SAFE HYGIENE PRACTICES IN EASTERN CAPE RURAL COMMUNITIES OF SOUTH AFRICA

ABSTRACT

This descriptive study sought to determine success factors, constraints, target groups and techniques for adoption of safe hygiene practices. A purposive sample of 494 villagers was randomly selected from 14 communities in Ngqushwa Municipality, Eastern Cape. Data was collected through a structured questionnaire. Success factors and constraints in adoption of safe hygiene practices included social, economic, structural, educational, cultural and environmental factors. Promotion of safe hygiene practices was perceived as everybody's responsibility. Indigenous and conventional hygiene promotion techniques identified included media, bill boards, word of mouth, radio talk shows, awareness campaigns, competitions, dramas, school programmes, home-produced posters and pamphlets and making use of celebrities. The results have implications for policy-makers, programme planners, academics and practitioners in the field.

Key words: *Sanitation, rural communities, Safe hygienic practices, Eastern Cape, South Africa*

INTRODUCTION

Sanitation improvements have increased over the years in the world. Since 1990, an estimated 747 million people have gained access to sanitation facilities – equivalent to 205 000 people every day (World Health Organisation (WHO), 2005). In Africa, about 60% of the population is said to have adequate sanitation coverage, ranging from 45% in the rural areas to 84% in the urban areas (Tumwine, Thomson, Katui-Katua, Mujwanhuzi, Johnstone & Porras, 2003). Similarly, sanitation conditions in South Africa have vastly improved since 1994 (Phaswana-Mafuya, In Press) due to various policies and legislation that have been established to create an enabling environment for the delivery of water supply and sanitation to all (DWAF, 1996; DWAF, 2001; DWAF, 2002b). In 1994 it was estimated that approximately 21 million people in South Africa lacked access to adequate sanitation services (DWAF, 1994). This figure went down to 18 million in 2001 (DWAF, 2001). While this is an impressive achievement, there are people who still do not have adequate sanitation internationally, continentally, nationally and provincially. About 1, 089 million rural and 1, 085 million urban dwellers will need to gain access to sanitation in the coming 15 years if the 2015 Millennium Development Goal of halving the proportion of people without access to adequate sanitation is to be reached (WSSCC & WHO, 2005). In Latin America and the Caribbean, 51% of the population have no access to sewage services with the majority being those people residing in rural areas (Inter-American Development Bank, 2003). This percentage represents approximately 250 million people. Approximately 3 billion people are without adequate sanitation in Africa (DWAF, 2002b; Stephen, 2003 & Tladi, Baloyi, Schreiber-Kaya, Mathekgana,

Mangold, de Klerk & Winde, 2002) and 2.4 billion world-wide (WHO/UNICEF, 2000; WHO/UNICEF-JMP, 2004). An estimated 83% of the people in the Amathole District Municipality (ADM) of the EC have no adequate sanitation (Daily Dispatch, 2005). This is so in spite of the fact that the Constitution (1996) guarantees all South Africans the right to adequate sanitation. Obviously, this poses enormous sanitation challenges in as far as adopting safe hygienic practices is concerned, especially among rural communities. Rural communities, by definition, are those communities that are without access to ordinary public services such as water and sanitation and are without a formal local authority (Alcock, 1999). These communities are characterised by inferior infrastructure, low incomes, poor site conditions, unreliable water availability, poor access to health facilities, high population density, a lack of legal land tenure and recognition by formal governments (IRC, 2001; Bhatia & Falkenmark, 1993 and Solo et al, 1993). These characteristics are much more complex than those typifying urban areas and affect the adoption of safe hygiene practices in rural communities (Danida, 2000; Black, 1996 and Bajracharya, 2003) be it on a personal, household or community level. On a personal level, safe hygiene practices include practices such as washing hands after going to the toilet or changing the nappies of babies and before preparation of food. On a household level, safe hygiene practices refer to keeping the home and toilet clean, safe disposal of refuse and solid waste, cleanliness in areas where food is stored and prepared and ensuring that food and drinking water is kept covered and uncontaminated. At community level, safe hygiene practices refer to safe excreta and sullage disposal, solid waste (refuse), hygiene education for food vendors, keeping of animals and safe community storm water drainage. Often the unhygienic practices among rural areas in South Africa are related to: a lack of access to health and hygiene education, inadequate

water supplies, poor facilities of the safe disposal of water and other domestic waste and inadequate toilet facilities (DWAF, 1996). Inadequate water supplies make it difficult for communities to keep their hands, bodies and environment clean (Phaswana-Mafuya, 2005). Lack of sufficient quantities of clean water critically impairs the ability of most rural populations to engage in appropriate personal, food and environmental hygiene practices which would greatly assist in stemming the tide of infectious diseases. Improving the quantity and quality of water available and providing adequate sanitation facilities may enhance the adoption of better hygienic practices which interrupt the transmission of most faecal-oral diseases (Ibid). Rural communities overwhelmingly lack adequate arrangements for waste disposal. Waste water from bathing and washing is typically spilt right outside houses, where it may soak into the ground or form stagnant pools in poorly drained areas. Where sewers exist, they are virtually always open drainage canals. The ground by the side of the shelters or in the alleyways serves as a frequent substitute for urinals. In general, residents have improvised sanitation systems in rural areas to satisfy their perceived needs. Although it is difficult to quantify morbidity and mortality related to unsafe and inadequate sanitation because of lack of an effective monitoring and surveillance system and country-wide baseline survey, limited information on disease prevalence reported indicates that water-borne diseases are among the major causes of sickness and death (WHO, 2000/2003). Inadequate sanitation has effects on health (e.g. water-borne diseases: diarrhoel diseases, intestinal infections, polio, typhoid, cholera, etc), economy (e.g. poverty, illness, illiteracy and lost income inclusive of GDP and GNP) and environment (e.g. dispersed and diffuse pollution of water sources resulting in the water and faecal disease cycle for communities with untreated water supplies and increased downstream water treatment costs) (DWAF, 1996; 2001). It also leads to

social and psychological problems such as loss of privacy and dignity and exposure and increased risk to personal safety. This in the long-term affects not only the adoption of safe hygiene practices but also the quality of life, education and development. Improved sanitation has impacts in various areas of life from health to time-savings to social status and to safer hygiene practices. Rural sanitation should therefore be a focus of concern for researchers. An increasing volume of literature suggests the need to focus on rural sanitation research in view of the magnitude of the sanitation problem in these areas (IRC, 2001; Morgan, 2001; Hogrewe et. al, 2001 and The African Water Page, 1999). The current study focuses on the motivating factors and constraints in adopting safe hygiene practices as well as perceived target groups for promotion of safe hygiene practices and hygiene promotion techniques that communities can employ to ensure adoption of safe hygiene practices. In order to plan effective strategies for addressing the sanitation challenge, the problem and its underlying causes have to be understood. Solutions must be informed by research and not based on assumption. Only when the problem has been quantified and qualified can appropriate measures be taken to improve the situation. Therefore the beginning point in addressing the sanitation challenge is to understand the success factors and constraints in the adoption of safe hygiene practices as well as the target groups and techniques that can be used to promote safe hygiene practices.

METHODS

Design and setting

A descriptive survey was conducted in 2002/2003 in the EC Province which is situated along the southeast coast of South Africa and covers an area of 170 000 km², representing about 14% of the country's landmass. It has a population size of approximately seven million, representing 16% (third largest) of the South African population. The non-urban population amounts to nearly 4 100 000, and dense concentrations of rural and peri-urban settlements occur in other districts and areas. The EC is one of the provinces with the highest levels of poverty, underdeveloped infrastructure and unemployment (EC Department of Social Development, 2004). The province consists of seven district municipalities, namely: Oliver Tambo, Amatole, Western, Chris Hani, Ukhahlamba, Alfred Nzo and East Griqualand Kei. One district municipality was identified for the study, namely Amatole District Municipality (ADM). The ADM is divided into 8 local municipalities, which are Nxuma, Mnquma, Nkonkobe, Mbashe, Great Kei, Ngqushwa, Amahlathi and Buffalo City. The study was confined to the Ngqushwa local municipality due financial and time constraints. Ngqushwa Municipality is rural in character as 95% of the population resides in villages where provision of services is minimal. The employment situation reflects that 30% of the population in the working group age are employed and 70% are

unemployed. About 87% of the employed households earn less than the poverty line of R1100 per month. Of the employed households, 14% are in the primary activities (farming and mining), 17% of the employed in secondary sector (manufacturing, construction and utilities) and 69% are in tertiary sector. The gender ratio indicates that 47% of the population are males, whilst the remaining 53% are females. It is estimated that 50% of households have access to water supply from public stand pipes, 44% rely on natural resources and 38% on bore-holes especially in the rural villages. Only 4% has access to water on site and these are in the urban areas. Records indicate that only 14% total of the number of households have access to flush toilets. These are mainly in the urban area of Peddie and Hamburg. Most people use pit latrines (87%). However, some households (11%) have no toilet facility at all. 98% of the population need proper sanitation. The municipality has 14 wards with a total population of 93 997 people, made up of 20 757 households. The population is evenly spread across the 14 wards. The average number of people per ward is 6 714 (1 483) households. The average household size is 4.5% persons. The total number of villages across the 14 wards is 112.

Sample and procedure

A list of 112 villages spread across the 14 wards of the Ngqushwa local municipality was provided. Systematic random sampling was used to select 1 village from a list of villages in each ward. The 14 villages identified for the study included Bongweni, Dubu, Gcinisa North, Gcinisa South, Lower Qeto, Luxolweni, Machibi, Mpeko, Mtati, Nobumba, Ntloko, Peddie extension, Qawukeni, and Woolridge. In each village, the researcher requested the local authorities to provide a list of 50 villagers

who are knowledgeable about sanitation issues. Subsequently, the person chosen by the local authorities to assist the researcher with the research process in each village provided the researcher with a list of 50 villagers including grassroots women, nurses, teachers, the youth, village health workers, pastors, social workers, traditional leaders, traditional healers, representatives from various community structures, and pressure groups. The list contained the name of the participant, telephone number, fax number, office number and email address (where applicable). The total number of villagers across the 14 villages amounted to 700 (50 villagers per village). These villagers were considered a purposive sample for the study. The demographic characteristics of the participants have been described under the study results. From a purposive sample of 700 villagers, 494 who constituted 70.6% of the total sample consented to participate in the study after being advised of their: a) their status as volunteers, (b) their right to refuse to answer any question, (c) the legal liabilities of their participation, (d) confidentiality, and (e) the limitations of anonymity due to the nature of the study. The distribution of villagers per village was as follows: 42 Bongweni, 40 Dubu, 38 Gcinisa North, 42 Gcinisa South, 28 Lower Qeto, 33 Luxolweni, 45 Machibi, 25 Mpeko, 41 Mtati, 19 Nobumba, 30 Ntloko, 28 Pedie extension, 41 Qawukeni, and 40 Woolridge. Only 29.4% did not participate in the study, as they were not available at the time when the study was conducted.

Data collection

A structured questionnaire was used to collect data. The questionnaire was divided into five main sections. In the first section, respondents were asked about their demographic characteristics such as age, gender, marital status, employment status

and educational status. In the second section, respondents were asked about the extent to which people can be motivated to adopt safe hygienic practices by the factors listed in the questionnaire on a 4-point scale (1 = Very large extent; 2 = Large extent; 3 = Limited extent and 4 = Very limited extent). In the third section, respondents were asked about the extent to which people believe that the factors listed on the questionnaire could serve as barriers towards the adoption of safe hygienic practices on a 4-point scale (1 = Strongly Agree; 2 = Agree; 3 = Disagree and 4 = Strongly Disagree). The fourth section had to do with asking respondents about target groups for community promotion of safe hygiene practices and the last section had to do with asking respondents about the techniques that could be used for promotion of safe hygiene practices. Prior to administering the questionnaire, a pilot study with 10 villagers was undertaken in one of the non-sampled villages at Ngqushwa District. Thereafter, the wording of the original questionnaire was reviewed and modified accordingly. Ambiguity of meaning was eliminated; clarity, comprehensibility and simplicity of items were ensured. The questionnaire was adjusted in order to accommodate the cultural sensitivity of the participants. Fourteen trained field workers served as data collectors for the study. Each field worker administered questionnaires in a village assigned to him or her. In some cases questionnaires were hand delivered for completion by the respondents and in other cases the researchers interviewed the respondents. Completion of the questionnaire lasted for about 1 hour.

Data Analysis

Field workers submitted all the questionnaires that they had collected from participants to the researcher. Each questionnaire was numbered to ensure that data

capturers were able to go back to it should there be some queries. The researcher created the variables for quantitative data on SPSS version 11.0. Responses were then entered on SPSS. The data was then cleaned and analysed as reflected in the results section.

RESULTS

Demographic characteristics of the respondents

Insert Table 1 about here

Table 1 shows that the sample consisted of 494 villagers evenly distributed across the 14 villages spread in the 14 wards of the Ngqushwa Municipality. More than half of the villagers was aged between 26 years and 50 years (64%) with males (52.3%) slightly more than females (47.7%). The majority of the villagers were married (54.1%) and the rest were either divorced (1.0%), separated (.4%), or widowed (1.4%). The majority of the villagers (64.8%) worked for various government departments, private organisations, NGOs, clinics, and schools, meanwhile the remaining percentage of villagers were unemployed (35.2%). In terms of educational background, the majority had secondary education (63%), followed by tertiary education (20.2%), then primary education (14.7%) with the lowest percentage being that of villagers who reported to have had no formal education at all (.4%).

Success factors for adoption of safe hygiene practices

The extent to which people can be motivated to adopt safe hygienic practices by the factors listed below was determined on a 4-point scale (1 = Very large extent; 2 = Large extent; 3 = Limited extent and 4 = Very limited extent). The frequencies and percentages of respondents who indicated that to a very large extent and large extent the factors below can motivate them to adopt safe hygienic practices were combined as shown on the table.

Insert Table 2 about here

Success factors identified in Table 2 may be grouped into social, economic, structural, educational, cultural and physical environmental factors. Social factors include active local participation, political commitment and existence of care takers. Economic factors include availability of income. Structural factors include co-ordination and networking among stakeholders, flexible sanitation systems, availability of skilled personnel and safe, acceptable and affordable sanitation technologies. Educational factors include continuous sanitation promotion and advocacy, effective hygiene education with programmes that address basic needs and that focus on behaviour and facilities together. Cultural factors include sanitation programmes that change long-held beliefs, use approaches that recognise cultural preferences. Physical environmental include access to water supply and excreta disposal sources; properly maintained water and excreta sources as well as good general conditions of water sources.

Constraints in the adoption of safe hygienic practices

The extent to which people believe that the factors listed below can serve as barriers towards the adoption of safe hygienic practices was determined on a 4-point scale (1 = Strongly Agree; 2 = Agree; 3 = Disagree and 4 = Strongly Disagree). The frequencies and percentages of respondents who indicated that they strongly agree and agree were combined as shown on the table below.

Insert Table 3 about here

Constraints identified in Table 3 may be grouped into educational, structural and socio-cultural. Educational constraints include: lack of hygiene education, lack of capacity building, ineffective promotion techniques, wrongly held assumptions; structural constraints include: bottom-down approaches, lack of monetary benefits, lack of proper sanitation technologies, inadequate resources, excessive focus on technical issues and socio-cultural constraints include: the attitude that responsibility lies somewhere, lack of enabling environment, lack of local support, poor sanitation habits, cultural taboos, low prestige and recognition for sanitation as well as negligence and ignorance.

Target groups for community promotion of safe hygiene practices

Insert Table 4 about here

Target groups identified in Table 4 included volunteer groups such as health workers, councillors, civic structures, youth, teachers, principals, medical doctors, traditional

doctors, businesses and cultural groups. Families (men and women) play a significant role in family building because ‘charity begins at home’.

Hygiene Promotion Techniques

The extent to which sanitation promotion techniques reflected on the table below can be successful was determined on a 4-point scale (1 = Very large extent; 2 = Large extent; 3 = Limited extent; 4 = Very limited extent). The frequencies and percentages of respondents who indicated "Very large extent and large extent" were combined as shown on the table below.

Insert Table 5 about here

Use of the media to advertise, bill boards, word of mouth, radio talk shows, awareness campaigns (road shows), involvement of locals (e.g. through competitions), dramas, introduction of school programmes, home-produced posters & pamphlets and making use of celebrities and TV were also identified as marketing and promotion avenues in Table 5.

DISCUSSION

The study showed that the success factors and constraints for adoption of safe hygienic practices are interrelated and intertwined ranging from social, economic, structural, educational, cultural and physical environmental factors. Similar findings were reported by Phaswana-Mafuya and Shukla (2005) and Phaswana-Mafuya (2006)

in a qualitative study on factors motivating people to adopt safe hygienic practices and perceived sanitation challenges among Eastern Cape rural communities respectively and other authors (Solo & Perez, 1993). Overall, these findings support the view that sanitation includes far more than just building toilets, but a range of elements, which are interrelated and of equal importance, such as physical infrastructure, disposal of waste water and solid waste, safer living environments, knowledge of sanitation-related health practices (DWAF, 2001). Therefore, improvement of physical infrastructure alone is not sufficient for ensuring adoption of safe hygienic practices. Technical solutions alone are not viable (Black, 1996). The adoption of safe hygienic practices affects and is affected by, a wide range of issues which require strategic interventions. Therefore a holistic, integrated and inclusive approach is needed to ensure adoption of safe hygienic practices (Phaswana-Mafuya, 2005 and Simpson-Hebert and Wood, 1998). No single agency has the capacity to address all the factors stated above in order ensure the adoption of safe hygienic practices. All of the above-mentioned factors necessitate a co-ordinated and interdisciplinary effort among relevant stakeholders, i.e. government departments, NGOs, clinics, pharmacies, local businesses, schools, religious organisations, political organisations, and traditional organisations. Improved co-ordination and communication between various stakeholders will optimise resource utilisation, thus leading to sanitation promotion and consequently to adoption of safe hygienic practices.

Further, the results show that sanitation is everybody's responsibility including traditional leaders, teachers, children, politicians, volunteer groups, families, and government departments. The multidisciplinary nature of sanitation as it affects health, education, gender, the environment and the overall economy should be

recognised. Therefore, a wide-range of stakeholders should be involved in the promotion of adoption of safe hygiene practices. This would result in strong convergence on policy, and mutually agreed undertakings to ensure adoption of safe hygienic practices. Further, the literature shows that involvement of all relevant stakeholders in the local planning, organisation and implementation of sanitation programmes ensures long-term success (DWAF, 2002a; DWAF, 2002b; DWAF, 1996). There is a need to establish structures and processes in communities that will continue operating with minimum external support. Investment in social capital through facilitating the formation of local partnerships is one way of doing so.

Various safe hygiene promotion techniques were identified in the study (i.e. media, bill boards, word of mouth, radio talk shows, awareness campaigns, competitions, dramas, school programmes, home-produced posters and pamphlets and making use of celebrities). The literature encourages the use of existing local channels of communication to promote safe hygiene practices as that will reach members of rural communities particularly home visits, small group meetings, and community meetings. Community based safe hygiene promotion methods and techniques should be encouraged as communities would identify with them more than conventional methods which are brought by outsiders. Existing conventional methods seem to be unsuccessful. Traditional methods are also affordable while some of the conventional methods have cost implications which communities might find unaffordable. Community-based hygiene promotion may include installing neighbourhood sanitation committees, providing sanitation messages through health centres, radio and local forum theatre, school sanitation promotion, latrine construction, institutional adjustment and advocacy of experiences as well as utilising existing village health workers and village water minders who have been trained in promotion and health

education. As the process unfolds, village development committees can take on the responsibility, including monitoring and evaluation of hygiene practices. Schoolteachers can include hygiene promotion as part of the normal curriculum and encourage child-to-child activities to improve links between children in school and community outside the school. Community health workers, medical staff, herbalists and traditional healers can include hygiene promotion and preventative health care practices as part of their work. Information on safe hygienic practices could be delivered through local people: health authorities, latrine builders, community health workers, local material supplies; political and traditional leadership, administration and donors; Health workers, Folk media, TV, Radio, Public address, public rallies, plays, singers or dramatists and Support materials. Social mobilisation can be done through local institutions (Schools, health centres, clinics, religious organisations), local leadership (political, traditional and administrative e.g. chiefs and councillors) and stakeholders (NGOs, Private sector) and existing support groups (Service clubs, Artists/entertainers, women clubs) and enthusiastic supporters.

ACKNOWLEDGEMENTS

The financing of the project by the Water Research Commission and the contribution of the members of the Steering Committee is acknowledged gratefully.

This study was successful with the co-operation of many individuals and institutions. Sincere thanks to:

The Limakhozu Development Agency team for their dedication, team spirit and commitment to the study.

The EC rural communities, for their wonderful co-operation in providing the information needed in such an honest and generous way. Without their commitment to the dissemination of information, this research would not have been successful.

The anonymous reviewers are thanked for their useful comments.

REFERENCES

Alcock, P.G. 1999. *A water resources and sanitation systems source book with special reference to Kwa-Zulu Natal.* Part 6. WRC Report No 384/6/99.

Bajracharya, D. (2003) *Communication and Social Mobilisation in Bangladesh*. http://www.sdnbd…/communication

Bhatia, R and Falkenmark, M. 1993. *Water Resource Policies and the Urban Poor: Innovative approaches and policy imperatives.* Water and Sanitation currents, water and sanitation programme. Washington, DC.

Black, M. 1996. *Thirsty cities: water, sanitation and the urban poor.* Water Aid, London.

Daily Dispatch. 2005. *83% in ADM have no proper sanitation.* http://www.dispatch.co.za/2005/06/11/Easterncape/esani.html. Accessed on 6th October 2005.

Danida, O. 2000. *Evaluation of rural water supply and sanitation programme in Bangladesh.* Udenrigsministeriet. http://www.um.dk/danida/evalueringsrapporter/1999-2/a1.asp

DWAF. 1994. *White Paper on Water Supply and Sanitation Policy*. Pretoria: Government Printers.

DWAF. 1996. *National Sanitation Policy.* National Sanitation Task Team. Republic of South Africa. Pretoria: Government Printers.

DWAF. 2001. *White Paper on Basic Household Sanitation.* Pretoria: Government Printers.

DWAF. 2002a. *Towards a water services white paper: issues and options discussion paper, April 2002.* Republic of South Africa: Government Gazette No. 23377, May 2002.

DWAF. 2002b. *Draft White Paper on Water Services,* October 2002. Republic of South Africa.

Eastern Cape Department of Social Development. *Socio-economic and demographic profile.* Bisho: Department of Social Development.

Hogrewe, W.; Joyce, S.D. and Perez, E.A. 2001. The unique challenges of improving peri-urban sanitation. WASH Technical Report No.86, Task No. 339, Project No.936-5973.

Inter-American Development Bank. 2003. *Obstacles and Constraints for increasing investment in the water and sanitation sector in Latin America and the Caribbean*.

IRC. 2001. *Terrorism, poverty and inequality: risks to water and sanitation sector.* Source Bulletin, Vol 20. Http://www.wsscc.org/source/bulletin/sb20.html

Morgan, J. 2001. *Environmental health promotion capacity building: a training guide based on CARE's Hygiene Promotion Manual.* London School of Hygiene and Tropical Medicine.

Phaswana-Mafuya, N. In Press. Hygiene status of rural communities in the Eastern Cape of South Africa. International Journal of Environmental Health Research, 16 (4).

Phaswana-Mafuya, N. (2006). Health aspects of sanitation among Eastern Cape (EC) rural communities, South Africa. Curationis, 29 (2): 41-47.

Phaswana-Mafuya, N. (2006). An investigation into the perceived Sanitation Challenges in EC rural communities. *Health SA/Gesondheid Accredited Interdisciplinary Research Journal,* 11(1): 18-30.

Phaswana-Mafuya, N. and Shukla, N. (2005). Factors that could motivate people to adopt safe hygienic practices in the Eastern Cape, South Africa. *African Health Sciences* **5** (1), 21-28.

Simpson-Hebert, M. & Wood, S. 1998. *Sanitation Promotion: WSSCC Working Group on Promotion of Sanitation.* Geneva: WHO

Solo, T.V.; Perez, E. & Joyce, S. 1993. *Constraints in providing water and sanitation services to the urban poor.* WASH Technical Report No.85. Office of the Health, Bureau for Research and Development, U.S. Agency for International Development under WASH Task No.338.

Stephen, D.A. 2003. Reducing water and sanitation backlogs in rural areas: Umgeni Water's response as an implementing agent within KwaZulu-Natal, South Africa. *Greener Management International* 42, Summer 2003: 47-57.

The African Water Page. 1999. *Financing of community water and sanitation services. The fourth country level workshop in East and Southern Africa.* Mpumalanga Province, South Africa. http://www.wsp.org/English/afr/mpumalanga/keynote_ghosh.html

The Constitution of the Republic of South Africa, Act No.108 of 1996. Pretoria: Government Printers.

Tladi, B.; Baloyi, T.; Schreiber-Kaya, A.; Mathekgana, M.; Mangold, S.; De Klerk, T. & Winde, F. 2002. *State of the Environment Report, 2002,* North West Province, South Africa.

Tumwine, J.K.; Thomson, J.; Katui-Katua, M.;Mujwahizi, M.; Johnstone, N.; & Porras, I. 2003. Sanitation and hygiene in urban and rural households in East Africa. *Environmental Health Research,* 13: 107-115.

WHO. 1993. *Guidelines for drinking water quality*. Second Edition. Volume 1: Recommendations. Geneva: World Health Organisation. ISBN 944154503.

WHO. 2000. *The World Health Report: Making a Difference.* Geneva: World Health Organisation.

WHO. 2003. *World Health Report 2003. Shaping our future.* World Health Organisation. ISBN 9241562439 (http://www.who.int/whr/en/).

WHO/UNICEF. 2000. *Global Water Supply and Sanitation Assessment Report.* Geneva: World Health Organisation. ISBN 944156201.

WHO/UNICEF. 2004. *Meeting the MGD Drinking Water and Sanitation: A Mid-Term Assessment of Progress.* Geneva: WHO/UNICEF. ISBN 9241562781.

WSSCC & WHO. 2005. *Sanitation and hygiene promotion: programming guidance.* Geneva: WHO Press.

Table 1: Demographic characteristics of the participants in percent

Demographic characteristics	**N**	**%**
Age		
17-25	40	7.9
26-35	130	26.4
36-50	194	39.3
50+	130	26.4
Gender		
Male	258	52.3
Female	236	47.7
Marital status		
Single	212	43.0
Married	267	54.1
Divorced	5	1.0
Separated	2	.4
Widowed	8	1.4
Employment status		
Formal employment	257	52.0
Self-employed	4	.8
Unemployed	174	35.2
Student	13	2.6
Other	46	9.3
Highest standard passed		
No education	2	.4

Primary	73	14.7
Secondary	317	64.3
Tertiary	102	20.7

Table 2: Positive responses on motivating factors for adoption of safe hygienic practices in percent

Motivating Factors	**(%)**
Access to water supply resources such as house connections, public stand-pipes, bore-holes with hand pipes, protected springs, etc	91.9
Access to excreta disposal sources such as connection to the sewer or septic tank, pour-flush latrine, ventilated improved pit, etc	93.9
Properly maintained water sources	86.5
Properly maintained excreta sources	92.0
Good general conditions of water sources (fencing, cut grass, soak-away, drains)	90.0
Safe, acceptable and affordable sanitation technologies	92.1
Existence of care takers for preventive maintenance and hygiene education	94.7
Flexible sanitation systems , incorporating respect for community values, perceptions and practices	92.2
Effective hygiene education which emphasise the health risks associated with inadequate sanitation	94.3
Co-ordination and networking among stakeholders	90.6
Continuous sanitation promotion and advocacy	93.0
Political commitment	88.3
Availability of broadly skilled personnel	92.6
Availability of income	76.9
Sanitation programmes that change long-held beliefs through mentioning	84.5

the unmentionable	
Sanitation programmes that also address the needs, preferences and behaviours of children, women and men	89.8
Sanitation approaches that recognize cultural flexibility, awareness and sensitivity, that is, recognise, respect and value culture.	90.6
Sanitation programmes focusing on behaviour and facilities together	88.6
Active local participation	94.3

Table 3: Positive responses on de-motivating factors for adoption of safe hygienic practices in percent

De-motivating factors	**%**
Excessive focus on technical aspects of water and sanitation projects	67.0
Low prestige and recognition for sanitation	77.2
Inadequate resources	79.9
Bottom-down approaches which do not acknowledge the cultural, economic, and social contexts	79.2
Ineffective promotion and low public awareness	78.3
Cultural taboos and beliefs	70.5
Poor sanitation habits e.g. not washing hands before eating	79.7
Lack of local support for sanitation programmes	83.2
Lack of proper sanitation technologies that could be easily maintained	84.5
Lack of enabling environment	86.0
Lack of capacity building	82.1
Lack of monetary and social benefits	79.6
Lack of political will	55.7
The attitude that responsibility lies somewhere	80.7
Wrongly held assumption that sanitation is a toilet issue only	84.5
Lack of hygiene education and training	89.0
Negligence of people	81.5
Ignorance of people	83.6

Table 4: Positive responses on target groups for community promotion of safe hygiene practices in percent

Target groups	**%**
Women	75.9
Men	52.0
Donors	8.3
Councillors	80.6
Traditional healers	89.7
Implementing agencies	80.8
Local media	94.5
Government Departments	78.9
Schools	93.9
Churches	94.5

Table 5: Positive responses on methods for promoting community sanitation in percent

Community sanitation promotion methods	**%**
TV	97.1
Radio	97.8
Newspapers	81.0
Magazines	68.5
Posters and pamphlets	81.9
Home visits	94.3
Educational talks	94.3
Bill boards	69.3
Dramas	67.7
Dances	49.4
Demonstrations	70.0
Educational campaigns	92.4
Events	91.4
Competitions	90.3