaigns, they do not make follow-ups as to what is happening in the area"*. The statements above were made to support the claim that although on rare occasions, people from various organisations came to the area to conduct workshops, there was no follow-up leading to apathy among community members.

4.4.3 Lack of community initiatives

Participants indicated that in addition to the above, lack of community initiatives was responsible for attitude towards EHS. Furthermore participants were of the view that among other problems that could be successfully overcome if the community took initiatives towards EHS were rodent infestation, dumping and reduction of TB and

diarrhoea incidents. Discussions with various participants revealed various views. One participant remarked: *"The community does nothing as each one of them relaxes...People do as they please, they burn tyres and do not care about their neighbours and the impact that burning has on their health"* when probed further to support the claim made about lack of community initiatives. An irate female participant in another group mentioned how some community members often accused those that took initiatives towards community projects such as cleaning campaigns: *"Yes people start accusing you of having access to council funds and we gave up because of fear of being targeted and dying for something that does not exist"*.

"Up to so far nothing has been done, because say for example you tell someone to stop their bad practices they will ask you who do you think you are. We try to make people aware about consequences of picking and consuming dumped foodstuffs, they mention things like, since you're rich you should just leave them alone" was a sentiment echoed by a female participant to support the claim that the community lacked initiatives to do anything about their circumstances. Another participant further supported the claim evidenced by things she mentioned some community members did to influence others not to support community groups' initiatives *"...they do good things but there are just others who try to bring them down"*.

Participants were nevertheless of the view that for the community to take initiatives they needed outside intervention. The following is a view expressed by an older male participant: *"I think one approach that would help is if we could have someone from outside the area to bring all these interventions that we have mentioned. It's a general trend that… if we could have outside intervention things would change for the better"*. Another participant added: *"It's not easy to accept things from people from inside, like if we were to have help desks then it would be easy to get through to people to cooperate."*

4.5 PRACTICES TOWARDS ENVIRONMENTAL HEALTH SERVICES

Focus group discussion participants indicated that there were a number of issues that were regarded as important among community members in deciding to use EHS. Among the issues considered as important were culture and beliefs, school drop-out, human resources as well as access to information.

4.5.1 Culture and beliefs

Depending on the type and severity of the problem, community members instituted solutions which ranged from consulting with family, neighbours and friends to use of spiritual and supernatural practitioners to tackle environmental health problems. Rodent infestation seemed to be the main cause of concern among all participants. There was a strong belief that rodents were a bad omen associated with witchcraft. As a result of this belief the problem was dealt with in a manner which the community deemed necessary to eradicate. A statement was made by an older male participant signalling the extent of the problem: "*If you recognise that neighbours do not greet you, you immediately suspect that they are the ones responsible for sending these rats*". In support of the previous participant's statement, another one in the same group exclaimed: *"The grey rats are used by witches to get into people's households and this is mostly prevalent in Hospital Hill".* One participant mentioned: "*We get rid of these grey ones by cutting head and tail and burn the body in a specific order, and burn separately from the body until it becomes ashes…".* The approach was believed to be effective against witches that sent bad spells to their neighbours. The participant continued explaining how the approach was used against snakes as well: "*…if one snake or rat were to be killed in a household never will one experience infestation of rodents/snake, as they will know that entry into a particular household spell disaster for such a pest".*

The discussion continued with another participant confirming the effectiveness of the approach "*…the approach should be that…this will send a strong message to snakes/rodents (whoever is responsible to send them) that a particular household is a no*

go area/zone". Interestingly the approach was a closely guarded secret which was not shared among neighbours, for fear of enlightening witches about things that various community members did to eradicate the problem. One participant boldly disclosed that he once came across a snake in his household, killed and threw it away. He mentioned however that: *"… I was advised against it because I should have burnt it so that a message could be sent to all people (witches)".* It was acknowledged among participants that the problem was not easy to eradicate because it was strongly associated with witchcraft. As a result heads of households would take it upon themselves to get to the bottom of this problem and often advised to consult traditional healers in order to silence the witches. The information on which traditional healers to use was however not openly disclosed and shared as was remarked by a male participant, further demonstrating the importance of keeping the information secret: *"…that information cannot be transferred from one person to the other because the belief is that every household must come up with their own strategy on how to deal with this problem".* Another statement was made by a male participant in the same group to confirm the importance of non-disclosure: *"The secret is kept on how to deal with a particular problem and not shared as this will enlighten witches to be more vigilant about their way in which they infiltrate households".*

Disposal of the dead seemed to be another contentious issue within the community. A statement made by another visibly concerned male participant to signify the importance of observing culture despite the negative impact it had on community health was: *"We're living a very dangerous life, sometimes you find somebody might have died and lay in the mortuary for the past six months. Due to cultural practices the corpse has to be brought home to pay tribute to the deceased family. The problem however is that the body had already decomposed by the time it gets buried. This in itself put people at increased risk of acquiring diseases from bad odours".* Participants acknowledged this to be an unsafe practice which could however not be stopped. The reason for reluctance to stop the practice was that, it was strongly believed that one's spirit would not entirely rest if someone were to be buried without performing rituals a day before the burial at the deceased's home. A comment made by a female participant to support the above claim

was: *"…the corpse comes to the house even if it's already decomposed producing bad odours. Even when the corpse is already decomposed they still bring it to the house"*. Participants stated the community would take a more proactive approach towards their health if they knew what to do while at the same time observing their cultural practices.

4.5.2 School dropout

From the discussions it also emerged that there were high rates of school dropout which participants believed were responsible for unhealthy practices. An older male participant remarked how school dropouts were ill equipped to deal with various health challenges predisposing them and their families to environmental health risk factors. *"When one is educated it helps them to be focused and not associate everything with witchcraft"*. This he mentioned after another participant in the same group mentioned how school dropouts often associated everything with witchcraft, *"Education shapes one's perspective in life"*. Instead of practising healthy behaviours so that they could be free from diseases they would often blame it on witchcraft. Discussions continued with participants linking high rodent infestation with school dropouts' inability to comprehend the introduction of owls and keeping cats as pets as a way of dealing with the problem. Participants mentioned how in one community they knew of; introduction of owls was successfully implemented to eradicate rodents. A visibly concerned male participant was sceptical if the strategy would work in their area, *"You see if people went to school and had some form of education they would be able to make sense of the introduction of these owls"*. The perceived resistance against introduction of owls intensified the rodent infestation problem. In the same breadth the community was discouraged from keeping cats as pets due to strong belief that they were also associated with witchcraft. One participant had this to say: *"Rodents thrive where the community is anti-cats. Community members kill cats as it is regarded as a bad omen, thus no one wants to be associated with cats and take no responsibility for killing them"*.

Overall participants were of the view that school dropouts' were unable to implement healthy practices and this spread throughout the community because even those who

generally implemented healthy practises were outnumbered by those that didn't. One male participant had this to say about the issue above strongly associating that what they learn at school is not easily transferable to respective homes to effect positive change: "…a*s much as they teach you at lower grades at school it's not always easy to take what you have learnt at school and share with family members*". Participants however believed efforts were needed to enable the community to implement healthy practices.

4.5.3 Human resources

Environmental Health Practitioners came on rare occasions to the area to do some inspections. According to participants occasional presence of EHPs angered the community, who felt authorities perceived their health concerns as unimportant. One participant mentioned this about EHPs: "…*they usually come maybe once a year*". What remained clear was that those EHPs did not go to all houses making the situation even worse as everyone felt they deserved some form of intervention. A view expressed by a female participant revealed: *"Even if they come, they don't go to every house they only come to some and leave"*.

However others expressed dismay at EHPs who would provide some information but failed to make follow-ups with regard to the interventions leading to apathy among community members. A participant in one of the groups remarked: *"Trained professionals do not do their job…They only come when government runs particular campaigns but after that nothing happens. They only do things when they're under pressure to do a particular campaign"*. Participants were of the view that the situation would improve if they had regular contact with EHPs. One participant mentioned: *"People from EHS do not come more often to give us information and we are also not sure what to do or where to go to register our health concerns"*.

4.5.4 Access to information

Participants indicated they had no access to information and because of that they used various unreliable sources to deal with environmental health challenges. Lack of information resulted in misconceptions and misinformation, which was evidenced by the various strategies implemented to deal with environmental health problems. The following is what one participant commented on with regards to access to information: "*…we live in a squatter camp, with no electricity there is lack of knowledge as there is no media to inform us. There is lack of knowledge in our area, you know as you go out of the area you realise a number of initiatives taken by some communities but for us, it's a challenge because we don't know how to approach various situations*".

"*Make education/information sessions practical such as using charts and pictures to explain various concepts, this way they can be able to integrate what they've learnt in their daily lives",* was a sentiment echoed by a visibly irritated young male participant. Emotions ensued during discussion of this question, with participants seemingly agitated by follow-up questions indicating how lack of access to information predisposed them to danger. Environmental health service issues, including but not limited to waste management, water and sanitation surfaced during discussions which participants mentioned was a concern for the community. Another statement was made to reiterate the lack of information when the water issue was discussed: *"We should have been informed and given ways to improve the quality of water, we just use it as is".*

A concern was raised about the lack of information which one participant emphasised was instrumental in equipping the community with appropriate information: "*...There are a lot of dogs that are dumped there and there are no safe measures put in place for those of us who had to remove these dogs from the site. So you can see that, yes at the end of the day you will get the R70.00 as promised but no one really knows the impact that this has on our health".* The participant further commented: "*So this was a serious concern for us because we were not even provided with personal protective equipment to do the job but had to remove dead dogs".* Another participant commented that the above

problems were not the only issues they had to contend with, but disposal of used syringes and needles. Another comment was made about lack of information predisposing children to hazardous environment: "*As children are inquisitive by their nature they pick up these syringes, when they play they use them to inject themselves*".

An enthusiastic participant mentioned about the importance of having access to information: "*…if information was distributed in our area a lot of good things would happen*". "*I think we have the potential to overcome most problems in our community provided we are capacitated with necessary skill*", was a view expressed by another equally enthusiastic participant. In conclusion the lack of information was seen as a deterrent, to implement healthy practices among the community as one female participant reiterated: "*I still go back to what I said earlier, that we need people to come and educate us about different health issues...*" In emphasising what the previous participant mentioned, another participant in the same group said: "*...for example if elders are given this information it would be easy to make informed decisions about health and safety of their families*".

4.5.5 Motivating factors to use Environmental Health Services

A number of issues were important that participants indicated would be important in motivating the community to use EHS. Coincidentally almost all participants mentioned how availability of information would serve as motivation for the community to use EHS. A vocal male participant mentioned: "*If we had important services that would ensure that we get access to information. Things like the type of lifestyle that we're supposed to live, we're affected by small things because we don't have access to information*".

"*Massive education campaigns are needed to empower and capacitate all community members about proper handling, storage and disposal of waste, particularly disposal of used water which contributes to rat infestation*", was a statement made by an elderly male participant about things that would encourage the community to use EHS. Another elder male participant mentioned: "*EHPs should educate people about proper disposal of*

pets, they also need to provide other services such as adequate disposal of dead pets like dogs and cats". In order to support the statement he made, he further cited examples where community members in other areas he knew of, were more inclined to use EHS due to their availability. He was adamant the same would happen in Hospital Hill provided such information was made available.

"Another thing is that in the informal settlement people would just wake up, without bathing they handle food, that's why it's so important that at least if we had some satellite station where we can register our concerns and at the same time get information that we need to live healthy lives", was a remark made by another male participant. *"You see individuals are different as well as their needs, thus if these are considered they are more likely to use EHS",* was a male participant's view of things that would serve as motivating factors to use EHS. An opinion was added by another participant about healthy practices towards EHS: *"I agree with ...that skills should be imparted to us so that we can make a positive contribution in our community".*

A female participant's contribution towards the discussion was: *"It's important for them to inform us about health problems even if it's once or twice a month and give us pamphlets to read about diseases such as TB".* Another participant had this to say: *"Make information sessions practical such as using charts and pictures to explain various concepts, this way they can be able to integrate what they've learnt in their daily lives".*

"If we could have workshops that will build capacity amongst us, community meetings to share ideas on how to improve our lives", was a shy female participant's opinion of things that would further motivate the community to use EHS. The statements above were echoed by participants from various groups who felt they would use EHS if they were provided such that they meet their needs. Participants were also of the view that the above would instill a sense of pride and ownership, further motivating the community to take initiatives towards use of EHS.

4.6 OVERVIEW OF RESEARCH FINDINGS

Most of the participants believed that EHS were instrumental in reducing a number of diseases. They further believed that some community members knew what they needed to do to prevent diseases, but lack of reliable and reputable information about EHS prevented them from preventing disease attributable to environmental risk factors. They also believed that being side-lined kept the community from being healthy. The claim was evidenced by the community behaviour after a certain relocation project. The relocation was however met with resistance among some community members, who as a way of retaliating against the move left the toilet pits uncovered when they were relocated to new sites. These uncovered pits served as breeding spaces for rodents which roamed and invaded various households. Apart from the pits serving as breeding spaces for rodents, they were also used as dumping sites by those left behind. Consequently this led to increased rodent infestation and resultant diseases which participants felt the community did not have control over. According to participants the community strongly felt they were not consulted and felt side-lined. Others expressed dismay at how they were often regarded by authorities as incapable of making their own decisions regarding their health.

CHAPTER 5:   DISCUSSION, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

In this Chapter discussion and interpretation of the presented findings will be made, with some of the findings compared to literature review. Study limitations as well as how these limitations will be addressed in future studies will be discussed.

5.2 SUMMARY AND INTERPRETATION OF RESEARCH FINDINGS

Data revealed that members of the respective groups that were residing in the area, were 18 years and older and were of either gender. Membership to the various groups further contributed to their collective learning thus helping each other cope with their living conditions. As alluded to in Crowe (2010: 622), their shared concern and passion for the community wellbeing enabled them to interact regularly creating community awareness, build capacity and make them to be inclined to look for the best interest of their neighbours.

The living conditions proved to be stressful to the community who had to contend with lack of access to basic services such as water and safe sanitation facilities; as well as poor waste management leading to rodent infestation. Although the list seemed endless they undeniably interacted with each other and could not be regarded in isolation. Despite a number of problems that the community experienced, living conditions was top on the list of problems that needed to be addressed as they favoured the development of ill health. Living in shacks predisposed the community to ill health with perceived TB top on the list of diseases the community experienced. Although it could not be verified if what participants regarded as TB was indeed TB, it could not be ruled out due to the participants' description of the disease which was associated with persistent coughs. Materials used for building shacks were of such standard that made them leak, further predisposing the community to harsh environmental conditions conducive to development of diseases. Coincidentally the problem was intense during the data

collection period further intensifying the problem that the community had to deal with. Participants however expressed the desire to learn more as they were unable to identify the benefits of utilising EHS. The lack of information came out strong during focus group discussions which participants believed was due to authorities' disregard for the community's input thus limiting initiatives. It was also interesting to observe how the lack of EHS knowledge impacted on what could be considered as participants' low self-esteem and confidence. The inarticulate responses coupled with minimal eye contact when various questions were posed brought to the fore participants' attitude towards EHS. The attitude portrayed revealed the value participants placed on among others lack of consultation, follow-up and community initiatives towards EHS. The lack of accurate environmental health information from credible sources prevented the community from taking initiatives to prevent disease attributable to environmental risk factors and being healthy. As a result there was reliance on the confusing environmental health information that existed within the community leading to inconsistent and uninformed solutions of tackling environmental health problems. Depending on the type and severity of the problem, solutions ranged from consulting with family, neighbours and friends to use of spiritual and supernatural practitioners to tackle environmental health problems.

Although participants indicated that some community members made efforts to improve their living conditions, this proved difficult to overcome due to their health literacy. The situation proved difficult for school dropouts, with consequent ill health due to lack of health literacy. Participants expressed the concern about the lack of EHS which could have been instrumental in shaping the community's health literacy and thus prevention of diseases. It is understandable that not all community members experienced the same problems; they nevertheless existed in complex relationship with each other calling for urgent community intervention. The relationship will be explained in the prospective section using the adapted deprivation trap as explained in Swanepoel & de Beer (2006: 5).
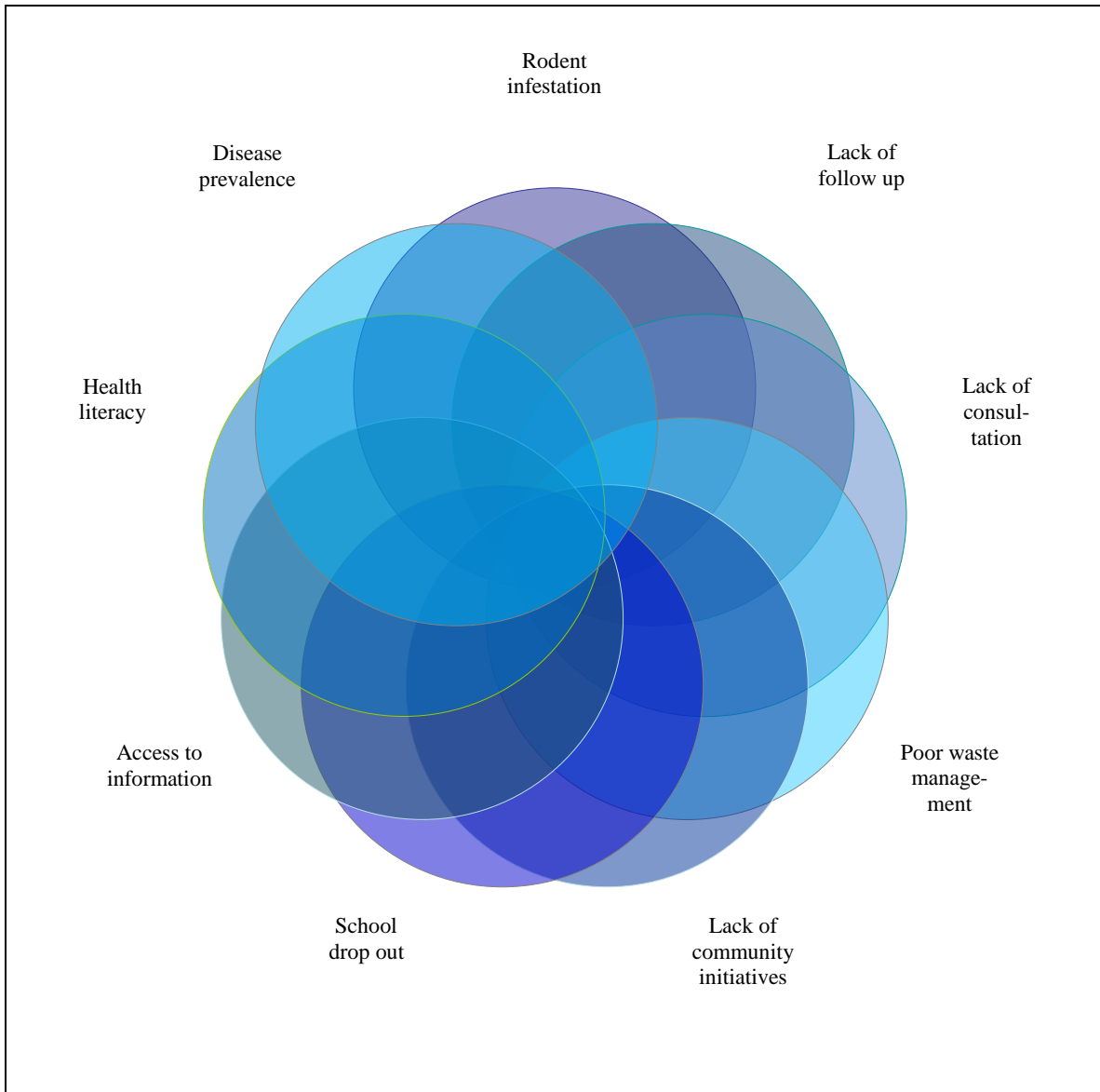
Figure 5.1 The deprivation trap (Swanepoel & de Beer, 2006: 5)

It could be seen from Figure 5.1 that there was interaction among various factors. For example the relationship between poor waste management and lack of access to information predisposed the community to harsh environmental conditions conducive to development and spread of preventable diseases. It was not just a matter of poor waste management that led to rodent infestation but consumption of expired foodstuffs which resulted in vomiting and diarrhoea leading to physical weakness which increased vulnerability to ill health. The conditions were exacerbated by the inadequate provision

of water leading to prolonged illness leaving the community physically weak. All the factors combined kept the community in the deprivation trap as one factor reinforced the other (Swanepoel & de Beer, 2006: 5-7).

It is however borne in mind that no single form of community intervention would address all the aforementioned problems. It is thus important that when attempts are made to address community problems they focus on natural, social, economic, political, psychological and cultural factors. Provision of EHS could for example enable the community to continuously improve their living conditions. In the sections that follow a concise interpretation and discussion of the findings is made.

5.3 KNOWLEDGE OF ENVIRONMENTAL HEALTH SERVICES

Knowledge about EHS was strongly related to participants' citing of correct examples when asked what they thought EHS were all about. Most of the participants had never seen or had any form of interaction with EHPs. The realisation was made following participants' failure to cite correct examples about EHS. The correct examples were higher among participants who knew about the existence of EHS than among those who did not know about their existence. Those participants who had never heard of EHS, or who did not know whether there were EHS, were significantly less inclined to make examples than those who knew about the existence of EHS in their area. The following is how the discussions among various participants unfolded.

5.3.1 Understanding of Environmental Health Services

Participants made an appreciable attempt to discuss the question but their articulation of words with similar meanings to EHS further highlighted the knowledge gap. Although they had a general idea of what other words could be used to describe EHS, they were visibly not confident about their attempts. Silence was observed with some participants fiddling and fidgeting with either fingers or other body parts as if to say they did not want to further engage in a discussion related to EHS. It took longer to respond to the question

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with some participants making requests to have the question repeated. The participants seemingly reflected long and hard about the question, followed by minimal word utterances and inability to further elaborate as to what they meant. Their facial expressions revealed what could be regarded as a struggle to give correct responses and accompanying pleas for some form of validation. Participants' failure to give words with similar meanings to EHS, further pointed to the inherent knowledge gap.

5.3.2 Existence of Environmental Health Services

Environmental Health Services were generally non-existent in the study area. Participants' responses confirmed the above statement as they mentioned a number of issues with regards to existence of EHS. The problem of poor waste management, consumption of dumped expired foodstuffs leading to hospitalisation, dumping of dead pets and intimidation hailed at community members by issuing of warning letters were among factors indicative of the inexistence of EHS. Although issuing of warning letters seemed to have worked in the interim as the community cleaned their respective yards within seven days of issue, the results were unsustainable with various community members returning to their familiar way of doing things. On realisation that authorities were not fulfilling their promises of coming back to check if they indeed complied with contents of those letters, they resorted to continuing with their habits of not taking responsibility towards their surroundings. Based on the observation it is thus concluded that the community's reaction to the letters was not fuelled by their willingness to do something about their circumstances, but rather by fear of prosecution and consequences they were likely to face including being ridiculed by fellow community members if they failed to carry out instructions contained in the letters. These subjective attempts evidenced by use of intimidation tactics were made to provide EHS during specific times. The approach proved stressful for the community who felt helpless due to what is considered authorities' continual disregard for their existence. The approach further demonstrated the inexistence of EHS, further affirming the overwhelming sense of neglect and exclusion that the community experienced.

It is indisputable that this type of EHS provision is characteristic of apartheid era service delivery, where lower class households were deprived of services or received inferior services while their higher class counterparts received superior services. Interesting to note that 17 years after the dawn of democracy, the majority of SA people excluded under apartheid still continue to experience socio-economic marginalisation coupled with increased disaffection and despair towards service delivery (Roberts, wa Kivilu and Davids, 2010: 2). The situation is made worse by the area's demographics which might have been used to deny the community's access to EHS. A close look at the area's demographics, brings to the fore a broader pattern of possible exclusion and discriminatory sanctions. The latter confirmed EHPs' inability to acknowledge the community's right to access EHS thus exacerbating the problem (Landau, 2007: 67). This is particularly true for the CoJ which experienced an increased influx of people from neighbouring countries as well as from rural to urban areas. Although many SA local governments have been formally empowered to create inclusive, secure and prosperous cities, they felt they faced a crisis of human mobility with changing dynamics bringing with it opportunities and challenges (Landau, 2007: 62; Yach & Tollman, 1993: 1043). As a consequence local and provincial authorities have typically reacted to the presence of migrants by implicitly denying their presence, excluding them from developmental plans or allowing discrimination throughout the government bureaucracy (Landau, 2007: 63).

Nevertheless despite the inexistence of EHS and possible discriminatory sanctions supposedly imposed on the community, they exhibited different optimism and positive expectations of EHS provision for the future. The differences in optimism among various community members is worth noting and should thus not be taken for granted. Failure to recognise and acknowledge this optimism might among others, result in further erosion of the community's hope and trust.

5.3.3 Provision of Environmental Health Services

Most participants indicated that they have not had any form of interaction with EHPs. It is therefore concluded that their place of residence played a significant role in EHS provision. It became apparent from discussions that whilst other communities enjoyed access to EHS, this community had to deal with a range of environmental health problems that they did not know how to handle. Since the community was out of authorities' sight, they were not considered as equally important compared to other communities when priorities were set to capacitate communities about EHS. It is because of this that they continually found themselves in the deprivation trap thus limiting any chance of being free from preventable diseases.

Rodent infestation and the accompanying problems were further exacerbated by the inconsistent waste collection service provided by Pikitup. The area was not easily accessible to equally provide services to all community members. In addition to challenges of inconsistent waste collection that the community had to contend with, was what was perceived as authorities' disregard for certain community members. Environmental Health Practitioners came to certain households, neglecting the rest. The situation led to feelings of being disempowered and apathy among community members whose households were not visited. It furthermore proved very stressful for those community members who resorted to violent service delivery protests to get authorities' attention. Cancellation and postponement of scheduled focus group discussions due to service delivery protests further bore testimony to the frustration that the community had to regularly deal with. Although protests were not limited to EHS provision, they are nevertheless assumed to have formed part of grievances that the community had to address through service delivery protests. It is thus worth noting that surfacing of more violent service delivery protests than what has thus far been experienced could result. It should also be noted that the latter is not in any way advocacy for further violent service delivery protests, but should rather be viewed in light of amenities that could be saved if EHS were provided.

5.3.4 Benefits of using Environmental Health Services

None of the participants could describe the specific role of EHS, further signifying the knowledge gap. Although what participants described was linked to EHS, they were however not specific about EHS' primary role which is preventive and promotive in nature. Additional probing questions were used, in order to stimulate discussion and further probe responses of participants' knowledge about EHS. This was necessitated by what appeared to be insufficient responses which would enable them to clearly articulate the benefits of EHS. Despite the use of prompts to get participants to open up and further engage in the discussion, they did not directly respond to the question but derailed from the issue under discussion instead placing emphasis on how they preferred other services to be provided. Their approach towards the question was a clear indication of the lack of knowledge about benefits of using EHS, which translated to lack of knowledge about EHS. Participants' positive responses when the question was asked further revealed an interesting sight which suggested they were interested to know about benefits of using EHS.

On more than one occasion participants asked follow-up questions to get more clarity about questions being asked. Although they did the same with this one, they however failed to satisfactorily engage in the discussion. Instead they withdrew from the discussion and refrained from further engaging in the discussion by making short utterances of how they preferred services to be rendered. An analysis of participants' body language brought to the fore what could be regarded as relinquishing of power and willingness to settle for few supposedly important services such as provision of water, sanitation as well as improved road infrastructure. Despite those utterances they were nevertheless not assertive when listing their preferences as if they were uncertain about their needs, displaying insecurity and inability to clearly articulate their needs. It is assumed from their verbal and nonverbal responses that their lack of knowledge contributed and influenced their knowledge about benefits of using EHS. This is so because they were unable to assert themselves when listing the benefits, instead they shied away from the conversation with minimal eye contact maintained. It is thus

concluded that if the community knew what EHS was all about, they would know the inherent benefits.

5.4 ATTITUDES TOWARDS ENVIRONMENTAL HEALTH SERVICES

Attitudes are the evaluations and associated beliefs and behaviours towards some object, they are influenced and dependent on availability of resources (Roberts et al, 2010: 198). They may change due to a number of factors and therefore important to note that what prevailed during the study period might have changed significantly by the time the report is published. It is for this reason that only themes related to lack of consultation, follow-up and community initiatives were developed and analysed as they were found to determine the community's attitude towards EHS.

5.4.1 Lack of consultation

Lack of knowledge about EHS coupled with lack of consultation exacerbated the community's general apathy towards their living conditions. Consultation was not only important but instrumental in determining the community's attitude towards EHS. The lack of consultation resulted in the community reacting in several ways because authorities appeared to know-it-all about their circumstances. This was evidenced by the community's reaction to the development project, which was geared towards relocating them from their current dwellings to permanent stands within the informal settlement. Instead of adequately consulting the community about their needs, prescriptive conditions were set which guaranteed the community's access to service delivery on condition they did not oppose the relocation. The relocation did however not go unopposed, bringing with it a number of challenges and problems which resulted in intensified community's general apathy to their living conditions. The problems further compounded to the area's existing poor waste management, rodent infestation, unsustainable water provision and inadequate sanitation. Although the community experienced rodent infestation prior the development project, the project intensified the severity of the problem. A number of people within the community were seemingly not happy with the site they were relocated

to and thus resorted to retaliating against the relocation. As a way of getting back at authorities they left the toilet pits uncovered when they were relocated to new sites. Those uncovered pits served as breeding spaces for rats which roamed and invaded various households. Apart from the pits serving as breeding spaces for rats, they were also used as dumping sites by those left behind. Consequently this led to high rodent infestation and resultant diseases which the community did not have control over. Symptoms such as headaches, diarrhoea, dizziness and body pains inflicted by rat bites, were the most frequently reported signs and symptoms of diseases experienced.

The community had to, in addition to dealing with pits serving as breeding grounds for rats, literally live in households synonymous with pigsties due to piles of waste accumulating in their backyards. The problem was exacerbated by lack of accountability by Pikitup employees who failed to inform the community when waste was not to be collected on scheduled days. The failure to collect waste added to the already existing waste problem that the community had to face due to poor infrastructure. This further led to streets being inaccessible by waste removal trucks and thus resultant unreliable and inconsistent waste removal provision. Pikitup provided refuse bags to all households as a control measure against waste accumulation, necessitating respective households' members put waste in the bags. The aim was to ensure that respective households placed the full bags along main routes to be collected on scheduled days. Despite this approach the community felt entitled to use the refuse bags for clothing storage and other household purposes. Although the intention was to ensure that even inaccessible streets' residents had access to waste collection services, it proved ineffective due to the community's tendency to use distributed refuse bags for other household purposes other than the ones initially intended for. The use of refuse bags for other household purposes intensified the waste accumulation, further indicating the extent that lack of consultation contributed to inconsistent waste collection. Although the community was often negligent, lack of consultation exacerbated the problem even further.

Since the community was not consulted, they did not have a sense of pride and belonging making them apathetic (Swanepoel & De Beer, 2006: 39). The opposite was also true, as

was seen in a participatory follow-up study conducted in the four pilot communities of Upper Egypt to monitor progress of community behaviour changes. In the study it was concluded that when the hygiene promotion component start right at the beginning of any programme, as part of effective pre-planning it helps villagers make informed decisions about whether to opt into it as well as to identify their priorities (Metwally et al, 2007: 63). The strategy was found that it not only afforded villagers opportunities for meaningful community involvement and participation in planning, operation and maintenance of facilities and services, it also helped with desired behaviour change, information and capacity building. It is evident from the study, that social and livelihood networks were strengthened, something that could be instilled among Hospital Hill community members whose attitude towards EHS has immensely been affected by the lack of consultation. The latter would go a long way in influencing their attitudes towards EHS to a positive one, with consequent reduction of rat inflicted symptoms.

5.4.2 Lack of follow-up

Although some efforts were made by authorities to bring about a positive change in the study area, they were however negligible due to the lack of follow-up. Authorities came but failed to make follow-ups in order to evaluate if their teachings made any significant impact in the lives of the community. It should be noted that unless authorities acknowledge that any community endeavour is a process which requires follow-up, any efforts made will not only extend costs, stir up political unrest leading to lack of progress, it will also cause community rifts (Swanepoel & De Beer, 2006: 71).

As already mentioned that lack of consultation determined the community's attitude towards EHS, it is worth noting that both lack of consultation and follow-up are closely linked. Because of this relationship it is particularly difficult to establish which one supersedes the other, and it is for this reason that both factors are viewed with the objectivity that each deserves. With this in mind, it helps to put what is happening within the community into perspective. It is no wonder that there were some infighting within the community, who felt others were treated special by authorities whilst others felt side-

lined. The relocation project is one such example, which contributed to development of clichés within the community. It emerged during discussions that authorities went to those households whose members were considerably socio-economically better off. This resulted in use of terms "them" used to refer to the presumably better-off members of the community and "us" used to refer the presumably marginalised members of the community. The distinction between the two groups further displayed the division within the community.

The "them" group supposedly enjoyed favours due to their ability to pay bribes towards authorities. This group was supposedly given preferential treatment during the relocation project as they were allowed to choose sites they wanted to settle in. Once the "them" group had made their choices, then the "us" group were allocated the remaining stands, which were often smaller and at unsuitable locations compared to those of the "them" group. Instead of relocating to allocated sites, the "us" group resisted the move but on realisation that others were willing to move, they then started hurling accusations of bribery and corruption towards those willing to move. As would be expected the early bird caught the worm, thus facilitating the "them" group having access to "appropriate" sites whilst the "us" got "not so appropriate" sites. As a way of venting their frustration the "us" group used toilet pits left uncovered by the "them" group as dumping sites. The sites then served as breeding spaces for rats which, was more common among the "us" group. On realisation that the problem of rodent infestation intensified, authorities sought to intervene through perceived ineffective education campaigns and issuance of warning letters to mostly the "us" group. Those letters prescribed that respective households clean their yards within seven days of issue and failure would culminate in consequences for the respective household. Due to fear of facing consequences, those issued letters made efforts to clean their yards. On realisation that authorities failed to return to check on the impact that the letters had made on their surroundings, the community got angry. They furthermore felt disappointed, let down and their negative towards EHS fuelled even further.

It is worth noting that no efforts were made to inform the community about the challenges, instead unsustainable EHS with no follow-up and lack of accountability were provided. The community needed their efforts to be acknowledged and validated, as this would have instilled a sense of belonging and pride but instead the community felt betrayed. It is indisputable that authorities might have faced challenges, leading to their inability to make follow-ups, it is however inexcusable that the community was not informed about the challenges. The community did not only feel betrayed, but their right to redress and courtesy as outlined in the government's Batho Pele principles were infringed upon. Authorities not only failed to inform them when the service fell below the promised standard, but they were also not treated with courtesy and their circumstances not taken into consideration (South Africa, 1997: 15). This type of treatment, not only justified the community's perception of authorities as untrustworthy and unreliable, it further fuelled their negative attitudes towards EHS.

5.4.3 Lack of community initiatives

Despite the multiple problems, the community seemed to lack the necessary initiative to solve their own problems. Those community members who took initiatives to do something about their circumstances were often ridiculed and viewed with suspicion. Despite the community's awareness of the source of various environmental health problems, they nevertheless did not think they had any capability to solve them. Responses that they did nothing when asked what they did to resolve the problem, proved lack of hope and apathy experienced by various community members. It became apparent that the community was not empowered to do something about their circumstances.

It should however be borne in mind that any public health preventive programme will only be effective if it reaches the population at risk. Efforts need to be made to ensure communities take an active role in disease prevention through public health programmes. These programmes need to be dynamic and sustained in order to modify attitudes and practices (Naidoo et al, 2007: 14). The same would happen if the community was

empowered with decision making and implementation skills, thus engaging in community initiatives leading to disease prevention and reduced mortality. The approach would go a long way in instilling community initiatives, because if communities are actively involved in all stages of development it not only promotes a sense of community and safety, it also contributes to their physical and psychological well-being (Sowman & Urquhart, 1998: 13). The Langrug, Franschhoek in the Stellenbosch Municipality and Waterworks, Grabouw in the Theewaterskloof Municipality is an example of initiatives taken to encourage self-help solutions with community structures in informal settlements. These projects were conducted following failure by the respective municipalities to provide adequate sanitation and drainage of either stormwater or greywater (Armitage, Winter, Spiegel and Kruger, 2009: 2341). As a consequence the community resorted to defecating on open ground and using of buckets which were emptied at convenient points. The practice led to degraded living conditions, consequent ill health and environmental impacts. The project aimed to improve greywater management through installation of locally manufactured drainage systems. This was done with a view that it would be an interim solution until such time that the respective municipalities was able to provide formal services to everyone. The project followed four phases, which acknowledged the need for decision-making among all stakeholders which was believed could be achieved through collaboration, co-operation and consensus.

Although the community was initially sceptical about the project deliverables, due to the local municipality's failure to listen to them, there were nevertheless those individuals that were interested. Those individuals took initiatives and used the greywater for vegetable gardens as well as chanelled wastewater away from their shacks (Armitage et al, 2009: 2346). Overall involvement was low with a number of obstacles encountered. The municipality failed to support the initiatives because they claimed that formal serviced houses were soon going to be built and thus deemed the project an unnecessary expense. Some community members preferred to have the research team do the work for them, particularly because they were not compensated for their efforts despite the project being for their benefit. Finally the issue of job opportunities, desire for formal housing and decent sanitation took precedence over greywater management, further prohibiting

residents to further engage in the project (Armitage et al, 2009: 2349). In spite of challenges encountered in the latter study, a number of valuable lessons could be learnt, transferred and implemented in the Hospital Hill situation. Amongst the lessons that could be transferred is that care should be taken that a more comprehensive approach is followed. This is important as unilaterally focusing on lack of community initiatives and devising strategies to overcome them is not only unsustainable, but could be detrimental to any future community initiatives. Although beyond the scope of this study, factors leading to lack of community initiatives could be considered a potential area for future research. Knowledge of these factors could be incorporated into strategies geared towards community initiatives.

5.5 PRACTICES TOWARDS ENVIRONMENTAL HEALTH SERVICES

5.5.1 Culture and beliefs

Often when community members experienced rodent infestation, they kept the information on how to deal with the problem to themselves. The practice was common throughout the community who closely associated rodent infestation with witchcraft instead of poor hygiene practices. The strong belief that rodent infestation was a result of witchcraft and resultant poverty further facilitated heads of various households, to take it upon themselves to consult with various information sources to get advice on how to deal with the problem. When the advice was obtained on how to eradicate the problem it was not freely shared with everyone but with only close knit and trusted family members and friends. The rationale was that sharing of information would give witches power and cast a bad spell on a particular family who would continuously be under their control.

Non-sharing of information was intensified based on rodents' sizes as opposed to their numbers which was believed, the bigger the rat the more intense the spell and thus justification to keep the information secret even from family members. Heads of households would unilaterally use the advice to eradicate the problem despite the problem being a community issue. The sharing of information on which practitioners to

consult for effective eradication of the problem was discouraged as this was believed to weaken the particular practitioner's strength and also give those that send bad spells to tighten their grip on their craft. It emerged that keeping the information secret was a way of ensuring that witches lose their power and a subsequent eradication of rodents. The community continued with this practice, despite their realisation that the problem of rodent infestation did not improve irrespective of the approach. Their belief was closely linked to school dropout and consequent lower health literacy which was instrumental in them being superstitious and associating rodent infestation with witchcraft instead of poor hygiene practices.

Performing of rituals and releasing of a dead person's spirit were essential to the community's identity and well-being. A strong belief that dead people have supernatural powers beyond the grave, justifying the need to perform rituals to release the deceased soul is an integral part of the community's culture and belief. Although the practice seemed to have some negative impact on the health of the community, it was held with high esteem. It is because of this that the community might have been discouraged to use EHS for fear of being ridiculed and isolated. It is thus important to acknowledge that whatever cultural or beliefs a community might have, they have preferences and needs which are individual and personal to them alone. The community has a right as contained in Section 30 and 31 of the South African Constitution, to have their culture acknowledged and respected, as long as this is possible and does not impose excessively on the rights of others (South Africa, 1996: 15). Based on the above, it is thus concluded that EHPs should create conditions for the community to use EHS, which include due regard for the community's culture. In this way the community would take a more proactive approach towards their health, whilst at the same time observing their cultural practices.

5.5.2 School dropout

A picture emerged from observing and listening to what participants said that the community needed to be equipped with necessary skills that would translate to improved

health literacy. After establishing their lack of knowledge about EHS, it came as no surprise that the community did not use EHS because they had high rates of school dropout rate and consequent low health literacy. Low health literacy was however not only limited to school dropout but also to lack of information sharing within the community. Some community members were relatively health literate, however what they knew was used for the benefit of their friends and immediate family members only. There was distrust among community members who cautiously used various information sources including family, neighbours and friends as well as spiritual and supernatural practitioners to tackle environmental health problems. Their caution was fuelled by the community's suspicious nature leading to distrust and non-sharing of information for fear of being bewitched leading to persistent low health literacy.

5.5.3 Human resources

It came as no surprise that the community did not use EHS because EHPs came on rare occasions into the area to do some inspections. There was no accountability by EHPs who did not inform the community about their agenda, instead they showed to be unresponsive and uninterested in the needs of the community. This further suggested that EHPs did not make efforts to include the community in their supposed inspections and education campaigns. The fact that EHPs only came during specific time periods, angered the community who were dissatisfied towards EHS. Their dissatisfaction was closely related to lack of trust and limited support and understanding of EHS. Trust was seen to be closely related to service delivery, because the community was more familiar with nurses, social workers and non-governmental organisation's (NGO) workers who were more visible in the area than EHPs. It is because of this that EHPs were seen to be least trustworthy, compared to other service providers who seemed to provide services that the community needed. This was particularly true for the community who associated education campaigns and inspections with government bureaucracy. Participants were of the view that inspections were done so that EHPs, could be seen to be providing EHS within the area. Environmental Health Practitioners' visibility prior to the World Cup further cemented the community's distrust towards EHS, as their trust was more

dependent on interactions with EHPs. Based on the above, it is only logical to question what EHPs do to fulfill their constitutional mandate as well as ensure that the community use EHS as per their constitutional right.

A number of factors could be responsible that prohibited EHPs to create conditions conducive for the community to utilise EHS. It is known that when environmental needs are addressed they tend to lead to environmental protection, poverty alleviation, meaningful community participation in decision-making and recognition of the importance of social and cultural contexts (Willis, 2005: 166). Although not limited to EHPs incompetence and lack of skill to address EHS needs from diverse backgrounds, it should however not be overlooked. The EHPs might not be fully equipped to deal with needs of communities from informal settlements, further highlighting the knowledge gap among EHPs about how the democratic system works. The system is such that it places a duty as prescribed in section 32 (1) of the National Health Act on every metropolitan and district municipality, to ensure that appropriate municipal health services are effectively and equitably provided in their respective areas (South Africa, 2003: 42). The notion was even echoed by the former President, Mr. Thabo Mbeki in his address to the National Council of Provinces in November 2004. In this address he mentioned how many of the country's municipalities do not have the necessary skill to implement government policies (Roberts et al, 2010: 43). A conclusion is thus made that EHPs are not only ill-equipped to deal with needs of diverse communities, but that they only provide EHS to the socio-economically better communities. This happens whilst the majority of the previously disadvantaged and marginalised do not have access to EHS. This is particularly true because EHPs might subconsciously be aligning themselves with the practice common during the apartheid era in which the municipality was seen as a creature that provided unequal and non-inclusive service to all (Roberts et al, 2010: 111). Similarly EHPs might be subscribing to the UN's MDG 7 Target 7d, which addresses slums (United Nations Development Programme, 2000). The target has however seen a number of misinterpretations among all spheres of government, with the Housing Ministry being at the forefront of these misinterpretations. The Ministry has in essence understood the target to mean eradication of informal settlement as opposed to the UN's

advocacy for upgrading and improvement of informal settlements (Huchzermeyer, 2010: 130). The eradication of informal settlements has in some instances seen authorities demolish, evict and under extreme circumstances deny basic services to residents of informal settlements. These circumstances have seen Abahlali baseMjondolo, the country's largest shack dwellers movement take municipalities to the Constitutional Court for infringement of basic human rights (Selmeczi, 2011: 60). Among the basic human rights that the movement litigated for, was influx control by other means wherein municipalities tried to force residents to relocate by denying them services which were instrumental in health promotion, disease reduction, rat infestation and fire hazards (Selmeczi, 2011: 65). The latter services do not only form part of the basic objectives of EHS, but they are the basic building blocks that will ensure that MDG 7 is realised. Based on the above it further highlights the EHPs incompetence to address the needs of communities from informal settlements further highlighting their "unwillingness" to render EHS in informal settlements.

5.5.4 Access to information

Access to information is one of the fundamental human rights as enshrined in South Africa's Constitution (South Africa, 1996: 15). The community's democratic right was however infringed upon as was evidenced by the lack of information sources within the community's reach. The community received no information nor were efforts made to ensure information was made available to them. Emotions surfaced during discussion of this question, signaling the frustration and hopeleness that the community faced. The lack of information is evidenced by preventable diseases which thrived in addition to the various social ills that the community experienced. Because of the lack of information they were not allowed to participate in priority setting and decision-making, to hold authorities accountable for failure to provide EHS in the area (South Africa, 2000: 32).
Due to the lack of information, there was consequent misconceptions and misinformation which was evidenced by the various roles that participants indicated EHPs played. It is believed the community would have taken a more proactive approach towards their health if they knew what EHS were about. This would in turn enable them to interact

regularly, create community awareness, build capacity and make them to be inclined to look for the best interest of their neighbours (Crowe, 2010: 622). It would furthermore enable them to take initiatives against harsh environmental conditions conducive to development of diseases. Among the initiatives they could have taken would be prevention of TB and other upper respiratory tract infections (URTI) which participants believed were fuelled by lack of information. Although it could not be verified if what participants regarded as TB and URTI were true, it could not be ruled out due to the participants' description of the disease which was associated with persistent coughs.

Participants believed that lack of information was due to authorities' disregard for the community's input thus limiting initiatives. It was also interesting to observe how the lack of information could be considered as participants' low self-esteem and confidence. The lack of accurate environmental health information from credible sources prevented the community from taking initiatives to prevent disease attributable to environmental risk factors and being healthy. As a result there was reliance on the confusing environmental health information that existed within the community leading to inconsistent and uninformed solutions of tackling environmental health problems. It is understandable that not all community members experienced the same problems, they nevertheless existed in complex relationship with each other calling for urgent intervention.

5.5.5 Motivating factors to use Environmental Health Services

All participants expressed the desire to have centres made available where everyone would easily access EHS information. The availability of those centres would shape and enhance utilisation of EHS as they would be for the benefit of all who needed them. There were strong indications that the community would be more inclined to use EHS if they were made within reach of all community members. Education initiatives came out strong during discussion as a preferred way of encouraging and motivating the community to use EHS. Although participants' view of things that would motivate them to use EHS seemed like a simplistic expression of what would motivate them to use EHS,

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a question of how they would use the information immediately surfaced. The question was necessitated by the fact that education provision would not necessarily translate into use of EHS, particularly in contexts of communities who were faced with many challenges such as lack of electricity, school drop-out and lower literacy levels.

The question unlike the others stimulated enhanced discussion and debate among all participants. It could be gathered from the discussion that although participants did not utilise EHS, the manner in which they preferred EHS to be provided would greatly influence their practice towards a positive one. The primary preferred vehicles of providing EHS were workshops, campaigns, volunteer programmes, community meetings as well as use of media sources. The rationale for the above named strategies was that they would shape practices towards EHS, eventually eradicating feelings of apathy and hopelessness, symbolic of positive inclination towards EHS. Although the first four preferred strategies received overwhelming support from most participants, use of media sources received mixed support. The strong opposition voiced against use of visual (TV), audio (radio) as well as print media (newspapers, leaflets, brochures and pamphlets) sources were argued to constitute regress towards shaping positive practices towards EHS.

In analysing the opposition against media sources it emerged that self-interest or some other personal factors were responsible for the opposition. Opposition was strongly associated with locality, socioeconomic and educational factors. Explanations that emerged were that the community's locality was responsible for the area's lack of electricity thus translating to limited use of visual and audio media sources among community members. It also emerged that even those that owned either one or both of the visual and audio media sources were unable to constantly use them due to their inability to afford batteries needed for their operation. The use of visual and audio media sources was as a result opposed as a preferred way of providing EHS. Likewise those that could not due to their socioeconomic status and/or educational status purchase batteries or read were most likely to be opposed to print media for provision of EHS.

In general the opposition to use of various media sources was not so much influenced by the possibility of an individual being personally affected by the media source but by the extent to which their family members were likely to be affected by their inability to use them. Personal self-interests were closely associated with unavailability and inaccessibility of the various media sources further increasing the community's inability to use EHS.

5.6 STUDY LIMITATIONS

By their very nature focus groups discussions are not meant to generalise findings but are only applicable to study participants. Since the sample was not representative, the researcher relied on the willingness of the participants to cooperate until data saturation was achieved (De Vos et al, 2005: 332). Therefore conclusions about the population cannot be drawn from which the sample came but only applicable to study participants.

Although participants were receptive to the research initiative, they were at first sceptical about the research intentions and raised a number of concerns. Among concerns raised was fear of being taken advantage of by researchers who came to them with a number of promises including job opportunities. It is because of this that they were initially reluctant to take part in the study due to unpleasant previous encounters they had with a number of research initiatives that took place in the area. Once those researchers had accumulated enough information to satisfy their needs, they would disappear without fulfilling any of the promises made. It became apparent from engaging with various groups that members knew and understood a critical role they played in research and that they were not taken advantage of. Ethical issues had to once again be deliberated upon despite having been discussed and all concerns addressed, leading to extension of the data collection period.

Furthermore, despite having agreed with all participants about the date and time for focus group discussions, four sessions had to be cancelled and rescheduled to other dates. Cancellations yielded unsatisfactory participation with few participants coming for

follow-up sessions. Although saturation point was reached, it is believed that more opinions regarding research questions could have surfaced with bigger groups than conducted. Due to cancellations, the data collection process stretched over an extended period leading to the study not completed within the scheduled period. On more than one occasion sessions had to be cancelled or rescheduled, despite calling to remind participants about scheduled focus group discussions, further extending the data collection period. The following although not exhaustive is a list of reasons why some of the sessions had to be cancelled or rescheduled:

- o Focus group discussions prompted interest not only from some community members who did not meet the inclusion criteria but also from group members from neighbouring communities. The members wanted to volunteer to take part in the study. However in order to ensure validity this was discouraged mainly because volunteers differed from the relevant population in terms of variables related to dependent variable and had this been allowed it would have biased the results obtained (Welman et al, 2005: 126);

- o Service delivery protest resulting in social unrest in the area. The situation was volatile posing danger to both the research team and participants. In the interest of safety, sessions had to be cancelled or rescheduled to a later date(s);

- o Data collection took place during the winter season, resulting in participants not showing up on certain days or come in later than the agreed upon time citing cold weather as reasons for staying away. Although this factor was overlooked during the planning phase it presented an interesting aspect particularly because of the community reliance on communal outdoor water supplies and their use of unclean energy sources for domestic and personal hygiene purposes. Despite the fact that group members were willing to take part in focus group discussions, they needed more time to heat water for washing before they could come than they would during summer. That presented a challenge and a valuable lesson for future research initiatives; and

- o Family or other commitments, resulting in participants honouring those obligations which obviously took precedence over focus group discussions and not showing up for scheduled sessions.

Each circumstance was different from the other, however the value that individually and collectively they had on the research process was insurmountable. From the grounding it became logical that alternative arrangements had to be made, as this not only aimed to accomplish research objectives but also to continue valuing participants as co-researchers.

5.7 RECOMMENDATIONS

It is evident from the discussion above that there were discrepancies with regards to community's KAP regarding EHS. Based on this realisation, the following recommendations are made which takes into account the challenges inherent in the study area:

5.7.1 Instil and reinforce knowledge about role of Environmental Health Services

The majority of participants already knew that the community needed reliable EHS to prevent diseases attributed to environmental health risk factors. The knowledge about the role of EHS should be instilled and reinforced within the community.

5.7.2 Develop learning materials and programmes that meet community needs

Although many community members may be aware that they need to utilise EHS to prevent diseases attributable to environmental health risk factors, they themselves should be instrumental in developing learning that meet their needs. Environmental Health Practitioners should embark on massive awareness campaigns which would conscientise the community about EHS and related benefits.

5.7.3 Involve community members in the development and evaluation of the campaign

When community members are involved in capacity building campaigns, they can provide invaluable insight on how to further improve it. Their involvement is critical because they know firsthand the situations that they encounter on daily basis. They also can help assess whether developed materials and programmes are understood and applicable within the context of their daily lives.

5.7.4 Focus on Environmental Health Services provision to prevent diseases

Many people associated rodent infestation with supernatural factors thus focus should be placed on how EHS should be provided to ensure that diseases attributable to environmental health risk factors are prevented.

5.7.5 Workshops

Workshops are mechanisms that could help improve EHS provision. Volunteers should be capacitated in the form of workshops. In order to improve the community's quality of life, volunteers would then embark on community awareness campaigns, thus enhance EHS provision. For those workshops to be considered effective, follow-up is to be done to check the increase in level of knowledge about EHS. The workshops should be structured such that materials used are colourful, have a catchy title, used graphics or pictures that conveyed a health message and had a family-related theme.

5.7.6 Use volunteer peer educators to convey information about Environmental Health Services

Participants believed that community members could volunteer as peer educators as this was further believed to be an effective method to reach the community at large. Although the process should be community driven, EHPs should be instrumental in

driving the process forward to ensure that threats posed by interference from non-receptive community members are reduced to a minimum.

5.7.7 Encourage community initiatives

Community initiatives need to be encouraged as it would enhance participation and involvement of all stakeholders thus ensuring sustenance of EHS provision. However this should be coupled with health promotion which would capacitate community members in terms of households' general health and hygiene practices. As a result of this, various existing community structures could be used to facilitate initiatives that would help alleviate the problem which posed a threat to the community's health.

5.7.8   Training and development

Environmental Health Practitioners to be exposed to continuous professional training and development that will capacitate them with skills needed to address environmental health needs of communities living in informal settlements in a democratic SA.

5.7.9 Information sharing

Encourage and empower those with relatively good health literacy towards information sharing and subsequent appreciable health literacy among all community members.

5.7.10 Respect for diversity

Acknowledge and respect cultural diversity. Incorporate the indigenous knowledge into the mainstream health planning of EHS.

6. FUTURE RESEARCH

The study was a value adding exercise with potential future research. Although not limited to the following, these could be considered for future research:

- o Environmental Health Practitioners' health promotion role in a democratic South Africa; and
- o The role and place of culture and beliefs in provision of EHS.

7. SIGNIFICANCE OF THE STUDY

The study will impact on increased awareness of EHS and optimise opportunities for heightened provision of EHS thus promoting health and preventing diseases. The latter can however only be achieved through policy reform and the promotion of comprehensive provision of EHS as a means of redressing inequalities and prejudices imposed by the apartheid system.

8. CONCLUDING REMARKS

The aim of the study was to establish knowledge, attitudes and practices regarding EHS among community members in Hospital Hill informal settlement. The following conclusions are made based on the findings:

- o Overall there was limited knowledge regarding EHS among participants, citing provision of water and sanitation facilities as the various roles that EHPs played.
- o Participants expressed a need to know what EHS are all about as they believed they could be used effectively to render their living conditions to be habitable and reduction of diseases such as TB, diarrhoea and cholera.
- o Participants' attitude towards EHS and EHPs showed marked dissatisfaction due to their inaccessibility and unavailability.

- A number of suggestions were made which revealed the community's need and desire for EHS provision because environmental health problems were dealt with in different ways and these varied from one household to the other further signifying the need for a uniform approach was needed to deal with environmental health problems.
- The provision of EHS can be arranged to match the community preference with assurance that they will be consistent and well managed.
- If the community feels side-lined and that their inputs are undervalued they are unlikely to be motivated to do anything about their situation.
- It is important to recognise communities' inputs as they have much more to contribute as without their co-operation most interventions do more harm than good.

It is worth noting that although democratic SA purports a non-discriminatory state where every citizen irrespective of their race, gender, ethnic, social or religious origin will be fairly and equally treated with affirmation of democratic values, it is still a pipe dream for many who still cannot access certain services because of their social class. The community of Hospital Hill is one such community which experiences discrimination evidenced by inexistence of EHS and consequent limited knowledge of EHS, negative attitudes and practices regarding EHS. Until such time that everyone irrespective of their differences enjoy equal access to services including EHS, the notion of an inclusive nation will just be a pipe dream.

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Appendix A   **Focus group discussion guide**

A. Opening remarks

Good day sir/madam, my name is Mmapula Tjale, a final year Master of Public
                    (Facilitator's Name and Surname)
Health student from the University of Limpopo. I am conducting research on the
"Knowledge, Attitudes and Practices regarding Environmental Health Services (EHS)",
and request that you engage in discussions regarding this. The focus group discussion
will not take longer than one-and-half-hour.

Please note that the information you provide will be confidentially and anonymously
processed, thus feel free to engage in a discussion to the best of your ability as the
information will not identify you or members of your group in any way.

B. Ground rules

1. Please switch off your cellular phones, as this might interrupt proceedings. I
   already have mine off so, for those of you who still have theirs on kindly switch
   them off now.
2. Please remember that there are no right or wrong answers to any of the questions -
   own interpretation, we want to have as many different points of view as possible.
3. No interruption- respect for diversity and other's opinion, however please feel
   free to express yourself if you disagree with someone else's opinion.
4. It is important to be honest but do not say anything that you don't have to say
   about yourself that makes you uncomfortable.
5. Remain focused on topic under discussion.
6. Avoid dominance by other group members- participation from all members very
   important to get optimum results.
7. We cannot answer any question related to EHS during the discussion because we
   do not want to influence your responses in any way.

C. Procedure

1. A tape recorder will be used during the discussion because I need to pay close attention to what you are saying. Later, I will review the tape and listen carefully to your responses to my questions. I will then take the information I obtain from each group and write a report. Please remember that you will not be identified in any way. We will begin the tape recording after our introductions.

2. This discussion is strictly confidential. What you hear and what you say should not be shared with anyone outside this room. This information should stay here. Are we all in agreement?

3. This is a group discussion, so you don't have to wait for me to call on you. Please speak one at a time because that way everyone will hear what you say and it will make it easier for me when I review the tape. Also, please be considerate of your fellow participants and give each other an opportunity to speak. If you have a soft voice, please speak a little bit louder so that your comments will be clear on the tape.

4. We have a lot of information to go over, so I may have to change the subject at times or move ahead in the middle of our discussion. Please stop me if you want to add additional information that you feel is important to our discussion.

5. Our session will take an hour to a maximum of one-half hour. We will not take a break, but please feel free to get up and use the restroom.

D. Self-introductions

1. Let's start by introducing ourselves. As I said before, my name is Mmapula Tjale, a final year Master of Public Health student from the University of Limpopo. I am conducting research on the "Knowledge, Attitudes and Practices regarding Environmental Health Services (EHS)".

2. Now, please introduce yourselves. Give your name or the one you prefer to be called with for the duration of the discussion. We will start with Ms. Chulumanga

Zape (Research Assistant), continue with the person on her right, and go around the room.

3. Before we begin our discussion, can I please get back the filled consent forms that were handed out earlier?
4. If anyone needs help in filling out the form, please let me know, Chulumanga and I will be happy to help you. Does anyone need any help?

E. Discussion questions

Questions for different themes	Questions	Prompts
Open Questions	Tell me about life in this community.	To get participants to "open up"; To eliminate scepticism or distrust about the aims of the research; What are considered as important aspects in this community?
To establish existence of EHS	Tell me about the services that the municipality provides in this community.	To get a general feel of what services are provided in this area; To establish existence of EHS from the list provided.
Knowledge of EHS	What comes to mind when you hear the word EHS?	What do you think it is? What other words have similar meanings for you?
Attitude towards EHS	What is your opinion	What do you believe are

	with regards to EHS provision in your area?	benefits of EHS? ;
	What impact do you think EHS has?	How do you think EHS should be provided?
Practice regarding EHS.	Have you ever utilised EHS?	What are the reasons that motivated you to utilise them or not? ;
	What kind of things would be important to you in deciding to utilise EHS?	What are the reasons you might utilise EHS? ;
		What are the reasons you might not be concerned about EHS utilisation?
		What solutions do you implement when you have environmental health problems?

SeTswana translation

Dipotso go ya ka di tlhogo kgaolo	Dipotso	Dithusa dipotso
Dipotso tsa pula puisano	Ke kopa o mpolelle ka botshelo ba lona motseng wa lona	Go dira gore batsaa -karalo ba lokologe, ba bue ba phutulogile.

Go tlosa ketsaetsego mabapi le maikemisetso a dipatlisiso le go fana ka tshedimosetso.

Ke eng dilo tse di bonwang di le botlhokwa mo matshelong a baagi? |
| **Go batlisisa ka diterelo tsa maphelo a tikologo** | Ke kopa o mpolelle ka ditirelo tse mmasepala a di neelang baagi. | Go utlwa ka kakaretso ditirelo tse di abiwang mo baaging;

Go batlisisa fa ditirelo tsa maphelo a tikologo di a abiwa go tswa mo go tse go builweng ka tsona. |
| **Kisto ka ditirelo tsa maphelo a tikologo** | Ke eng se se tlang mo tlhaologanyong ya gago fa o o utlwa go umakwa ditirelo tsa maphelo a tikologo? | O nagana gore e ka tswa e le eng?

Ke mafoko a fe ao a tshwanatsang le kgang e? |
| **Kakanyo ya gago mabapi le ditirelo tsa maphelo a tikologo** | O nagana gore ditirelo tsa maphelo a tikologo di abiwa ka mokgwa o o ntseng jang mo tikologong ya lona? | Mosola wa ditirelo tsa maphelo a tikologo ke eng ?; |

	Ke eng se ka tlisiwang ke ditirelo tsa maphelo a tikologo?	O nagana gore di tshawnetse gore di abiwe jang?
Tiriso ya ditirelo tsa maphelo a tikologo.	A o kile wa dirisa ditirelo tsa maphelo a tikologo?	Ke eng se se go rotloeditseng go dirisa ditirelo tse? ;
	Ke dilo tse ntseng jang tse botlhokwa mo go wena tse ka dirang gore o dirise ditirelo tsa maphelo a tikologo?	Ke mabaka a feng a a ka go rotloetsang go dirisa ditirelo tse tsa maphelo a tikologo? ;
		Ke mabaka a a ntseng jang a a dirang gore oseke wa dirisa ditirelo tsa maphelo a tikologo?
		Ke mabaka antseng jang a a ka go dirang gore oseke wa itshwenya ka go dirisa ditirelo tsa maphelo a tikologo?
		O dira eng go fedisa mathata a a tsamaisanang le maphelo mo tikologong ya gao?

F. Pilot study: focus group discussion questions

1. Was the discussion too long?
2. What did you think of the questions? Were they difficult for you to understand?
3. Were any of the questions personal and made you feel uncomfortable?
4. Do you have anything that in your opinion has not been covered, but think is important and need to be included in the discussion?

G. Closing

1. These are all the questions we have for you. Before we close is there anything that you think we still haven't covered but in your view is important?
2. Once again, I want to reassure you that everything you said here today is strictly confidential and anonymous. Your names will not be connected to the information given today.
3. Once all discussions have been conducted and then a feedback will come in the form of a report. It might take a while before it can be published but you will be notified in due course.
4. Please note that there might be a need to have a follow up session to clarify some issues you have mentioned, should this be the case will you be willing to take part in another focus group discussion? If you don't have an objection, I will communicate this and we can agree on a date that we can meet again.
5. Thank you for coming. The information that you have provided is very important. You have been very helpful to us.

UNIVERSITY OF LIMPOPO
Medunsa Campus

MEDUNSA RESEARCH & ETHICS COMMITTEE

CLEARANCE CERTIFICATE

P O Medunsa
Medunsa
0204
SOUTH AFRICA

Tel: 012 - 521 4000
Fax: 012 - 560 0086

MEETING: 04/2010

PROJECT NUMBER: MREC/H/68/2010: PG

PROJECT :

Title: Knowledge, attitudes and practices regarding environmental health services among community members in the informal settlement of Hospital Hill, Johannesburg Metropolitan Council, South Africa

Researcher: Miss LM Tjale
Supervisor: Prof Andre Swart (University of Johannesburg)
Co-supervisor: Mr SF Matlala (UL)
Department: Public Health
School: Health Care Sciences - Turfloop Campus
Degree: MPH

DECISION OF THE COMMITTEE:

MREC approved the project.

DATE: 05 May 2010

PROF N EBRAHIM
DEPUTY CHAIRPERSON MREC

Note:
i)   Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.
ii)   The budget for the research will be considered separately from the protocol.
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Appendix C   **Ethical clearance: City of Johannesburg**

Jo'burg

a world class African city

ENQUIRIES: C. Fraser
Tel ~27(0) 11 407 7467
Tel ~27(0) 11 407 6846

4th Floor B Block
Metropolitan Centre
158 Loveday Street
Braamfontein

PO Box 31244
Braamfontein
South Africa
2017

Tel ~27(0) 11 407 7513
Fax ~27(0) 11 339 2566

12 May 2010

Dear Ms Tjale

**APPROVAL TO CONDUCT RESEARCH WITHIN HEALTH IN
THE CITY OF JOHANNESBURG**

Permission has been granted to you to conduct research in the Health
Department within the City of Johannesburg.

Topic: **KAP regarding Environmental Health Services among
Community Members in the Informal Settlement in Hospital
Hill, City of Johannesburg.**

Please contact the following person(s) before you commence with your project
and to gain access to the area:

**Regional Health Manager: Region G: Ms Nelly Shongwe
Contact Numbers: 011 213 0009/082 467 9276**

Should you have any queries please do not hesitate to contact our department.

We look forward to your Final Research Report.

Thank you

DR. R. BISMILLA   12/5/10
**Executive Director
City of Johannesburg
Health Department**

Appendix D   **Information to participants**

Research project title

Knowledge, Attitudes and Practices Study Regarding Environmental Health Services among community members in Hospital Hill, Johannesburg Metropolitan Council, South Africa

Introduction

You are invited to volunteer for a research study. Should you wish to participate you should fully understand the purpose of the study and what it involves. In case you have any questions which are not covered please do not hesitate to contact the researcher who is always available to answer any questions related to the study.

Purpose of the study

The overall aim of the study is to establish the community's knowledge, attitudes and practices regarding EHS in the informal settlement of Hospital Hill. The study will impact on increased awareness of EHS, as well as heighten EHS utilisation in health promotion and disease prevention.

The study site and population

Hospital Hill is a peri-urban informal settlement situated 40km south west of Johannesburg and comprises of 1650 households (Naidoo, Mdala, Mphake and Chidley, 2007: 59). The area falls under Region G and is described as the most deprived ward in Johannesburg and the 22nd most deprived ward of 420 wards in Gauteng (World Health Organization Collaborating Centre for Urban Health, 2008: 7). It is an indigenous African settlement with 7% of the households not from South Africa, 75% from outside Gauteng, including 17% from the Eastern Cape and North West Provinces respectively.

Out of the total households, 62% of them are economically poor, with only 32% of households with money saved, 1% with medical aid and 0% of households with access to a computer (World Health Organisation Collaborating Centre for Urban Health, 2007: 10).

Ethical approval

The study protocol has been submitted to the Ethics Committee Medunsa Campus and the City of Johannesburg Research Committee and approval granted.

Your rights as a participant in the study

Your own participation in the study is entirely voluntary, thus making you legible to participate or withdraw from the study without stating reasons for withdrawal.

Tape recording of focus group discussion

Please note that the discussion will be tape recorded

Anonymity

Your name will not be on the tape or the transcription of those tapes, and data will not be linked with your name or you as an individual. Your identity will also not be revealed when the study is reported or published.

Risks involved in the study

There are no known risks involved in undertaking this study.

Confidentiality

All information obtained during the study duration will be treated as confidential. Data that may be reported in specific journals will not include any information that identifies participants as individuals. Any information revealed regarding the focus group discussion as a result of your participation in this study will be held in strict confidence.

Feedback

Study findings will be reported in generic terms and disseminated to you in a form of a research report.

Appendix E   **Consent form**

UNIVERSITY OF LIMPOPO (Medunsa Campus) ENGLISH CONSENT FORM

Statement concerning participation in a Clinical Trial/Research Project*.

Name of Project / Study / Trial*

Knowledge, Attitudes and Practices Regarding Environmental Health Services among Community Members in the Informal Settlement of Hospital Hill, Johannesburg Metropolitan Council, South Africa

I have read the information on */heard the aims and objectives of* the proposed study and was provided the opportunity to ask questions and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.

I understand that participation in this Clinical Trial / Study / Project* is completely voluntary and that I may withdraw from it at any time and without supplying reasons. This will have no influence on the regular treatment that holds for my condition neither will it influence the care that I receive from my regular doctor.

I know that this Trial / Study / Project* has been approved by the Medunsa Campus Research and Ethics (MCREC), University of Limpopo (Medunsa Campus) / Dr George Mukhari Hospital. I am fully aware that the results of this results of this Trial / Study / Project* will be used for scientific purposes and may be published. I agree to this, provided my privacy is guaranteed.

I hereby give consent to participate in this Trial / Study / Project*.

....
Name of patient/volunteer

Signature of patient or guardian.

....

Place……………………….   Date…………………………   Witness…………………………………
_____
Statement by the Researcher

I provided verbal and/or written* information regarding this Trial / Study / Project*. I agree to answer any future questions concerning the Trial / Study / Project* as best as I am able. I will adhere to the approved protocol.

Name of Researcher   Signature   Date   Place
*Delete whatever is not applicable.