

IMPACT OF HEALTH, WATER AND SANITATION SERVICES
ON IMPROVING THE QUALITY OF LIFE OF POOR
COMMUNITIES.

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“DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

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ABSTRACT

Good health is a major imperative for social, economic and personal development, thus an important dimension of quality of life. Quality of life, in turn, is significantly influenced by access to the goods and services provided by the State. Access to infrastructure and services such as water and sanitation, has direct effects on health. Thus, the delivery of health, water and sanitation services should ensure improved access to basic needs, enhance the health profile of poor communities and their access to employment opportunities. Safe clean water supplies and adequate sanitation services therefore are among the major determinants of health. Health-related services such as water and sanitation should ensure a certain average life expectancy and eliminate mass disease and ill health.

Mindful of the fact that there are many factors that determine the quality of life, the aim of the study was to investigate the impact of health, water and sanitation services in improving the quality of life among poor communities. To do this, this study adopted a comparative qualitative analysis approach between poorly serviced and adequately serviced areas. Subsequent to the findings, this study espouses constructive suggestions and recommendations that could act as guidance to community development agencies' strategies in amelioration of the quality of life among poverty-stricken communities. The research was based on a narrow model of services (health, water and sanitation services) that have impact on improving the quality of life among poor communities. The empirical findings of this study indicate these services to be insufficient to draw conclusive findings in other aspects of the survey.

The research was conducted in a sample of 573 households in 6 communities in the Eastern Cape and Western Cape Provinces in South Africa. The sample comprised 3 communities in the category classified as poorly serviced with health, water and sanitation services, and 3 communities that were regarded as adequately provided with these services. The data was gathered by means of structured questionnaires, administered by the researcher with

the assistance of a trained field worker. Additionally, the data was gathered by means of a semi-structured, open-ended interview with a Sister-in-Charge of a clinic in the rural villages. The interaction between variables on the improvement of the quality of life were explored by means of basic statistics, which made it possible to assess the effects of independent and dependent variables.

The results of data analysis provided support for the proposition contained in the premise of the study that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account. As such, the findings of this study have shown that poverty, combined with poor public health conditions, inadequate nutrition, overcrowded poor quality housing, lack of accessible drinking water and sanitation, renders communities vulnerable to ill health.

Given the poor socio-economic conditions prevalent in the communities under investigation, it was not surprising that tuberculosis was most prevalent in all areas. In line with the premise of this study, there were instances that poverty-related factors such as income, housing and nutrition had significant influences with regard to improvement in the quality of life. It became evident therefore that in certain instances, health, water, and sanitation services alone are not sufficient to make conclusive findings. Thus, the impact of poverty-related factors such as income, housing and nutrition necessitate expansion of factors that impact on the quality of life to include their influence.

OPSOMMING

Goeie gesondheid is 'n belangrike vereiste vir sosiale, ekonomiese en persoonlike ontwikkeling, en dus ook 'n wesenlike aspek van 'n goeie lewensgehalte. Toegang tot goedere en dienste wat deur die staat voorsien word, het ook 'n beduidende invloed op lewensgehalte. Boonop het die toegang tot infrastruktuur en dienste soos water en sanitasie 'n direkte invloed op gesondheid. Die lewering van gesondheids, water- en sanitasiedienste verseker dus die bevrediging van basiese behoeftes, onderwyl arm gemeenskappe se gesondheidsprofiel en daarmee saam hul toegang tot werksgeleenthede verbeter word. Toegang tot veilige en skoon waterbronne en voldoende sanitasiedienste is gevolglik van die belangrikste gesondheidsbepalers. Gesondheidsverwante dienste soos water en sanitasie verseker 'n sekere gemiddelde lewensverwagting, en verminder die moontlikheid van wydverspreide siektetoestande.

Met inagneming van die feit dat lewensgehalte deur talle faktore beïnvloed kan word, was die doel van hierdie studie om ondersoek in te stel na die invloed van gesondheids, water- en sanitasiedienste op die verbetering van lewensgehalte in arm gemeenskappe. Gevolglik is 'n vergelykende analise tussen areas met swak dienslewering en areas met bevredigende dienslewering uitgevoer. Op grond van die bevindinge word sekere voorstelle en aanbevelings gemaak wat kan dien as riglyne vir ontwikkelingsagentskappe ter bevordering van die lewensgehalte in arm gemeenskappe. Die navorsing was gegrond op 'n beperkte model van dienste (gesondheids, water- en sanitasiedienste) wat die verbetering van lewensgehalte in arm gemeenskappe beïnvloed. Die empiriese bevindinge van die studie toon aan dat hierdie dienste onvoldoende is om as basis te dien vir beslissende uitsprake oor ander aspekte van die opname.

Die studie het 'n steekproef van 573 huishoudings in 6 gemeenskappe in die provinsies van die Oos-Kaap en Wes-Kaap in Suid-Afrika ingesluit. Die steekproef het bestaan uit 3 gemeenskappe met swak gesondheids, water- en sanitasiedienste, en 3 gemeenskappe waar sulke dienste op 'n

bevredigende vlak voorsien word. 'n Gestruktureerde vraelys is gebruik om die navorsingsinligting in te samel, wat deur die navorser en 'n opgeleide veldwerker toegedien is. Bykomende inligting is bekom deur 'n semi-gestruktureerde onderhoud met die verpleeghoof van 'n kliniek in 'n landelike gemeenskap. Die invloed van die verskillende veranderlikes op lewensgehalte is deur middel van basiese statistiese analise geëvalueer.

Die resultate van die data-analise verleen 'n mate van steun vir die premis van die studie dat hoewel die voorsiening van gesondheid, veilige, skoon water en voldoende sanitasie tot 'n beter lewenstandaard kan lei, die uitwerking daarvan as sodanig nie alle vereistes insluit vir 'n beter lewenstandaard nie, soos voorgestaan deur hoofstroom denkskole in die gesondheidsektor. Faktore wat met armoede verband hou moet ook in ag geneem word.

Die studie se bevindinge dui dus daarop dat armoede, tesame met swak openbare gesondheidstoestande, onvoldoende voeding, gebrekkige behuising en swak water- en sanitasiegeriewe gemeenskappe meer kwesbaar maak.

Weens die swak sosio-ekonomiese toestande in die gemeenskappe in die steekproef, is gevind dat tuberkulose wydverspreid voorkom. Alhoewel die studie se hipotese met betrekking tot verskeie aspekte bevestig is, was daar ook gevalle waar armoede-verwante faktore soos inkomste, behuising en voeding 'n beduidende rol gespeel het. Dit het dus geblyk dat gesondheids, water- en sanitasiedienste nie in alle gevalle voldoende is om swak lewensgehalte te verklaar nie. Dus sal die faktore wat op lewens kwaliteit 'n impak maak, uiteengebrei moet word om vir die invloed van armoede-verwante faktore soos inkomste, behuising en voeding voorsiening te maak.

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TABLE OF CONTENTS

PAGE No

Declaration	I
Abstract	ii
Opsomming	iv
Acknowledgements	vi
Table of Contents	viii
List of Tables	xvi
List of Acronyms	xvii
 Chapter 1. General Overview	 1
1.1 Introduction	1
1.2 The Problem Statement	9
1.2.1 The Research Question	11
1.2.2 The Premise of the Study	11
1.3 Motivation of the Study	11
1.4 Objectives of the Study	12
1.5 Delimitations of the Study	12
1.6. Research Methodology	13
1.6.1 Research Methodology Used	13
(i) Comparative Analysis	14
(ii) Data Collection	14
(iii) Research Sites	16
(iv) Subjects	19
(v) Pilot Study	20
(vi) The Design and Content Areas of the Questionnaire	21
1.7. Ethical Consideration	21
1.8. Structure Outline	21
1.9 Conclusion	22

Chapter 2. General Theoretical Framework	24
2.1. Introduction	24
2.2. The Concept of Quality of Life	24
2.2.1 Indicators	26
2.2.1.1 Quality of Life Indicators	27
(i) Approaches to Measuring Quality of Life	27
(ii) Objective and Subjective Measures	28
(iii) Indicators Used to Measure Quality of Life	29
(a) Survival	29
(b) Nutrition	31
(c) Human Capabilities	31
(d) Social Safety Nets	31
(e) Water and Sanitation	32
(f) Macro-Economic Stability	32
(g) Governance	32
(iv) Key Indicators Used to Measure Quality of Life in South Africa	34
(a) Life Expectancy	34
(b) Adequate Birth Weight	36
(c) Infant Mortality Rate	36
(d) Maternal Mortality Rate	40
(e) Good Nutritional Status of Children	42
(f) Immunisation Against Infectious Childhood Diseases	43
(g) Contraceptive Prevalence	44
2.3 Poverty	45
2.3.1 The Meanings of Poverty and Poor	47
2.3.2 The View of Poverty in South Africa	49
2.3.3 The Problems of Poverty	51
(1) Poverty and Poor Health	54
(ii) Crime	54

(iii) Malnutrition	55
2.3.4 The Disease of Poverty in South Africa	58
(i) Gastroenteritis	58
(ii) Cholera, Typhoid and Dysentery	58
(iii) Measles	59
(iv) Tuberculosis	60
2.3.5 The Role of the State in Alleviating Poverty	62
(i) Approach to Poverty Reduction and Inequality	65
(ii) The Principal Roles of Sub-Saharan African Government in Eliminating Poverty and Hunger	66
(iii) Key Messages of the Human Development Report	67
2.4 The Selected Services to Improve the Quality of Life	68
2.5 The Impact of Health, Water and Sanitation in Improving the Quality of Life of the People	69
2.5.1 Health	70
2.5.2 Economic	71
2.5.3 Social	72
2.5.4 Environment	72
2.6 Exploring Water and Sanitation Services	73
2.6.1 The Sanitation Problem and its Impact	74
2.7 Indicators to Measure the Impact of Health, Water and Sanitation Services in Improving the Quality of Life	80
2.7.1 Access to Basic Sanitation	80
2.7.2 Access to Safe and Clean Drinking Water	81
2.7.3 Access to Health Services	82
(i) Distribution of Services	83
(ii) Cost of the Services	83
(iii) Distance	83
(iv) Service Times	84
(v) Alienation	84
(vi) Quality of Services	84
2.8 Conclusion	87

Chapter 3. The Policy and Legislative Framework	89
3.1 Introduction	89
3.2 Water Services	89
3.2.1 Legislation, Policy Direction and Government Undertakings	90
3.2.2 Free Basic Water Provision in South Africa	91
(i) The Implementation of Free Basic Water Services	93
(ii) Revenue Currently Available for Financing Basic Water	95
(iii) Funding and Grants	96
(a) The CMIP	97
(b) MIG	98
(c) The Equitable Share	98
(d) Local Authority Revenue	99
(e) Subsidies	99
(iv) The New Sources of Revenue from National Fiscus to Support Free Basic Water Policy	99
3.3 Sanitation Service	100
3.3.1 The Provision of Sanitation Services in South Africa	101
(i) The Period of Sanitation Policy Development and Implementation From 1994 to 2001	102
(ii) The Period of Sanitation Policy Development and Implementation from 2001 to 2002	104
3.3.2 Funding Mechanisms	106
(a) MIG	106
(b) The Equitable Share	107
(c) Local Authority Revenue	107
(d) Subsidies	108

(e) CMIP	109
3.3.3 Information and Education Programmes	110
3.3.4 Inter-Sectoral Approach-Roles and Responsibilities for Providing Services	110
3.3.5 Implementation of Sanitation	113
(a) Phased Implementation	114
(b) The Benefits of the Provision of Sanitation Services	115
3.3.6 Challenges	117
3.4 The Provision of Health Services in South Africa	118
3.4.1 The Concept of Primary Health Care	119
(i) The Provision of PHC Services in South Africa	121
3.4.2 The Provision of Free Health Care	123
3.4.3 Telemedicine	124
3.4.4 Services Provided by Health Professionals	126
3.4.5 The Provision of Ancillary Services	127
3.5 Conclusion	129
Chapter 4. Comparison and Analysis of Empirical Findings	131
4.1 Introduction	131
4.2 The Length of Stay in an Area	131
4.3 Access to Sanitation	133
4.4 Access to Clean Drinking Water	141
4.5 Most Prevalent Diseases or Illnesses	148
4.5.1 Scabies	148
4.5.2 Gastroenteritis	149
4.5.3 Tuberculosis	152
4.5.4 Measles	153
4.5.5 Diseases Associated With Malnutrition	155
4.6 Access to Health Services	156
4.6.1 The Type of Health Facility	157

4.6.2 Accessibility of the HealthCare Service	158
4.6.3 Availability of Mobile Clinics	165
4.6.4 Satisfaction with the Health Service	167
(i) The Length of Waiting Time	169
(ii) Perception of the Length of Consultation	171
(iii) Perception of Health Care Workers's Attitudes	173
4.7 Quality of Life Indicators	177
4.7.1 Life Expectancy	177
4.7.2 The Birth Weight	180
4.7.3 Child Mortality Rate	183
4.7.4 Maternal Mortality Rate	185
4.7.5 Immunisation Status of Children 2-5 Years	187
4.7.6 Contraceptive Prevalence	187
4.7.7 HIV/AIDS Awareness	189
4.8 Conclusion	193
Chapter 5. Synthesis of Theoretical and Empirical Assessments	194
5.1 Introduction	194
5.2 Synthesis of Findings	196
5.2.1 Health, Water and Sanitation Services	196
(i) Sanitation Services	196
(ii) Water Services	198
(iii) Health Services	200
5.2.2 Quality of Life Outcomes	202
(i) Life Expectancy	202
(ii) Disease Prevalence	203
(a) Gastroenteritis	203
(b) Measles	204
(c) Tuberculosis	205
(iii) The Birth Weight	206
(iv) Child Mortality Rate	207
(v) Maternal Mortality Rate	208

5.3 Limitations of the Study	209
5.4 Implications for Future Research	210
5.5 Conclusion	211

Chapter 6. Conclusion and Recommendations	212
6.1 Access to Water and Sanitation	215
6.2 Control of Communicable Diseases	218
6.3 Poverty-Related Diseases	222
6.4 Life Expectancy	223
6.5 The Quality of Health Services	224
6.6 Low Birth Weight	225
6.7 Child Mortality	226
6.8 Maternal Mortality	227
6.9 Final Conclusion	228

References	230
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Map of South Africa	17
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Appendices

Appendix A: Questionnaire	
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LIST OF TABLES

	PAGE NO
Table 1.1 Characteristics of the Areas	18
Table 1.2 The Rate of Households Monthly Income	19
Table 1.3 Universe and Sample Size	19
Table 2.1 Trends in Infant Mortality Rate	39
Table 2.2 Trends in Under 5 Mortality	40
Table 2.3 Countries with the Highest Maternal Mortality	42
Table 2.4 Quality of Life Indicators in South Africa	45
Table 4.1 Length of Stay in an Area	132
Table 4.2 Access to Sanitation	134
Table 4.3 Sharing of the Latrine	136
Table 4.4 Satisfaction with the Standard of Living	138
Table 4.5 Access to a Water Tap	142
Table 4.6 Access to a River or Well	143
Table 4.7 Adult Deaths Due to Poverty-Related Illnesses	145
Table 4.8 Disease Distribution	148
Table 4.9 Under 5 Years Babies Deaths	150
Table 4.10 Adult Deaths Due to Diseases of Poverty	152
Table 4.11 Immunisation of Babies	154
Table 4.12 Health Facility Used	157
Table 4.13 Distance to a Health Service	159
Table 4.14 Mode of Transport	160
Table 4.15 Time Spent Travelling to the Health Care Service	161
Table 4.16 Transport Cost to the Health Care Service	162
Table 4.17 Availability of Ambulance Service	163
Table 4.18 Availability of Mobile Clinics	166
Table 4.19 Attitudes Towards Health Care Services	167
Table 4.20 The Length of Waiting Time	169
Table 4.21 The Length of Consultation	171
Table 4.22 Attitudes Towards Health Care Workers	173

Table 4.23 The Age at Death of a Household Member	177
Table 4.24 The Ages of Households Members	178
Table 4.25 The Birth Weight	181
Table 4.26 People Employed in the Households	182
Table 4.27 Child Mortality Rate	184
Table 4.28 Maternal Mortality Rate	186
Table 4.29 Contraceptive Prevalence	188
Table 4.30 HIV/AIDS Awareness	189
Table 4.31 Awareness of HIV/AIDS Spread	190
Table 4.32 Awareness of the Risk of Not Using a Condom	190
Table 4.33 Attitudes Towards the Use of a Condom	191

LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	African National Congress
CBOs	Community-Based Organisations
CMA	Cape Metropolitan Area
CMIP	Consolidated Municipal Infrastructure Programme
CWSS	Community Water Supply and Sanitation
DPLG	Department of Provincial and Local Government
DWAF	Department of Water Affairs and Forestry
EC	European Commission
EU	European Union
GCIS	Government Communication and Information System
GDP	Gross Domestic Product
GEAR	Government Employment and Redistribution
GNP	Gross National Product

HIV	Human Immuno-Deficiency Virus
HPI	Human Poverty Index
IDP	Integrated Development Plan
IFAD	International Fund for Agricultural Development
IMR	Infant Mortality Rate
ILO	International Labour Organisation
LED	Local Economic Development
MIG	Municipal Infrastructure Grant
MMR	Maternal Mortality Rate
MRC	Medical Research Council
NGOs	Non-Governmental Organisation
NSTT	National Sanitation Task Team
OECD	Organisation for Economic Cooperation and Development
PHC	Primary Health Care

PIR	Poverty and Equality Report
QoL	Quality of Life
RDP	Reconstruction and Development Programme
RSA	Republic of South Africa
SAHR	South African Health Review
SALDRU	Southern African Labour and Development Research Unit
SALGA	South African Local Government Association
SANTAG	South African National Task Group
SMMEs	Small, Medium and Micro Enterprises
STDs	Sexual Transmitted Diseases
TB	Tuberculosis
UN	United Nations
U5MR	Under-five Mortality Rate
UNICEF	United Nations Children Fund
UNDP	United Nations Development Programme

VIP	Ventilated Improved Pit
WB	World Bank
WHO	World Health Organisation
WPTHS	White Paper for the Transformation of the Health System
WSSCC	Water Supply and Sanitation Collaborative Council

CHAPTER 1

1. GENERAL OVERVIEW

1.1. Introduction

South Africa has entered a dynamic period of restructuring. It is clear that enormous inequalities in the provision of socio-economic public services, such as health, water and sanitation need to be addressed. These revolve around urban and rural differences, population groups and poverty. Although ambitious plans have been formulated that could lead towards improving the health of everybody, particularly the poor in rural areas, discrepancies still exist. Hence this study investigates the impact of selected socio-economic public services, such as health, water and sanitation, in amelioration of the quality of life among poor communities in South Africa. The approach adopted attempts to provide information that is intended to help measure poor communities' satisfaction with regard to the impact these selected services have on improvement of quality of life. In evaluating the plight of the poor communities, poverty alleviation programmes were assessed through provision of health services, basic community water supply and the creation of employment in developing community water supply and sanitation infrastructure within the frameworks of the Reconstruction and Development Programme (RDP), and the Government Employment and Redistribution (GEAR) policy.

There is widespread belief that access to infrastructure and services such as water and sanitation, has direct effects on health. Improved infrastructure will make a positive contribution to the environment and to the health of the poor. It is poor people in rural areas who lack clean water and who live in unsanitary surroundings, which means that they have more health problems and fewer employment opportunities. The delivery of water and sanitary services therefore will improve access to basic needs; enhance the health profile of the rural poor, and their access to employment opportunities. This will contribute to both employment creation and government revenue, which in turn can be used for delivering additional infrastructure and social services (South African Health Review (SAHR), 1996:15).

Access to basic services, among them health, water and sanitation, is a fundamental right of all people. This right is espoused in Section 27(1) of Chapter 2 in the Bill of Rights of the Constitution of the Republic of South Africa (RSA) (Act 108 of 1996). This provision guarantees that everyone has the right of access to health care services, sufficient food and water. The State is instructed to take reasonable legislative and other measures within its available resources to achieve the progressive realisation of these rights. Within this context for example, in Section 3 (1) of the Water Services Act 1997, it is promulgated that everyone has a right of access to basic water supply and basic sanitation. Every water services institution is instructed to take reasonable measures to realise these rights. As pointed out by the World Health Organisation (WHO) (2000:1), access to safe water and sanitary means of excrete disposal are universal needs and, indeed, basic human rights. They are essential elements of human development and poverty alleviation that constitute an indispensable component of primary health care.

With regard to the provision of health care services, quality of care is increasingly seen as an important consideration when decisions have to be made about the best way to use limited health resources. The South African government has set itself the task of developing a unified health system, capable of delivering quality health care to all its citizens efficiently and in a caring environment. This is in accordance with the principles of the International Conference on Primary Health Care that was held from 16-12 September 1978 in Alma-Ata, former capital of the Kazah Soviet Socialist Republic. The strategic approach adopted by the government is that of a Comprehensive Primary Health Care. The intention is to decentralise management of health services, with emphasis on the district health system; increasing access to services by making primary health care available to all the citizens; ensuring the availability of safe, good quality essential drugs in health facilities; and rationalising health financing through budget reprioritisation (White Paper for the Transformation of the Health System (WPTHS) in South Africa, 1997:5). Of particular importance, one of the goals and objectives of the WPTHS in South Africa is to increase access to integrated health care services for all South Africans, focusing on the rural,

peri-urban, urban poor and the aged, with an emphasis placed on reaching the most vulnerable groups, such as the poor, the under-served, the aged, women and children.

Hill (1997:86) contends that the state of a nation's health is determined by macro-economic and socio-cultural factors, as well as by the provision and consumption of basic goods and services. Therefore, government policies, as well as levels of spending, are critical in establishing the health care environment. It should also be noted that the importance of equity in the provision of essential basic services, such as health, water and sanitation, is increasingly being recognised. For instance, Wilkinson 1996 in the SAHR (1998:7), has argued that socio-economic inequalities are associated with poor health, probably through the stresses generated by social breakdown that accompany inequalities and social segregation. Equity was one of the principles of the "Health For All" strategy developed at Alma-Ata in 1978. The Alma Ata Conference provided a vision of achieving the best attainable levels of health for everybody, through implementation of comprehensive primary health care. Equitable distribution of resources was included as one of the global indicators to monitor progress towards "Health For All" by the year 2000 (WHO 1981 in the SAHR, 1998:7).

This study is undertaken at the time South Africa remains a land of stark contrasts between those that "have", and those that "have not". The extremes of wealth and poverty are unparalleled anywhere else in the world (Department of Water Affairs and Forestry, 2000:1). Having inherited an extremely inequitable distribution of wealth, South Africa has one of the largest gaps between the richest and the poorest people of any country in the world (Central Statistics 1997 in the SAHR, 1998:7). This phenomenon is highlighted in the SAHR (1998:1) of South Africa as a land where some people have amongst the best standards of living, good health, access to health services and care, and some have poor living standards, a great deal of ill health and poor access to health care.

Clean and sufficient quantity of water, together with the adequate disposal of human excreta is a necessary but not sufficient condition for health in the home environment. According to the SAHR (1996:16), the minimum amount of water regarded as necessary for the maintenance of health is 20 litres per capita per day. Arguing along similar lines, it is perceived in the National Sanitation Policy (1996:15) that the minimum quantity of 25 litres per person per day is required for direct consumption, for the preparation of food and for personal hygiene. It is not considered to be adequate for full, healthy and productive life, which is why it is considered as a minimum. Many diseases, such as diarrhoea, intestinal helminth infestation, poliomyelitis, typhoid, schistosomiasis and cholera may result from poor sanitation and unhygienic practices. An adequate supply of clean water and sanitation is fundamental if health is to be preserved. Yet there are many people in South Africa, especially in the rural areas, who have access to neither.

As pointed out by De Beer (1984:7), the poor in South Africa do not have adequate sanitation or clean water supply. This has a devastating impact on their health, exposing them to a wide range of diseases. De Beer (1984:8) therefore contends that the infective organisms that cause gastroenteritis are spread in three main ways, namely; a lack of clean water to drink, inadequate sanitation that allows the spread of faecal matter, and insufficient water for washing, which also promotes the spread of faecal matter to food and eating implements. Furthermore, the existence of cholera and typhoid as major hazards in the rural areas is directly related to the fact that people need to use polluted water sources. In addition, a number of skin diseases, eye infections and other illnesses, which are related to poor hygiene, are prevalent in areas where scarce or polluted water supplies coincide with other predisposing factors to promote the spread of these diseases.

Bilharzia is another debilitating illness, the prevalence of which derives from people being exposed to infected water sources because of the non-availability of clean water. The absence of reticulated water does not only mean that the supply is polluted and limited, but that the water source is often a long distance from the household. This means that people often spend

hours everyday walking to the water supply, waiting their turn at the spring, and then carrying small but heavy quantities of water home. This drastically limits the time available for any form of economic activity, which might help the burden of poverty (De Beer, 1984:8).

South Africa, with a per capita Gross National Product (GNP) of more than R8500, was classified as an upper middle-income country. Given its resources, South Africa could afford to feed, house, educate and provide health care for all its citizens. Yet apartheid and economic exploitation have created gross and unnecessary inequalities among the South African population (Reconstruction and Development Programme (RDP), 1994:14). As pointed out in the WPTHS in South Africa (1997:11), although classified as a middle-income country and spending 8,5% of the Gross Domestic Product on health care, South Africa exhibits major disparities and inequalities as the result of former apartheid policies which ensured racial, gender and provincial disparities.

The majority of the population of South Africa has inadequate access to basic services including health, clean water and sanitation. Statistics for 1994 suggested that between 35% and 55% of the population lived in poverty. Fifty three percent (53%) of the population lived in rural areas, the vast majority of whom were poor (seventy-five per cent of the poor live in rural areas). Women and children were amongst the most vulnerable groups in South Africa. Sixty-one per cent (61%) of children in South Africa lived in poverty, and women were also disproportionately represented among the poor. It was estimated that the Infant Mortality Rate (IMR), Under-five Mortality Rate (U5MR) and Maternal Mortality Rate (MMR) were much higher than expected of a country with South Africa's level of income.

Poverty is widely recognised as a major determinant of the health status of individuals, households and communities, and gains in health would only be possible if the government succeeded in its efforts to provide public services that have direct and indirect impact on the health status of individuals. According to the RDP (1994:14), poverty was the single greatest burden of

South Africa's rural people, and was the direct result of the past apartheid system and the grossly skewed nature of business and industrial development which accompanied it. Poverty affected millions of people, the majority of whom lived in the rural areas and were women. As pointed out in the RDP (1994:14), it was estimated that there were at least 17 million people surviving below the Minimum Living Level in South Africa and of these, at least 11 million lived in rural areas. Over the past few decades several research studies and conferences, both internationally and in South Africa, have attempted to quantify poverty as a problem pertaining to the denial of basic socio-economic rights and sought solutions. An important baseline study, "Key Indicators of Poverty in South Africa" was undertaken for the RDP by the office of the State President of South Africa. It painted a bleak picture of the rampant poverty and resultant ill health that challenged South Africa's new democracy (SAHR, 1999:2-3). Hence the democratic government in South Africa embarked on development initiatives that seek to redress the imbalances of the past, through formulation of policies such as the RDP.

As suggested in the RDP (1994:14), it is not merely the lack of income, which determines poverty, but an enormous proportion of basic needs that are presently unmet. For example, what emerged from the "Speak Out on Poverty" hearings held between March and June 1998, was that poverty is not only about a lack of money or material goods, but also about the absence of opportunities and choices that people need to build decent lives. Despite acknowledging that there had been some improvements since 1994, many people expressed disappointment with the rate of delivery of promised services. Poor access to water, both for domestic and productive purposes, featured prominently in virtually all the hearings, in both rural and peri-urban areas. Several people noted the benefits of the newly established clinics in their areas. However, there were complaints about the long queues at health facilities, the inadequacies of the facilities, the arrogant attitudes of workers, areas distant from a fixed facility, and the infrequent visits of mobile clinics. Many people experienced difficulty in getting to a clinic, or once there, found no medicines to treat their illnesses (SAHR, 1999:4).

Against this background, and in line with the United Nations Children Fund (UNICEF), who concentrates its activities on health, water supply and sanitation programmes, this study attempts to provide information on the role of these socio-economic public services in improving the quality of life among poor communities in South Africa. According to the argument by China and Malan (2000:5), the measurement of levels of poverty needs the consideration of three forms of capital, namely:

- Human capital - those factors which influence the ability of an individual to work and to earn an income.
- Productive capital - the physical assets an individual requires in order to produce goods and services for subsistence.
- Social capital - networks of trust and norms embedded in the social organisation of communities.

Poverty therefore is the result of a shortfall in any combination of these forms of capital, and not only of a lack of income (China & Malan, 2000:5). Arguing along similar lines, Chambers (1983:36) contends that poverty is to be understood primarily in terms of economic forces, social relations, property rights and power. It is the socio-economic phenomenon whereby the resources available to a society are used to satisfy the wants of the few, while the many do not have even their basic needs met. This conceptualisation features the point that poverty is essentially a social phenomenon, and only secondarily a material or physical phenomenon. Thus, the use of natural resources in addressing poverty is central to rural development in South Africa. Democratisation and the post-apartheid government's commitment to reconstruction and development provide new opportunities to address this challenge. Hence this study investigates the impact of selected socio-economic public services in improving the quality of life for poor communities.

As Swart (2001:2) suggests, a review of poverty in South Africa has to take cognisance of the multi-faceted nature of poverty, the socio-economic conditions that support it, and the processes that perpetuate it. But the choice

of theoretical approach to measuring poverty also influences the strategy, targets and evaluation criteria to be used in poverty eradication. While the Human Development Index for South Africa is 0,677, values for the Eastern Cape, the Limpopo Province and KwaZulu-Natal are 0,507 and 0,602 respectively. The indices for the Eastern Cape and Limpopo Province are similar to those for the poorer countries of the world, such as Lesotho, Papua New Guinea and Cameroon. KwaZulu-Natal's index compares more with the medium range of countries, such as Lebanon and Mongolia (Swart, 2001:2).

According to Swart (2001:2), theoretically, a composite index of needs in a specific area can be used as a basis for the allocation of resources. Needs indices, using non-urban population, the poverty gap, and lack of access to sanitation as indicators, were constructed for the various magisterial districts in the study done by Swart. Although the needs index is a blunt instrument, it is useful for highlighting districts with the most poverty. In this study by Swart, the poorest third of districts were identified for each province, as well as for all three provinces combined. The districts identified as poorest were all formerly part of the homelands. In addition to living primarily in the former homelands, the study by Swart revealed that the rural poor have other shared characteristics.

Analysis of the Project for Statistics on Living Standards and Development (PSLSD) data shows that the poorest 20% of households spend less than R120 a month per adult equivalent. Of this amount, nearly 60% is spent on food. More than half the labour force is unemployed, and nearly half of the households depend on transfers as their primary source of income. The poorest 20% of households are mainly rural and African, and women head nearly one half. Over four-fifths have no modern facilities, and about the same percentage of households have less than a primary level education (i.e. seven years). One third of children are chronically malnourished. Nearly three-quarters of these households expressed their dissatisfaction with the performance of government, and over one half named jobs as the preferred way in which government could improve their lives.

1.2. The Problem Statement

It is against this background of the burden of poverty that affects millions of people, the majority of whom live in rural areas, that this study seeks to investigate the impact of selected socio-economic public services in amelioration of the quality of life among poor communities in South Africa. As mankind reaches out for the stars, there remain large numbers of the poor who are unable to live a fully human life. Indeed, the South African rural population is characterised by the pervasive degrading poverty of its millions. People are far-removed from social infrastructure, such as schools and medical care; employment opportunities are scarce and spread over a huge distance. Thus isolation of poor families in rural areas contributes to a high rate of illiteracy.

Lack of reliable transport further increases isolation. The South African Government has still been unable, despite definitive policy statements, to lay greater emphasis on the provision of public services in rural areas. The argument therefore is that persistent poverty on a large scale within the rural population in South Africa does not speak well of State interventions to ameliorate the situation. This feature does not augur well for democracy in this country. Therefore, the provision of the minimum bundle of goods and services that are required for a basic existence in rural areas becomes essential.

Among a list of basic services, the selected socio-economic public services that are of utmost importance to the researcher are the provision of health, water and sanitation. However, it becomes evident from the exploration of literature that rural communities have for decades endured living under unsanitary conditions as a result of the failure of governments to render these basic services. The argument by the researcher therefore is that the provision of public services, through development initiatives, which all these years should have focused on the poor, seems to have by-passed rural communities. In support of this argument, Michael Lipton of the Sussex University, one of the authors of the Rome-based International Fund for

Agricultural Development (Ifad) report for the United Nations (UN), pointed out that current development efforts grossly and increasingly neglect agricultural and rural people in the developing world (Cape Argus, 5 February 2001). This is consequent to the urban bias; that is, the preferential treatment cities get at the expense of neglecting rural public service provision.

Against the commitment of the South African government in improving the living conditions of poor people, particularly rural poor communities, this study attempts to measure the impact of health, water and sanitation services in improving the quality of life of people. To do this, this study compares the quality of life in communities in the townships, which are in the category classified as well serviced with these services, with those of communities in the category classified as inadequately served. Mindful of the fact that there is no consensus over a definition of quality of life, in this study, the focus on the quality of life is in relation to health and social well-being. The focus is on the quality of life that consists of the possession of resources necessary to the satisfaction of individual needs, wants and desires in the area of health and social services.

It is well documented in the literature survey that access to infrastructure and services such as water and sanitation, has direct effects on health. Improved infrastructure will make a positive contribution to the environment and to health of the people. The delivery of water and sanitation services could improve access to basic needs; enhance the health profile of the people, and their access to employment opportunities. This could contribute to both employment creation and government revenue, which in turn could be used for delivering additional infrastructure and social services. It is the poor, particularly in rural villages and in urban informal settlements who lack clean water and who live in unsanitary surroundings. This means that they have more health problems and fewer employment opportunities.

As pointed out by De Beer 91984:7), the poor in South Africa do not have adequate sanitation or clean water supply. This has a devastating impact on their health, exposing them to a wide range of diseases. Thus, exposure to a

wide range of diseases impacts adversely to acquiring good quality of life. Moreover, it is estimated that the Infant Mortality Rate (IMR), Under-five Mortality Rate (U5MR) and Maternal Mortality Rate (MMR) are much higher than expected of a country with South Africa's level of income. High Mortality Rate is one of the main indicators of the poor quality of life in a given country. The discussion of this study is from the premise that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account.

1.2.1 The Research Question

In terms of development initiatives that seek to alleviate environmental risk factors in poor communities, to what extent has the provision of good quality health, safe clean water and basic sanitation services improved the quality of life of poor communities in South Africa?

1.2.2. The Premise of the Study

The researcher argues that although the provision of health, safe clean water and adequate sanitation services lead to the improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account.

1.3. Motivation of the Study

The topic is selected because of slow progress in current development efforts by the South African government that seeks to improve the standard of living for poor rural communities. As the researcher was born and bred in a rural village in the Eastern Cape Province, the choice of the topic is dictated by a deep-seated interest in the plight of rural communities. Moreover, the choice

to investigate public services that impact on the health status of individuals is dictated by the fact that the researcher is a nurse by profession.

1.4. Objectives of the Study

- To evaluate the impact of the provision of public services, such as health, water and sanitation services, in the improvement of the quality of life in poor communities.
- To explore the nature of local action in the context of the poor provision of health, water and sanitation services. The aim is to learn how successfully members of deprived communities with these services draw on their own resources or ameliorate their living conditions, as they seek to survive.
- In areas where these services are adequately provided, the aim is to measure the impact health, water and sanitation services have on amelioration of people's quality of life, with reference to the prevalence of poverty-related diseases.
- The purpose of this study therefore is to provide a comparative qualitative analysis of the impact of health, water and sanitation services in improving the quality of lives. The results are aimed at providing oversight and stimulate constructive suggestions and recommendations that will act as guidelines to local development policies and poverty reduction strategies by development agents.
- To share with the health profession where outdated paradigm regarding health services is still prevailing, the lessons learnt by the development practitioners about holistic and integrated strategies in order to alleviate poverty and improve the quality of life.

1.5. Delimitations of the Study

This study will confine itself to investigating the impact of health, water and sanitation services, but will only acknowledge the intervening influence of other factors. In this study, it is not intended to be exhaustive of all socio-economic public services provided by the government, but to focus only on the provision of health, water and sanitation.

1.6. Research Methodology

The methodology of data collection is fundamental in ensuring that the results produced are authentic. The instruments of measurement should be reliable so that they can stand the test of ensuring validity and empirical evaluations. This can be achieved if the researcher adheres to the principles of objectivity. To achieve relative objectivity, researchers are required to use instruments that measure what they purport to do through scientific research. Vlok defines scientific research as a process of finding valid answers to questions, which have not yet been satisfactorily answered (1982:1). As Vlok (1982:1) and Bless and Higson-Smith (1995:12) suggest, scientific research aims at discovering new facts about nature and human beings or new relationships among known facts by means of empirical methods.

The aim of the scientific method is to make unbiased observations that enable the researcher to come to valid conclusions about the meaning of his or her observation. However, even though researchers may strive to minimise the impact of bias when conducting their research, it is difficult, if not impossible to achieve total objectivity (Johnson & Joslyn, 1986:22). Within the context of objectivity, it was the aim of this study to strive to minimise the impact of bias when conducting this survey so as to come up with justifiable empirical conclusions. Statistical data from the case studies will be used to provide the basis for the explanation of the impact of health, water and sanitation services in improving the quality of life among poor communities. The layout and presentation of the data will be reported in terms of basic statistics and tables.

1.6.1 Research Methodology Used

This study is an exploratory, qualitative research product. The methodology used to collect the empirical data is summarised here under the following systematic headings:

- Comparative analysis
- Data Collection
- Research Sites.
- Subjects of the study.

- Pilot study.
- Content Areas of the Questionnaire

(i) Comparative Analysis

The impact of the provision of health, water and sanitation services in amelioration of the quality of life of people living in the townships, which are classified in this study in the category of well serviced areas, is contrasted with the services of people living in the category of areas classified as inadequately serviced rural villages and informal settlement.

(ii) Data Collection

Household data collection and key informant interviews for this cycle or stage of the research took place during January to June 2003. The data was collected in the categorised areas using a structured questionnaire (**See Appendix A**). The researcher trained one fieldworker for one day to help with the collection of data. The researcher knew the fieldworker from previous fieldwork activities for a Non-Governmental Organisation (NGO), in which the fieldworker was one of the trainees that received training and fieldwork guidance from the researcher. The fieldworker had previous experience in at least three field surveys. The training provided an understanding of the project, standardised administration of the interviews and reiterated the issues of confidentiality, quality control and logistics. The fieldworker accompanied the researcher into the field and was guided and supervised.

In the informal settlement and rural villages, because the areas were small and most houses were locked with nobody inside, the number of houses that had respondents that could be interviewed determined the sample size. The researcher went from house to house and personally conducted the

administration of the questionnaires without the assistance of the fieldworker. Only in the townships did the fieldworker assist the researcher. In the rural villages, the chief of the region, Chief Khawulele Mgudlwa, and his councillors were consulted prior to the conduct of the survey, and they granted the necessary permission. In the case of the squatter area and townships in urban areas, municipal authorities and civic organisations were notified and they granted permission to the researcher to conduct the survey.

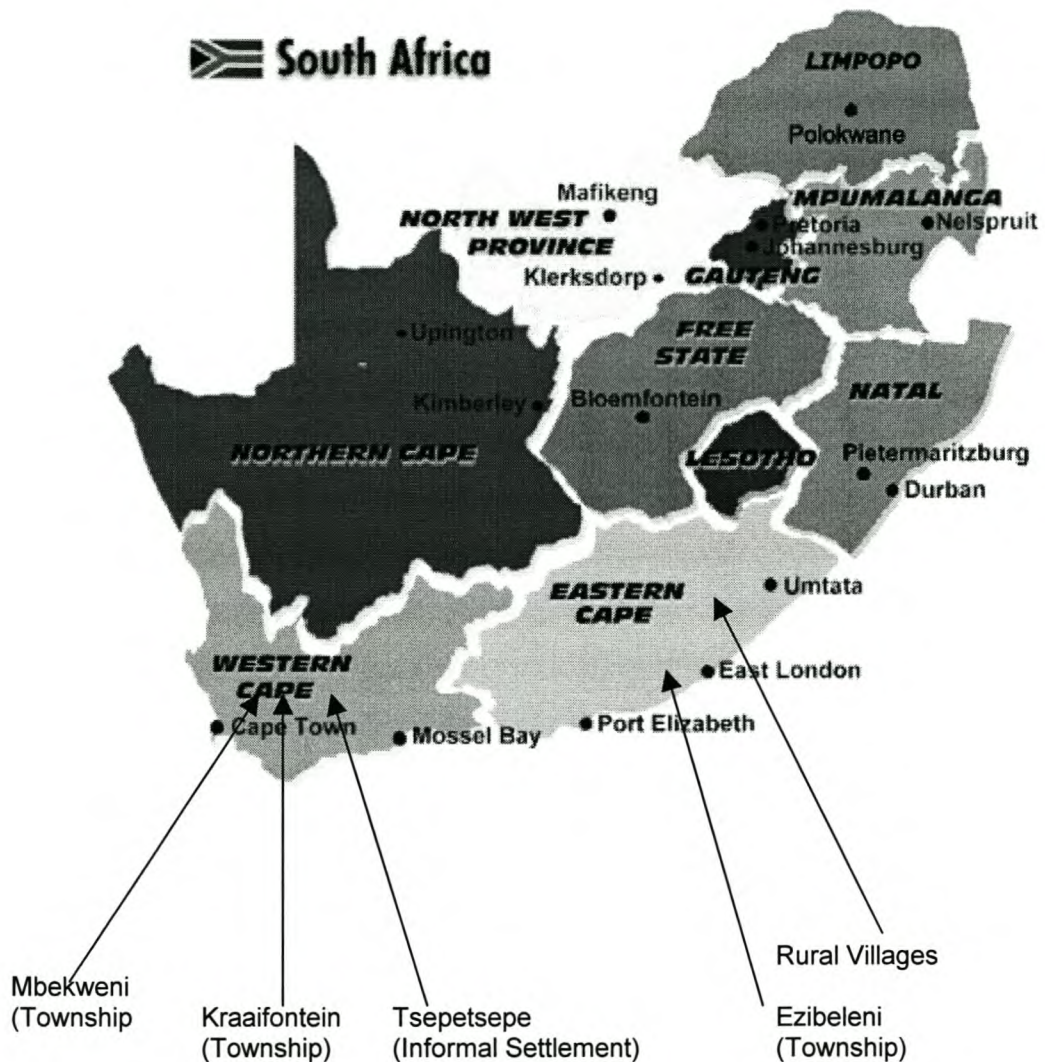
Interviews were conducted in the participants' indigenous language of choice, which was Xhosa. The average duration of the interview and completion of the questionnaire lasted approximately 15 to 20 minutes, which was sufficient time to elicit the necessary information. Some interviews lasted longer, especially in the rural villages where respondents often diverted from the question asked due to illiteracy and the anticipation that the researcher had come to resolve the problems they were confronted with. The researcher, however, clarified the purpose of the visit and expelled the perceptions that he was a "saviour" to the problems that engulfed the communities.

Confidentiality was a strong focus of the data collection process. No record was made of the name or address of the household informants alongside any information that they provided. As such, there is no means to trace data back to any individual participant. On entering a house, the researcher introduced himself and explained the purpose of the visit. In the townships, because the areas to be covered are huge, households were selected in a random purposeful method. The areas were divided into zones, which enabled the method of selection. In each zone, depending on the size of the area, one or two households in a street were randomly selected. This means that any house in a street stood a chance of being selected. The

approach was that all areas in the township should be entirely covered as far as possible. The aim was not to concentrate on one particular area, which would obscure the coverage of the experiences of the entire community. In the squatter areas and rural villages, a door-to-door sequence was practised because the areas were small and in many instances, most houses were locked with nobody inside. This limited the number of houses to be covered.

(iii) Research Sites

The field research involved in the gathering of data for this study was carried out in six poor communities. This consisted of four rural villages in the category classified as poorly served or non-provided with health, water and sanitation services, and one township falling in the category classified as good or well served with these services in the Eastern Province of the Republic of South Africa. In this study, townships are classified as well or good serviced in relation to reasonable distance accessibility of health care services, access to piped water and flush toilets within household premises. In the Western Cape Province of the Republic of South Africa, one squatter area or informal sector in Khayelitsha classified as poorly or non-provided with these services and two townships classified in the category of good or well served with these services were investigated as shown in the map below.



The reasons for the choice of these areas as suitable foci of investigation are the following: Firstly, because of economic reasons, that is, to save time and costs, the areas in the Western Cape were selected for convenient access purposes. The choice of township of Mbekweni in particular was based on the fact that the fieldworker originates from that area. She was therefore familiar with the surroundings, which would ease the effort of getting to know the place for sampling purposes. The township of Kraaifontein was also chosen because it lies nearby Mbekweni, thus accessible and the surroundings were familiar to the fieldworker. The choice of the informal settlement of Tsepetsese was also guided by convenience because the researcher is familiar with the surroundings.

The rural villages in the district of Qhumanco in the Eastern Cape Province of the Republic of South Africa were selected mainly for their uniqueness, with regard to backwardness and non-existence of water and latrines. For example, the recent outbreak of cholera in February 2003 due to lack of access to clean water and toilet facilities influenced the decision to opt for these areas for investigation. Table 1.1 and 1.2 below reflects the characteristics of each area.

Table 1.1 Characteristics of the areas

Characteristics	Informal Settlement	Rural Villages	Townships
Nature of Toilet Used	Bucket & Pit Latrines	Pit Latrines & Veld or Bush	Flush Toilet
Nature of Accessible Water	Communal Piped Water	River or Well contaminated water	Piped Water within premises
Accessibility of Health Services	Reasonable Access	Reasonable Access	Reasonable Access
Refuse Collection	Yes	No	Yes
Accessibility to Electricity	Yes	No	Yes
Eldest in the Family	59 years	89 years and above	89 years
Population	550	969 people	49537

Table 1.2. The Rate of Households Monthly Income

Monthly income	Squatter	Village	Townships
No income	3	123	106
Less R1000	27	13	80
Less R2000	20	6	43
Less R3000	7	5	48
R3000 and more	3	13	76
TOTAL	60	160	353

(iv) Subjects

The sample consisted of 573 respondents. This included 60 households from the squatter area, 160 households from the rural villages, and 353 households from the townships. The smaller universe in the rural villages and the informal settlement guided the sample size in other areas. In the rural villages, most houses were empty. Neighbours of those empty houses indicated that the owners were working in urban areas. The statistician, whom the researcher consulted, suggested therefore that there should not be a huge contrast in terms of population size between the subjects in well-serviced and poorly serviced areas. Table 1.3 below reflects the universe and the sample in each community.

Table 1.3. Universe and sample size

Area	Population	Sample Size
Tsepetsape (Informal Settlement)	550	60
Villages	969	160
Townships	49537	353

Stats SA 2001 Census

The researcher began the survey in the informal settlement. Out of 147 households, 60 respondents could be interviewed because other houses were locked with nobody inside. The survey proceeded to the rural villages, where a door-to-door sequence was also practised. The same problem of empty houses was experienced. Out of 4 villages, 160 respondents were interviewed. As indicated earlier in the discussion, the sample selection in the townships was dictated by small universe in both the rural areas and informal settlement. As suggested by the statistician from the University of Stellenbosch, for comparison reasons, the contrast in terms of population size between the subjects in well-serviced townships and poorly serviced rural and informal settlement should not be huge. Hence the sample selection of 353 subjects in the townships, which was 133 more than 220 respondents from the poorly serviced areas.

(v) Pilot Study

A pilot study is a smaller version of the actual study to be conducted to refine the methodology. The initial version of the questionnaire was subjected to a pilot study of 36 participants, comprising of colleagues and relatives in Cape Town, with the following aims in mind:

- Firstly, to assess how well respondents would understand the phraseology and constructs used in framing questions. The aim was to exclude any ambiguities or misunderstandings that could seriously affect the reliability and validity of results.
- Secondly, to determine the length of time it would take to complete the questionnaire. It was important to monitor the time it would take to complete the questionnaire because longer questionnaires, although allowing the researcher to gather more data, often have a negative effect of boring participants and consuming more time on the part of the researcher to achieve the required target number.

The conduct of the pilot study resulted in the identification of ambiguities and redundant items. Consequently, the questionnaire was refined to exclude these ambiguities and redundant items. No new items were generated during this exercise. The pilot study did not form part of the sample of 573 participants.

(vi) The Design and Content Areas of the Questionnaire

After an in-depth study of the literature, the design and content of the instrument was specifically developed for the purpose of the study. The researcher and the assistant completed the questionnaire. After posing the specific question, the answer of choice was marked with an "X" or a tick. For the rest of the content areas of the questionnaire, see attached copy in Appendix A.

1.7. Ethical Consideration

Approval to conduct this study was obtained through presentation of the research proposal to the panel of academic staff at the University of Stellenbosch. The permission of the authorities in the targeted communities was asked and granted prior to the conduct of the survey. To protect the human rights and welfare of the individual, all participants were fully informed about the purpose of the study. The introductory phase on the front page of the questionnaire clearly stated that participation was voluntary and anonymous. Interviewees' permission was sought prior to commencement of such interviews. Also, the right to privacy and confidentiality was assured and strictly adhered to. This was necessary because researchers should have high concerns for protecting privileged information and their informants.

1.8. Structure Outline

- The first chapter introductory phase discussing poverty, public services and the diseases associated with non-existence of these services. The problem or research problem is identified. The researcher compares the research question with the hypothesis of the study. Furthermore, the aims, limitations, and research

methodology to be followed has been highlighted. Ethical consideration and clarification of concepts to be used have been incorporated in this section.

- The second chapter provides the general theoretical framework. It entails an in-depth exploration of literature on theories and associated variables of the research topic.
- The third chapter focuses on the policies and legislation that impact on the delivery of health, water and sanitation services in South Africa.
- The fourth chapter reports on the findings of the survey by means of tables, and an in-depth analysis of empirical findings.
- The fifth chapter provides a synthesis of theoretical and empirical assessments.
- The sixth and final chapter contains the conclusions and recommendations. In the concluding remarks, the researcher draws together the findings and examines their implications for poor communities. In particular, this entails exploration of alternative ways of dealing with problems identified.

1.9. Conclusion

This section began with a discussion of infrastructure and services in rural communities. The point has been made that poor rural communities lack clean water and live in unsanitary surroundings. Consequently, they tend to have more health problems. Many diseases, such as diarrhoea, intestinal helminth infestation, poliomyelitis, typhoid, schistosomiasis and cholera were highlighted as resultant from poor sanitation and unhygienic practices. However, in terms of the Constitution of the Republic of South Africa (1996), the discussion pointed out that everyone is guaranteed the right of access to health care, sufficient water and adequate sanitation services.

It was also argued that despite the adoption of the comprehensive primary health care approach in terms of the principles of the Alma-Ata of 1978, discrepancies in the provision of these selected socio-economic public

services still exist. This is in relation to bias between urban and rural areas, in terms of people in urban areas who receive a better comprehensive package of services than those living in remote rural areas. The argument went further to illustrate inequities in terms of stark contrasts between the "haves" in cities, and the "have not" in rural areas. In-depth description of poverty that affects millions of rural population forms part of the main discussion of this section. The problem statement, premise and motivation of the study, limitations, and research methodology followed and ethical considerations are also incorporated in this section. The following chapter is an in-depth exploration of the relevant literature reviewed in terms of the topic of this study.

CHAPTER 2

2. GENERAL THEORETICAL FRAMEWORK

2.1. Introduction

This chapter explores the concept of the quality of life and associated indicators. Exploration of quality of life is in line with the topic of this study that investigates the impact of health, water and sanitation services on improving the quality of life of poor communities. Moreover, an exploration of poverty-related problems in advancement of the argument that poverty is intrinsically linked to accessibility or deprivation of the services under investigation (health, water and sanitation), which is impacted upon by the economic status of a given community. In terms of the premise of the study that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account. Hence the exploration of poverty-related problems, which are widely recognised as a major determinant of the health status of individuals, households and communities in South Africa. Lastly, health, water and sanitation services are also discussed.

2.2. The Concept of Quality of Life

There is no consensus over a definition of quality of life. In general terms, quality of life can be defined as a grade of “goodness”. It can be defined as the degree of well-being, satisfaction and standard of living. The Quality of Life Research Unit at University of Toronto contends that the quality of life is an area of study that has attracted a great deal of interest over the past ten years, particularly in the areas of health and social services, but increasingly in medicine, education, and others. It views the study of the quality of life, as an examination of factors that contribute to the goodness and meaning of life, as well as people’s happiness.

The study of the quality of life also explores the inter-relationships among these factors. Thus, the ideological thrust of quality of life study is to promote means for people, within their environments, to live in ways that are best for them. The ultimate goal of quality of life study and its subsequent application to people's lives, is to enable people to live quality lives, that is, lives that are both meaningful and enjoyed (Quality of Life Research Unit, University of Toronto). Quality of life, in relation to health is a broader concept than personal health status, and also takes social well-being into account (Bowling, 1997:6). Shin & Johnson have suggested that quality of life consists of the possession of resources necessary to the satisfaction of individual needs, wants and desires, participation in activities enabling personal development and self actualisation. This includes satisfactory comparison between oneself and others, all of which are dependent on previous experience and knowledge. (Quoted in Bowling, 1997:6).

Patterson approached this differently by identifying certain characteristics deemed essential to any evaluation of quality of life. These included general health, performance status, general comfort, emotional status and economic status, all of which are contributory to the proposition made by Shin and Johnson (quoted in Bowling, 1997:6). Basically, quality of life is recognised as a concept representing individual responses to the physical, mental and social effects of illness on daily living, which influence the extent to which personal satisfaction with life circumstances can be achieved. It encompasses more than adequate physical well-being. It includes perceptions of well-being, a basic level of satisfaction and a general sense of self-worth. Arguing along similar lines, the World Health Organisation Quality of Life Group (1993) has included in their definition of quality of life the individual's perception of their position in life in context of the culture and value systems in which they live and, in relation to their goals (Bowling, 1997:6).

Considering that this study investigates the impact of health, water and sanitation services in improving the quality of life in poor communities, the following sub-section explores indicators as a concept that could lead to a detailed description and measurement of the quality of life. The aim is to

carefully select the observable phenomena within the communities under investigation.

2.2.1. Indicators

There are many different definitions and types of indicators. As Cloete (2000:225) points out, observable impacts can be measured and assessed directly by using various quantitative and qualitative analytical techniques. But symbolic or intangible impacts cannot be measured directly. The definition provided by Barrows refers to indicators as means whereby various thresholds are translated into measurable terms (that is, basic measures of performance). Indicators thus help describe environmental quality and allow the measurement for progress. They can also provide a summary of information. (Quoted in Parnell & Pieterse, 1999:63). Some indicators are “composite”, that is, based on several parameters, an example being a “quality of life” index. Referring to social indicators as measures means that they usually involve quantifiable information. Indeed, social indicators are typically, though not always, based on social statistics (Miles, 1985:17).

Arguing along similar lines, Miles 1989 in Cloete (2000:225) defines an indicator as a measuring instrument used to give a concrete, measurable, intangible concept. A family’s “quality of life” can, for example, be measured by subjective as well as objective indicators. Subjective indicators are the family’s own internal perceptions of their quality of life, while objective indicators are externally measurable levels of their educational, health, cultural, social, income and expenditure levels, as well as the accommodation, infrastructure and other facilities available to them (Schneider 1976 in Cloete, 2000:225). Carabine & O’Reilly (1998:16) point out that social scientists sometimes take a basic definition of poverty and operationalise it so as to provide indicators that can lead to a detailed description and measurement of poverty. Operationalisation of concepts is common practice in social science, as scientists need to select carefully

observable phenomena representative of the set of meanings of the abstract concepts they investigate. Despite the possibility of misleading figures, skewed statistics, and deliberately ignoring the non-measurables, such measurements and figures can provide extremely useful profiles of various aspects of a multi-dimensional phenomenon, such as poverty. However, no indicator is sufficient in itself to describe all the dimensions of poverty. Thus several indicators combined can provide a profile or index of a specific case of poverty (Carabine & O'Reilly, 1998:16).

2.2.1.1 Quality of Life Indicators

Quality of life indicators are statistical measures of health, social, and economic situations. They vary among populations, geographic areas and, may improve or decline over time. As they are indicators only, they do not include the full meaning and causal relationships behind the change. Quality of life indicators therefore must be carefully selected for relevance to various elements that are to be measured (Edmonton Social Plan, 2000:1). Ideally, any indicator to measure the quality of life should incorporate all the attributes that enhance or improve human well-being.

(i) Approaches to Measuring Quality of Life

Singapore's First Public Housing Community Portal (2000:1) has identified three approaches to determining quality of life. The first approach looks at the characteristics of the good life. These are dictated by the normative ideals based on a religious or philosophical stance. Using this approach, it could be believed that good life must include helping those involved in community work or service because this is guided by the society's religious or value principles.

The second approach is based on the satisfaction of preferences. This approach is based on the assumption that people will select those things that will most enhance their quality of life within the constraints of the resources and means. This approach to utility or the good life is based on economic or commercial reasons.

The third approach is in terms of experience of the individuals. If a person experiences his or her life as good and desirable, it is assumed to be so. Using this approach, factors such as feelings of joy or pleasure, life satisfaction, happiness and contentment are important. This approach is associated with subjective well-being perspective used in behavioural or psychological sciences.

(ii) Objective and Subjective Measures

In view of the multi-dimensional nature of quality of life, the common indicator used to determine quality of life will therefore comprise both objective and subjective measures. In many quality of life studies, the objective measures are often used because they are objectively verifiable aspects of life, such as the state of economic and social conditions. These measures focus on material provision and rely heavily on the national income accounts, which look at the degree of fulfilment of the basic needs in a society (Singapore's First Housing Community Portal, 2000:1).

On the other hand, subjective measures are much more difficult to ascertain as they comprise measures of feelings about life and how people perceive their own quality of life through the assessment of satisfaction and

happiness. Ideally both objective and subjective indicators should be used in order to yield a composite and comprehensive picture of individual living conditions. The difficulty, however, lies in getting a convergence of both sets of indicators where some definitive conclusions about quality of life can be drawn.

(iii) Indicators Used to Measure the Quality of Life

It is widely accepted that income is but one of many dimensions of poverty. Other dimensions include the following:

- The opportunity to survive beyond childhood and to lead a long and healthy life;
- Availability of adequate food in sufficient quantity and with a high degree of reliability;
- The ability to read and write and the opportunity to obtain those skills through education;
- The protection from man-made and natural disasters; and
- Good governance (Mukaruka, 2000:8).

To this end, the following indicators are used to measure the quality of life:

(a) Survival

The aspect of survival is typically measured through life expectancy and mortality indicators. Life expectancy at birth, infant and under-five mortality rates and the maternal mortality rates are most commonly used in this context. In order to inform policy-making, it is important to disaggregate infant and under-five mortality rates at least by sex and by rural and urban strata.

The poverty reduction strategy for survival targets in improving the quality of life focuses on improved basic health care, particularly immunisation, maternal and child health facilities, and addressing the HIV/AIDS epidemic. A first intermediate indicator to be measured is the percentage of children fully immunised by their first birthday. Disaggregation by rural and urban strata and by sex is required for this indicator. An indication of access to maternal health care is the percentage of births attended by trained personnel. A disaggregation for rural and urban strata is necessary. To assess progress with the struggle against the HIV/AIDS epidemic, the HIV infection rate has been identified as an indicator.

In summary, the indicators that measure the survival aspect of social well-being are:

- Infant mortality rate, nationally, in rural and urban areas for boys and girls.
- Under-five mortality rate, in rural and urban areas for boys and girls.
- Percentage of children fully immunised by their first birthday, nationally, in rural and urban areas for boys and girls.
- Percentage of births attended by trained personnel, nationally in rural and urban areas.
- Proportion of districts with an active AIDS awareness campaign in place (Mukaruka, 2000:9).

(b) Nutrition

Children's nutritional status is generally a good indication of a nation's food security, as well as its overall welfare. It can be assessed by measuring children's height in relation to their age (stunting), which reveals chronic deficiencies in nutrition, or by measuring children's weight in relation to their height, which reveals acute deficiencies in nutrition (wasting). As a minimum, these indicators need to be disaggregated for rural and urban strata and by sex of the child.

(c) Human Capabilities

For literacy and education status at the impact/outcome level, concern is with the overall literacy rate of the population and the educational attainment of children. The net enrolment of primary education is monitored as a combined measure of access to education and efficiency. The net primary intake rate is monitored as more strictly an access indicator. The enrolment rate in grade 7 serves to assess retention and passing rate in grade 7 to assess attainment, both to large degree results of the quality the education process. All these indicators need to be disaggregated to rural and urban strata and by sex.

(d) Social Safety Nets

Protection from man-made and natural disasters and care for vulnerable groups, such as the very poor, the old and orphans is hard to capture in terms of indicators. Therefore, special studies around specific disasters and on specific vulnerable groups will have to reveal to what extent communities are able to provide care and become more resilient to external shock. Thus, a first step to build appropriate safety nets is to build the capacity to identify

the most vulnerable individuals. In this context, the establishment of database at lower and central levels of administration needs to be given consideration.

(e) Water and Sanitation

The proportion of households with access to safe drinking water and basic sanitation services is used to assess progress towards measures aimed at poverty alleviation.

(f) Macro-Economic Stability

Fiscal balance, foreign exchange reserve level and price inflation rate are the three indicators used to determine macro-economic stability of a particular country.

(g) Governance

Governance is a crosscutting issue. It affects every sector of development. Governance is concerned with the overall institutional environment in which citizens interact and within which economic, political, legal and administrative authority are exercised to manage a country's affairs at all levels. It involves all the institutions of the State at the national and sub-national level, including the executive government, the Ministries and other government agencies, the National Assembly, the Supreme Court and other courts and tribunals, Peoples Committees, Peoples Councils and State organisations at the provincial, district and commune level (Government of Vietnam, 2002:1)

As the government of Vietnam points out, good governance is the process of translating societal demands into choices, resulting in policy formulation and implementation. Good governance is epitomised by

predictable, open and enlightened policy making (that is transparent processes); a bureaucracy imbued with a professional ethos; and executive arm of government accountable for its actions; and a strong civil society participating in public affairs; and all behaving under the rule of law. As such, there are four main pillars of good governance, namely, transparency, accountability, participation, and predictability. The existence of each of these will promote higher quality public management.

The priority areas for action in the poverty reduction strategy to improve the quality of life, under the heading governance include public finance management, anti-corruption measures and accountability, stakeholder participation, local government reform and performance improvement. In the area of public finance management, the most important issue for monitoring is to verify if budget allocations reflect poverty reduction priorities. As part of the annual Public Expenditure Review, resource allocations and actual government expenditure is assessed against the priority action programme of the poverty reduction strategy.

This process should ideally provide sufficient information to judge to what extent adequate resources were allocated to the priority sectors, the allocation of adequate resources to priority actions within the sectors, any deviation between allocations and expenditure, and measures of cost effectiveness. At the very least, the measures and expenditure system for the poverty reduction strategy will have to track the share of the priority sectors in the government budget and in the overall and individual sector, in terms of basic education, primary health care, water and sanitation, rural roads,

agricultural research and extension, and HIV/AIDS. Participatory assessments will play an important role. It is clear that successful poverty reduction requires a high level of stakeholder participation in decision-making.

(iv) Key Indicators Used to Measure the Quality of Life in South Africa

Key indicators used to measure the quality of life in South Africa are discussed below:

(a) Life Expectancy at Birth

Life expectancy is the average number of years that a newborn could expect to live, if he or she were to pass through life, subject to the age-specific death rates of a given period. Life expectancy at birth is an indicator of mortality for health conditions. It is also one of the most favoured indicators of social development, and is used as one of the components of United Nations Development Programme's Human Development Index. The unprecedented increase in human longevity reflects gains in public health and in access to primary health care services (United Nations Commission on Sustainable Development, 1996:89).

The general rate of life expectancy often reflects people's access to adequate nutrition or affordable health care. Life expectancy is not only a reflection of the state of a country's health care and nutrition, but also is influenced by the adequacy of housing, water supply and sanitation, and also even by the level of socio-political stability. It is therefore a key

indicator of the quality of life in a society. Only in five North African countries and seven Sub-Saharan countries (Botswana, Cape Verde, Lesotho, Mauritius, Sa`o Tome`, Seychelles and South Africa) can newborn babies expect to live an average 60 years or longer (Esterhuysen & Lass, 1996/7:33).

However, the Human Immuno-Deficiency Virus (HIV) and Auto Immuno- Deficiency Syndrome (AIDS) epidemic, which has spread extremely rapidly undermine gains in child survival, thus halves life expectancy over the next few years. There are various estimates of life expectancy. Statistics South Africa estimates that the life expectancy in 1996 was 52.1 years for men and 61.6 years for women. The Medical Research Council (MRC) estimates that as a result of the AIDS epidemic, life expectancy has dropped from 63 in 1990 to 57 in 2000. It is expected to drop to about 40 years by 2010, bringing it to amongst the lowest in the world. This is the case for all the countries in the Southern African region, which has thus far experienced the worst spread of the HIV/AIDS epidemic (SAHR, 2000:1-2).

On average, the life expectancy of people living in developing countries rose from 55 years in 1970 to 64 years in 1999, but it still lagged behind that of the Organisation for Economic Co-operation and Development (OECD) countries, which was 78 years in 1999. Thirty-eight countries have seen life expectancy decline since 1990. Most of these are

countries hit by the AIDS epidemics. (Wagstaff & Watanabe, 2000:1).

(b) Adequate Birth Weight

Adequate birth weight is defined as equal or greater than 2.5 kilograms, the measurement being taken preferably within the first hours of life, before significant postnatal weight loss has occurred. The indicator is expressed as the number of children per 1000 live births, whose birth weight is equal or greater than 2.5 kilograms. The purpose of the indicator is to monitor the percentage of underweight newborns in a community.

Birth weight can be an important indicator of community nutrition. Low birth weights signal insufficient access to adequate food supply. It may also be related to certain diseases such as malaria, and to specific nutritional deficiencies such as endemic goitre. This indicator is closely associated with nutrition-related indicators, such as measure of weight-for-age for infants and children, and other health and socio-economic indicators (United Nations Commission on Sustainable Development, 1996:92).

(c) Infant Mortality Rate

Infant Mortality Rate is among the World Health Organisation' (WHO) most widely recognised important health indicator. It reflects on a population's social and economic development. The infant mortality rate is determined as the

number of children who die under 1 year of age during a period of time per 1000 live births during the same period. An even better indicator of poverty is the child mortality rate, that is, the number of children who die before their fifth birthday out of every 1000 born alive. This death rate reflects factors such as nutrition, sanitation, communicable diseases, and accidents in and around the home (Carabine & O'Reilly, 1998:19). Although not all deaths in these rates are affected by poverty, comparing the rate amongst rural poor people will provide important insight into the often-deadly effects of poverty on people's lives.

Beyond its obvious relevance to policy making for healthy children, the Infant Mortality Rate is sensitive indicator of availability, utilisation and quality of health care, particularly perinatal care. Moreover, given its association with Gross National Product (GNP) per capita, family income, family size, mothers' education, and nutrition, it is also considered one of the best indicators of the overall socio-economic development of a community (United Nations Commission on Sustainable Development, 1996:94).

Actual or projected data on infant mortality indicates progress between 1990 and 1999 in all regions. However, the 11% reduction in infant mortality in the developing world over the last 9 years, appears too slow to meet the target set in the International Development Goals for 2015 (**See Table 2.1 and 2.2 below**) Some countries have lost ground over the 1990s. North Korea saw its

infant mortality rate rise from 45 to 58, while infant mortality rate in Kenya went from 62 to 76, and in Zimbabwe increased from 52 to 70. Between 1970 and 1999, infant mortality differences between OECD and developing countries declined in absolute terms (from 86 in 1970 to 53 in 1999), but rose in relative terms. While infant mortality in 1970 was around 5 times as high in developing as in OECD countries, in 2000, it was about 10 times as high (**See Table 2.1 and 2.2 below**) (Wagstaff & Watanabe, 2000:1).

Child Mortality Rates in the developing world are also declining too slowly to the target of two-thirds reduction by 2015. Rates should have come down round 30% in the 1990s, but they declined by only 6%. Between 1990 and 1999, child mortality increased in Sub-Sahara Africa by 155 per 1, 000. In the same period, 11 countries experienced worsening rates. Among them, North Korea, where the Child Mortality Rate increased from 35 to 93, and Namibia, where the mortality rate went from 84 to 108 (Wagstaff & Watanabe, 2000:1).

Table 2.1 Trends in Infant Mortality, 1970-1999 (per 1,000 Live Births)

Region	1970	1990	1992	1997	1999
East Asia & Pacific	78	40	42	37	35
Europe & Central Asia	41	28	28	23	21
Latin America & Caribbean	84	41	38	32	30
Middle East & North Africa	134	60	59	47	44
South Asia	139	87	85	76	74
Sub-Saharan Africa	137	101	100	94	92
Developing Countries	107	66	66	60	59
OECD	20	8	7	6	6
(Diff. Developing Countries-OECD)	86	58	58	54	53
(Developing Countries/OECD)	5	8	9	10	10
South Africa	80	55	n.a	n.a	n.a

Source: World Bank, World Development Indicators, 2001

Note: n.a. Not Available

Table 2.2. Trends in under-5 Mortality, Selected Years, 1970-1999 (per live births).

Region	1970	1980	1990	1997	1999
East Asia & Pacific	126	82	55	47	44
Europe & Central Asia	n.a.	n.a.	34	29	26
Latin America & Caribbean	123	80	49	41	38
Middle East & North Africa	200	136	71	58	56
South Asia	209	180	121	104	99
Sub-Saharan Africa	222	189	155	159	161
Developing Countries	167	135	91	87	85
OECD	26	14	9	6	6
South Africa	113	96	78	n.a	n.a

Source: World Bank, World Development Indicators, 2001.

Note: n.a. Not Available

(d) Maternal Mortality Rate

Maternal Mortality Rate is the number of maternal deaths per 1000 (or per 10 000 or per 100 000) live births. Due to the considerable decrease of Maternal Mortality Rates in many countries, this ratio is now increasingly expressed per 10 000 or more often per 100 000 live births, which is acceptable if preferred and indicated by the country.

This indicator is among the WHO' most used indicators for health. It can also provide an indicator of attention for women's health needs. It estimates the proportion of pregnant women who die from causes related to or aggravated by the pregnancy or its management. The Maternal Mortality Rate reflects the risk to mothers during pregnancy and childbirth, and is influenced by the following factors: general socio-economic conditions; unsatisfactory health conditions preceding the pregnancy; incidence of the various complications of pregnancy and childbirth; availability and utilisation of health care facilities, including prenatal and obstetric care. This indicator is closely linked with Infant Mortality Rate, contraceptive prevalence, and health care expenditures (United Nations Commission on Sustainable Development, 1996:98).

Maternal Mortality Rates also show mixed results. The international goals call for reducing maternal mortality by three-quarters by 2015, but significant improvements have not been seen. In 20 developing countries, still more than 1, 000 women die for each 100, 000 live births (**See Table 2.3 below**) (Wagstaff & Watanabe, 2000).

Table 2.3. Countries with the Highest Maternal Mortality Rates, 1995 (adjusted to 10,000 per 100,000 live births).

Country	Maternal Mortality Rate	Country	Maternal Mortality Rate
Rwanda	2,300	Guinea	1,20
Siearra Leone	2,100	Co'te d'Ivoire	1,20
Burundi	1,900	Senegal	1,20
Ethiopia	1,800	Congo, Republic	1,10
Chad	1,500	Gambia	1,10
Sudan	1,500	Haiti	1,10
Burkina Faso	1,400	Eritrea	1,10
Angola	1,300	Nigeria	1,10
Kenya	1,300	Tanzania	1,10
Central African Republic	1,200	Uganda	1,10

Source: World Bank, World Development Indicators, 2001.

(e) Good Nutritional Status of Children

Good health is a major resource for social, economic and personal development, thus an important dimension of quality of life. Ordinary human bodily development provides one significant indicator. As Carabine & O'Reilly (1998:18) point out, poor children are often stunted in their growth. More than not, they are

undernourished, do not have access to adequate health care, and suffer from many avoidable diseases like diarrhoea, tuberculosis and gastroenteritis. Vulnerability to these diseases increases with poor nutrition and limited or no clean water supply.

This indicator is closely linked with adequate birth weight. It is also associated with such socio-economic and environmental indicators as squared poverty gap index, access to safe drinking water, Infant Mortality Rate, Life Expectancy at birth, National Health Expenditure devoted to local health care, Gross Domestic Product (GDP) per capita, environmental Protection Expenditures as a percent of GDP, and waste water treatment coverage.

(f) Immunisation Against Infectious Childhood Diseases

Child immunisation includes three components:

- The proportion of children immunised against diptheria, pertussis, tetanus, measles, poliomyelitis, tuberculosis and hepatitis B before their first birthday;
- The proportion of children immunised against yellow fever in affected countries of Africa; and
- The proportion of women of childbearing age immunised against tetanus.

Good management of immunisation programmes, essential to the reduction of morbidity and mortality from major childhood infectious diseases, is a basic measure of government commitment to preventative health services (United Nations Commission on Sustainable Development, 1996:105).

(g) Contraceptive Prevalence

This indicator is generally defined as the percent of women of reproductive age using any method of contraceptives. It is usually calculated for married women of reproductive age, but sometimes for other base population, such as all women of reproductive age, or for men of a specified age group. The measure indicates the extent of people's conscious efforts to control their fertility. It does not capture all actions taken to control fertility, since induced abortion is common in many countries. Contraceptive prevalence can be regarded as an indirect indicator of progress in providing access to reproductive health services, including family planning, one of the eight elements of primary health care (United Nations Commission on Sustainable Development, 1996:108).

Table 2.4 below lists other key indicators used to measure the attainment of the quality of life in South Africa.

Table 2.4 Quality of Life Indicators in South Africa

Life satisfaction	Satisfaction with dwelling	Neighbourhood crime	Economic situation
Unemployment	Poverty	Water supply and sanitation services	Health services
Electricity supply	Transport services	Ambulance services	Police services
Education facilities	Average household size	Population density	Literacy Rate
Annual population growth rate	Infant Mortality Rate	Adult Mortality Rate	Maternal Mortality Rate
Life Expectancy at birth	Nutritional status	Prevalence of diseases	Health habits

Valerie Moller 2000 & SAHR 1996

2.3 Poverty

The problem of poverty is becoming increasingly more urgent and it is clear that the world is faced with a problem that deserves serious attention. Poverty can mean different experiences for different people, depending on the causal factors one is most exposed to and unable to overcome. In other words, not everyone understands poverty in the same way. The way the problem of poverty is defined impacts directly on the type of anti-poverty action that is adopted. While there is considerable debate about which is the better approach, the researcher is of the opinion that there is something to be gained from extracting the essential value from each of the key poverty reduction perspectives, thus creating an integrated poverty reduction

approach. What is required therefore is an integrated definition to ensure that one develops a multi-dimensional understanding and response to poverty and inequality.

Poverty, as a worldwide phenomenon, prevents the development of a society as a whole, and denies individuals their rights and freedoms to attain authentic human development. While much has been written on poverty eradication, rather than alleviation, as the aim of governments worldwide, freedom from poverty should also be the aim of individuals and groups, rather than solely the target of government policies (Booyesen, 2003:422, Scott 2002: 484 and Carabine & O'Reilly, 1998:1). Carabine & O'Reilly argue that the mismanagement of funds and natural resources is a contributory factor to poverty, and creates a moral obligation for each individual to work towards a change in the allocation and management of resources. The moral obligation to eradicate poverty therefore targets both individual and group responsibility, both locally and globally.

Moreover, (May & Govender 1998, World Bank 2001, and Carabine & O'Reilly) point out that most observers agree that per capita Gross National Product (GNP) is not an adequate indication of human well-being. Yet people still (even subconsciously) persist with the notion that poor people are simply those with inadequate material resources. This view of poverty can result in a misleading understanding and evaluation of poverty. While it is true that poverty is related to wealth, human wellbeing must be measured in terms other than wealth or the lack of it. Human development and wellbeing, human liberation and the satisfaction of needs, are part of the quality of life towards which each individual strives. Thus freedom from hunger and ill health, the most obvious symptoms of poverty, are pressing freedoms and rights that all individuals have in terms of freedom from harm. Hence human liberation from harm and the liberty to develop must be measured in reference from poverty (Pieterse & Van Donk, 2003:9 and Carabine & O'Reilly, 1998:2).

2.3.1. The Meanings of Poverty and Poor

The dominant meaning of the concepts “poverty” and “poor” refers to a condition where people do not have sufficient means to procure either the comforts or the necessities of life (Pieterse & Van Donk and Carabine & O'Reilly, 1998:11). Ordinary language use of the word poverty refers to two kinds of poverty, which differ in degree. The first ordinary meaning of poverty refers to people who are unable to afford the comforts of life, that is, people without sufficient money, wealth, or material possessions to afford anything more than the barest necessities to keep them alive and well. They are described as poor because of their position relative to other people in society who have the means to afford much more of the comforts of life, once they have provided for their more urgent needs.

The second ordinary meaning of poverty refers to people who do not have the means to provide for the necessities of life; that is, to provide for their basic human needs, such as food, shelter, or clothing. Such people cannot secure their survival and are dependent on others for help. Gifts, allowances, or charitable relief stand between their subsistence and even death. This kind of poverty, where people are in desperate need of the minimum necessities of life and are dependent upon the goodwill of others for their survival, is often called *absolute poverty* (World Bank, 2001:1 and Carabine & O'Reilly, 1998:12). Thus, the concepts poverty and poor refer to people who might have insufficient means to procure the comforts or necessities of life, lack essential properties, have deficiencies in desired resources, or have access only to inadequate or scant resources; have a low position in society without substantial influence; perform in a manner unworthy of their position or ability (Scott 2002, and Carabine & O'Reilly, 1998:13).

Arguing along similar lines, Chambers (1988, quoted in Borat, Leibbrandt, Maziya, Van der Berg & Woolard 2001:41-42) distinguishes five dimensions of poverty:

- “Poverty proper”, is being a lack of adequate income or assets to generate income.
- Physical weakness is due under-nutrition, sickness or disability.
- Physical or social isolation is due to peripheral location, lack of access to goods and services, ignorance or illiteracy.
- Being vulnerability to crisis and the risk of becoming even poorer.
- Also, being powerlessness within existing social, economic, political and cultural structures.

Schreiner & Van Koppen (2001:394) defines poverty as a state and process of multi-dimensional human deprivation affecting economic, health-related, psychological, socio-cultural, legal, and political facets of wellbeing. According to the World Bank (2001:1), poverty is hunger. It is a lack of shelter. Poverty is being sick and not being able to see a doctor. It is not being able to go to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time. It is losing a child to illness brought about unclean water. Poverty is powerlessness, lack of representation and freedom.

Arguing along similar lines, in his inaugural address to the 3rd United Nations Conference on Least Developed Countries at Brussels on 14 May 2001, the President of the Federal Republic of Nigeria, Olusegun Obasanjo said the following about poverty in the developing world:

- Poverty is a lack of material wellbeing among citizens, expressed in terms of a daily struggle to meet the most basic needs for food, water and shelter (basic needs taken for granted in other parts of the world).
- Poverty is lack of access to health care delivery by which treatment could have prevented or avoided countless deaths.
- Poverty is lack of employment, lack of productive land or other income-earning assets.

- Poverty is lack of power and voice in the affairs of State by those for whom the State ideally exists.
- Poverty is the absence of infrastructure and other social services.
- Poverty is the physical pain that comes from too little food and long hours of work;
- Poverty is the emotional pain stemming from the daily humiliation of dependency.
- Poverty is the moral pain of being forced to make critical choices within severe limits of frugality.

2.3.2 The View of Poverty in South Africa

The African National Congress (ANC) in the Reconstruction and Development Programme (RDP) (1994:14) makes the point, that poverty is the single greatest burden of South Africa's people. It is the direct result of the apartheid system and the grossly skewed nature of business and industrial development, which accompanied it. Poverty affects millions of people, the majority of whom live in rural areas and are women.

Poverty is widely recognised as a major determinant of the health status of individuals, households and communities. The alleviation of poverty and a more equitable distribution of income are major issues in South Africa today. Parnell & Pieterse (1999:1) of Isandla Institute view poverty in the Cape Metropolitan Area (CMA) as more than a lack of income. They see poverty to exist when an individual's or a household's access to income, jobs and/or infrastructure is inadequate or insufficiently unequal to prohibit full access to opportunities in society. They view the condition of poverty as caused by a combination of social, economic, spatial, environmental and political factors. Parnell and Pieterse view this definition as significantly drawing from experiences of both the developed and the developing world. South Africa's particular conditions have been taken into account by emphasising social and spatial exclusion as one of the underlying

factors in creating and reinforcing poverty. The South African Review (SAHR) (1992:2), however, defines poverty as the inability to attain a minimum standard of living measured in terms of a household's inability to meet its basic needs or the income required to satisfy them. Usually this is stated in relation to a "poverty line" which is an income level or monetary value of consumption, which separates the "poor" from the "non-poor".

Over the past few decades, several research studies and conferences, both internationally and in South Africa, have attempted to quantify poverty as a problem pertaining to the denial of basic socio-economic rights and seek solutions. It is a well-known fact that there is extensive poverty in rural areas in particular. This poverty must be understood in terms of the history and economic structures of South Africa. The most striking feature of poverty in South Africa is the degree of inequality that exists. The statistics show the width of the gulf between grinding poverty and massive wealth. Whilst poverty is not confined to any one racial caste in South Africa, it is concentrated mostly among non-whites, particularly Africans (Wilson & Ramphela, 1989:19).

Wilson & Ramphela (1989:4) therefore list four reasons for the significance of poverty as follows:

- The first is because of the damage poverty inflicts upon individuals who must endure it.
- The second is poverty's inefficiency in economic terms. Hungry children cannot study properly; malnourished adults cannot be fully productive as workers; and an economy where a large proportion of the population is very poor has a structure of demand that does not encourage the production and marketing of the goods that are most needed.
- The third reason relates to the consequences of any society where poverty is also the manifestation of great inequality.

Thus the existence of two great a degree of inequality makes human community impossible.

- Finally, there is the fact that poverty in many societies is itself symptomatic of a deeper malaise. For it is often the consequence of a process, which simultaneously produces wealth for some, whilst impoverishing others. Nowhere is this more prevalent than in South Africa where poverty is deep and widespread, and where the degree of inequality is as great as in any other country in the world.

The tragedy is that although South Africa is a middle-income developing country, it has one of the worst records in terms of health, safe water and fertility. It also rates the worst of the world's countries in terms of income inequality. The gap between the rich and the poor is huge. The injustice of this is a consequence of apartheid (Networker, 1998:4). In per capita terms, South Africa is an upper-middle-income country, but despite this relative wealth, the experience of most South African households is of outright poverty or of continuing vulnerability to being poor. In addition, the distribution of income and wealth in South Africa is among the most unequal in the world, and many households still have unsatisfactory access to education, health care, energy and clean water (May & Govender, 1998:2).

2.3.3. The Problems of Poverty

Numerous studies on poverty and socio-economic conditions in South Africa have shown that people living in rural areas are more likely to live in poverty- stricken conditions than those residing in urban areas. According Simone & Santi (1999:50), of all individuals considered as poor (poverty rate), about 70% live in rural areas. Thus, this high rate of poverty combined with deep poverty among rural areas, means that 76% of the poverty gap is accounted for by poverty in rural households.

The Poverty and Inequality Report (PIR) further states that about one third of rural households are extremely vulnerable in terms of the reliability of their income source and socio-demographic structure of the household that draws upon this income. Also, more than half of all rural households live in houses described as deficient in terms of construction materials (Simone & Santi, 1999:50).

It is also noted by Simone & Santi that one fifth of rural households rely on an unprotected water resource, and 64% rely on wood as their primary source of energy. Thus the amount of labour allotted to water and wood fetching reduces household income. They have also noted that households that had poor access to basic services tended to have lower income, and spent large portions of their income on food. Furthermore, the poor have extremely limited access to assets, as well as opportunities to utilise such assets. Simone & Santi therefore maintain that although agricultural production accounts for only 10% of household income, more than one third of all rural households continue to engage in agricultural production. Agricultural production is especially important to rural people who do not have direct access to cash income.

Simone & Santi observed that only a quarter of rural African households currently have access to land, with the average size of land being 2.2 hectares. Over 40% of landless households in rural areas have uncertain livelihood strategies, including irregular remittances and no form of cash income. They often rely on the pension of an elderly member of the household. Those rural households who rely solely on income from uneducated labour are also more likely to fall below the poverty line.

In general, a large proportion of the rural poor are employed in agriculture as wage earners or are self-employed as small-scale farmers. In addition to having low incomes, the rural poor have limited access to quality health and education services, infrastructure, and in

some cases, farmable land (World Bank, 1996:7). Although the quality of social services is often low overall, an urban bias in public funding toward expensive hospital-based medical care and the more elite secondary schools has channeled resources away from the facilities that provide basic services in rural areas. Frequently, health centers, health posts, and schools in rural areas lack basic supplies (medical supplies, textbooks), equipment, and trained staff. Although the extent of urban bias in public spending varies substantially from country to country, it is an important equity issue for many (WB, 1996:7).

The argument by the WB (1996:4) is that inadequate land tilting for small farmers also affects the rural poor. Thus many households live in unsatisfactory, overcrowded conditions and lack proper housing, access to potable water, adequate sanitation facilities, and other basic services. These conditions pose a significant health risk to the poor, engendering waterborne diseases such as typhoid, cholera and hepatitis. They also pose environmental hazards. The poor spend the largest proportion of their budget on food, with expenditures on other items such as housing, fuel and other household supplies, clothing and transportation varying considerably from country to country. Thus malnutrition rates among children in some poor households can be quite high. The causes of malnutrition have been linked to insufficient dietary intake and disease, which result from low income, food shortages, and lack of clean drinking water and unsatisfactory health care (WB, 1996:4).

This section explores poverty-related problems in advancement of the argument that poverty is intrinsically linked to accessibility or deprivation of the services under investigation (health, water and sanitation), which is impacted upon by the economic status of a given community. As discussed under the methodology in chapter 1 of this study, communities under investigation are classified under the category of well serviced and inadequately provided with these services. The premise of the study therefore is that in communities where there is inadequate provision of these services,

the quality of life deteriorates due to the prevalence of poverty-related diseases. Hence the exploration of poverty-related problems, which are widely recognised as a major determinant of the health status of individuals, households and communities in South Africa.

(i) Poverty and Poor Health

As argued by De Beer (1984:12), in all illness-inducing environment, even the best health services can only be of palliative value. However, the absence of health services becomes yet another factor contributing to ill health. Poverty is not itself a reason why people should receive inadequate health care, but because the State does not provide such services, poverty becomes a factor as those without sufficient money cannot afford to go to a private doctor or private clinic. All this adds up to a situation where those people who are at risk receive the least adequate care. The result is that various diseases, some of them mass killers, such as measles, which could be entirely prevented with better health care are still common, and that others such as polio break out from time to time (De Beer, 1984:13).

(ii) Crime

South Africa has among the highest rates of violent crime in the world. Poor people are far more at risk from personal crime than the affluent, and violent crime is one of the more severe shocks that can cause vulnerable households to become impoverished (May & Govender, 1998:22). While wealthy communities tend to be victims of property crime, poor people (typically Africans and women) are at risk from personal crime.

According to May & Govender (1998:22), Africans are twenty times more at risk from a homicide death than Whites, while in 1995, 95% of reported rapes were African women. Poverty, high unemployment and marginalisation of men increase the risk of violence against women, and poorer women are often trapped in abusive relationships due to

dependence on partners for food, shelter and money. Areas inhabited by the poor are less likely to have infrastructure such as street lighting and telephones, public transport and decent roads that facilitates crime prevention. Poor people are unlikely to be able to supplement the services of the police by purchasing private security. In addition, police resources are inequitably distributed (May & Govender, 1998:22).

(iii) Malnutrition

Malnutrition, and particularly under-nutrition, is directly related to poverty. As Wilson & Ramphela (1989:106) contend, perhaps the most devastating consequence of hunger and malnutrition in any society is the high death rate of young children, although the causal connection is often hidden. Malnutrition is often in combination with opportunistic conditions like tuberculosis. Among protein-energy-malnutrition cases, the death rate is high but usually the cause of death is officially attributed to some infection or parasitic diseases, which in most cases only dealt the final blow. Diseases that are usually only minor ailments in well-nourished individuals are devastating to the malnourished person. Even if these diseases do not kill the malnourished person, they tend to intensify the malnourishment by draining the individual's reserves. Extremely poor sanitation conditions further complicate the picture. Gastroenteritis and infestation of various kinds of worms are commonplace (Wilson & Ramphela, 1989:106).

Malnutrition is not to be equated simply with lack of food or regarded as a medical problem; it is the outcome of complex inter-related social, economic, political and other processes. Where malnutrition does not cause death, it impacts on the quality of life and opportunities of those affected, and on their ability to earn adequate income. While the risk of death increases with the severity of malnutrition, the largest number of deaths occur among those affected by mild to moderate malnutrition. The national stunting rate among young children, captured by height-for-age measurements, ranges between 23% and 27%. Among the

poorest 20% of households the rate is 38%. Micronutrient malnutrition is a public health problem of considerable significance in South Africa. One in three children display marginal vitamin A status, 20% is anaemic, and 10% iron-deficient (May & Govender, 1998:27). Poverty is thus a basic cause of malnutrition.

As de Beer (1984:4) suggests, given that South Africa is a net exporter of food, and that the black population has not always suffered from the extensive malnutrition that it now does, it is also obvious that this malnutrition is determined neither by geographical nor ethnic factors, but rather by the particular form of social relations that have developed in South Africa. There is the general acceptance that previously, before colonisation, the indigenous population was adequately fed, and was of outstanding physique. However, the situation is different today. The historical processes in South Africa that have led to this change are complex. They involve the transition of a settled rural African population existing as pastoralist-cultivators to “sub-subsistence” rural dwellers, manifestly unable to support themselves by agriculture, and dependent for survival upon wages earned in “white” industrial regions or on “white” farms (Colin Burdy, quoted in de Beer, 1984:4-5).

The rural population is caught in a downward spiral of intensified underdevelopment. Thus, the absence of the potentially progressive young (as migrants) and the accompanying decline in agricultural productivity means that economic self-sufficiency slips even further away. The balance swings decisively away from home production to reliance on cash remittances from migrants and food bought in trading store. The exodus of the adult men as migrants has a major effect on the social system, and on family life (Rechav 1981, quoted in De Beer 1984:5).

Within this context, emanating from a study by Thomas (1981) in the former Ciskei in the Eastern Cape, family disorganisation was pinpointed as the major factor in influencing the development of malnutrition (de Beer, 1984:6). The scenario of an absent father and often mother too, with the child care relegated to an often inadequate guardian appears to militate towards malnutrition. An important element of this may be early weaning, which is necessitated by the mother leaving home to seek work. The substitution of breast-milk by expensive milk formulae may have disastrous effects immunologically, nutritionally and in other ways for the child, thus disrupt the economic balance of the family (de Beer, 1984:5).

De Beer argues that the major ways in which malnutrition expresses itself in children are mainly Kwashiorkor and Marasmus. Either of these conditions can kill. A greater the proportion of malnutrition-related deaths do not result from starvation as such. Rather, they occur because the child, weakened by inadequate nutrition, either dies from an illness which would not threaten the life of a well-fed child, or because the whole body, in a weakened state, contracts a lethal disease against which he/she would otherwise have been adequately protected. For example, a well nourished child who contracts measles, is likely to be ill for a while and then get better, no worse for the experience. In a poorly nourished child, this illness can quite easily progress to pneumonia and death.

The conclusion could be drawn from the discussion of poverty-related problems that the adverse effects of the pervasive poverty-related environment, indicators of poverty, such as poor health, crime and malnutrition, which tend to be prevalent in poor communities, negate the ideals of improving the fate of poor communities.

2.3.4 The Diseases of Poverty in South Africa

In a rural area, the majority of illnesses stem from poverty and deprivation. As Wilson & Ramphela (1989:100) point out, South Africa is one of the few countries in the world, which normally exports food in considerable quantities. Yet it is also a country in which there is widespread hunger and malnutrition, and where diseases associated with poor nutrition take a heavy toll in deaths, particularly amongst children. Poverty-related diseases that are explored here are gastroenteritis, cholera, typhoid, dysentery, measles, and tuberculosis.

(i) Gastroenteritis

The incidence, prevalence, and severity of gastroenteritis in a given community provide a fair reflection of its socio-economic status. This is especially so for children, whose vulnerability is increased by poor nutrition, sanitation, water supply, and organisation of the household. Adults, however, are also exposed to the hazards of enteric diseases such as typhoid, cholera, and dysentery (Wilson & Ramphela, 1989:112). In the case of gastroenteritis, the well-nourished child is likely to emerge none worse for wear, while for the undernourished child; the disease may be more serious. With the initial disadvantage of lower body weight, decreased recuperative powers and a generally weakened constitution, the sudden rapid loss of fluid that accompanies gastroenteritis may well tip the balance and lead to the death of the child (De Beer, 1984:6-7).

(ii) Cholera, Typhoid and Dysentery

In August 2000, South Africa was experiencing one of the worst cholera epidemics in the country's recent history. Initial reports of the cholera outbreak came from the largely rural and impoverished communities on the outskirts of the Ngwelezane Township, near Empangeni town. The source of the epidemic

was traced to the UMhlathuze River, also in the northern part of the KwaZulu-Natal Province. However, by the end of the year 2000, the northern KwaZulu-Natal cholera outbreak had replicated itself in eight of South Africa's nine provinces (Cottle, 2002:1).

The recent outbreak of cholera in KwaZulu-Natal in August 2001 brought into public focus the unsatisfactory water and sanitation facilities of the deprived communities in those areas. Sixty-six people were killed and more than 18 200 others were infected in five months (Current Affairs, 19 January 2001). Other diseases like typhoid and dysentery have a similar epidemiology in areas of poor water and sanitation facilities. The absence of the basic services such as water and sanitation facilities, created conditions conducive to the persistence of endemic problems of other diseases, like typhoid and dysentery.

(iii) Measles

Measles is generally regarded as a mild childhood illness in industrialised societies and amongst the elite in developing communities. Amongst the poor, however, measles represent the most serious and severe disease encountered by children. It is a highly infectious viral disease characterised by fever, mucosal inflammation, and a typical skin rash. The resultant depression of the immune system of the body during the infection brings about secondary bacterial infection. The implications of measles, which may lead to death, are pneumonia, gastroenteritis, and encephalitis, but blindness also results from eye infections in the presence of vitamin deficiencies (Wilson & Ramphela, 1989:114). Measles is a preventable disease by extensive immunisation campaigns if the rural communities have access to quality health care services.

(iv) Tuberculosis

More prevalent and more fatal even than measles is tuberculosis. This disease, perhaps more than any other, reflects not only the poor socio-economic conditions of its victims, but also the historical factors that led to its taking root in those vulnerable groups (Wilson & Ramphela, 1989:116). All, including the South African Health Authorities, acknowledge Tuberculosis to be a major health problem. From statistics it is quite apparent that the poor communities are at risk. This correlates with the poor population groups who are vulnerable to poverty with its ramifications of overcrowding, malnutrition and limited access to health, water and sanitation facilities. It is evident therefore that the above poverty-related diseases are connected to each other in terms of sickness, hunger and malnutrition.

Within the context of poverty-related adverse effects on the quality of life, this study investigates the impact of the provision of health, water and sanitation services in improving the quality of life among poor communities. The investigation of the impact of these services is within the context of social impact as a significant improvement or deterioration in people's well being, or a significant change in any aspect of community concern. Dietz points out that social impacts are intangible phenomena that cannot be measured directly, therefore indicators need to be used for this purpose. These include both subjective and objective indicators (quoted in Cloete & Wissink, 2000:20).

Subjective impacts include those results or perceptions interpreted or perceived by those affected, while objective impacts include those that can be measured objectively and directly, whether the affected audience agrees with them or not. The emphasis that has been placed below on subjective as well

as objective impact indicators implies interactive impact assessment procedures. This is necessary in order to combine objective data on the changes brought about by the policy project or programme, with the subjective experiences, impressions and opinions of the target groups involved in these processes (Cloete & Wissink, 2000:20).

With this background of social impacts in mind, coupled with empirical observations, this study intends to measure rural community's quality of life in terms of subjective as well as objective indicators. This is done in terms of the subjective indicators of the rural family's own internal perceptions of their quality of life, while objective indicators will be externally measurable levels of their educational, health, cultural, social, income and expenditure levels; as well as the accommodation, infrastructure and other facilities available to them. Social impact assessment is, among other things, a planning tool, and can monitor and assess project, programme, plan or policy changes that have taken place or that are ongoing. Impacts may be felt at the individual, family, community, regional, national or even international level (Barrow, 1997:232-233).

In this study, however, the impact of selected socio-economic public services will focus on an individual, family and community level. In line with what has been gathered from the survey of the literature review in this section, Barrows states that a commonly used framework for social impact assessment first is to initiate a baseline survey of social conditions. Second, to predict changes associated with the proposed development. Third, to establish what ongoing changes would take place in the locality or region affected if development did not take place. Lastly, to try to discover what hazards or risks are possible (1997:237).

As pointed out by Wolf, social impact assessment is concentrated on the distinctively human side of human environments. It is about “people impacts”, that is, what is being done to people (or failure to do something for them) where they live, in families and communities, as a consequence of formulating policies, instituting programs, and building projects (quoted in Finsterbusch, Llewelly & Wolf (1983:15), Hence the focus of this study in investigating the impact of the selected services in improving the quality of life among poor communities in South Africa.

2.3.5 The Role of the State in Alleviating Poverty

The alleviation of poverty is one of the national and international priorities for achieving sustainable development. Poverty permeates all social sectors and is reflected in all aspects of life. Since the first democratic elections of 1994 South Africans have been promised a better life. As pointed out in the RDP (1994:15), without meeting the basic needs, no political democracy can survive in South Africa. According to Burkey (1993:1), basic needs are those things that an individual must have in order to survive as a human being. Essentially, these are clean (unpolluted) air and water, adequate and balanced food, physical and emotional security, physical and mental rest, and culturally and climatically appropriate clothing and shelter.

Poverty therefore can be defined in terms of basic needs. Hence a group of development workers in Uganda defined absolute poverty as the inability of an individual, a community or nation to satisfactorily meet its basic needs. They defined relative poverty as the condition in which basic needs are met, but where there is an inability to meet perceived needs and desires in addition to basic needs. They also considered the poorest of the poor as those unfortunate individuals who, because of serious mental or physical handicaps, were incapable of meeting their basic needs themselves (Burkey, 1993:3-4). Burkey

further points out that in terms of external assistance, people existing in a situation of absolute poverty need immediate relief in order to survive, while those existing in relative poverty can hopefully benefit from development assistance which ideally should help them to become independent of such assistance. Needless to say, many handicapped or disabled people can be assisted to manage themselves. However, the truly “poorest of the poor” must survive on charity which ultimately must be provided for by their own family or community either privately or through governmental programmes. Thus development assistance should aim at making this possible (Burkey, 1993:4).

In South Africa, amongst a variety of basic needs, the typical needs of rural populations are prioritised as schools, water, roads, transport, and agriculture. Many observers had discovered that economic growth on aggregate did not necessarily eliminate poverty. This led to a formulation of the basic needs approach, which was adopted by the International Labour Organisation (ILO) in 1976. The meeting of the basic human needs of poor people became an important element in alternative development strategies (Streeten 1979 quoted in Burkey, 1993:31). According to Streeten, the ILO defined basic needs to include several elements. First, these include certain minimum requirements of a family for private consumption, such as adequate food, shelter and clothing, as is certain household equipment. Second, essential services provided by and for the community at large, such as safe drinking water, sanitation, public transport, health and educational facilities. The most influential proponent of this basic needs approach is the United Nations Children Fund (UNICEF), which concentrates its activities on health, water supply and sanitation programmes. It is against these basic needs that this section deals with the role of the State in alleviating poverty by raising the quality of life of the people.

The purposeful alleviation of poverty by concentrating on basic needs has been the main governmental response, under the direction of the RDP. Alleviating poverty and deprivation has been the first priority of the democratic government of South Africa, and the RDP sets out a facilitating and enabling environment to this end. In order to erase large backlogs in the provision of services and alleviate poverty towards securing a minimum standard of living for all South Africans, RDP laid out the following six basic:

- Integration and sustainability of policies and programmes between government, business and organisations within civil society.
- Involvement and empowering of people.
- Peace and security for all through combating violence, respecting and upholding human rights, and political stability.
- Nation building (development of a single country, with a single economy, within a Constitutional framework which is representative of all population groups).
- Meeting basic needs and building infrastructure through various programmes.
- Democratisation as an active, ongoing process of public participation in decision-making.

These principles are to be effected through the following 5 programmes:

- **Meeting basic needs** (job creation, land and agrarian reform, housing, water, sanitation, energy supplies, transport, nutrition, health care, the environment, social welfare and security).
- **Developing human resources** (education and training, recognition of previously disregarded skills, abolishment of discrimination).
- **Building the economy** (reversing the distortions, reducing dissavings, reducing government consumption expenditures, redressing balance of payments and the like).

- **Democratising the State and society** (establishment of a single, smaller public service, and increased efficiency, productivity and accountability).
- **Implementing the RDP** (through a range of programmes across government and social organisations and institutions).

The ideals and strategies of the RDP therefore have been established as a national policy and programme in South Africa. Thus, the five pillars of the RDP, that is, macroeconomic stability, meeting basic needs, providing social safety nets, human resource development and job creation became the foundation of the South African Government's anti-poverty and inequality programme (Coleman, 2001:3).

(i) The Approach to Reducing Poverty and Inequality by the South African Government.

Poverty is characterised by the inability of individuals, households or communities to command sufficient resources to satisfy a socially acceptable minimum standard of living. It is perceived by poor South Africans themselves to include alienation from the community, food insecurity, crowded homes, usage of unsafe and inefficient forms of energy, lack of jobs that are adequately paid and/or secure, and fragmentation of family (May & Govender, 1998:3). The approach adopted by the Poverty and Inequality Report (PIR) is based on breaking the forces that have perpetuated poverty, while promoting income, wealth and opportunity. It is based on the following assumptions:

- Economic growth and human development are linked, and should enhance quality of life;
- This is best achieved through advancing the capabilities of disadvantaged communities, households and individuals by improving their access to assets, both physical and social;

- Having established a framework for short-term macroeconomic stability, government should place increasing emphasis on redistributive measures;
- To achieve this, a more assertive role will be required by government in facilitating the transfer of assets and services from the wealthy to the poor communities. This should be matched by market, institutional and spatial reforms benefiting the less well-off;
- The collection of social, economic and demographic information to monitor the extent and nature of change is a priority in managing the reduction Organisation Development poverty and inequality.

(ii) The Principal Roles of Sub-Saharan African Governments in Eliminating Poverty and Hunger.

Kesseba (1996:2) points out that the role of the governments of Sub-Saharan Africa is first and foremost to promote increased private sector investment and activity in the poor rural areas of Southern Africa. This means ensuring economic and political stability, removing policy distortions that have undermined savings and investment in rural areas and smallholder agriculture, and stimulating growth and increased employment opportunities. Governments have a critical role in establishing macroeconomic stability and eliminating economic distortions, as well as organising property rights to maximise social and economic benefits. In addition, they have a role in providing public goods, such as transport linkages, rural economic and social infrastructure, and other essential services that cannot yet be provided by the private sector. These goods will allow poor producers in rural areas to engage in activities with higher value added.

In Southern Africa, as elsewhere, most sustainable economic services must be provided by the private and non-government sector. The reality of the economy is non-governmental, thus government cannot effectively replace dense networks of private and civil operators. Experience shows that the most effective function of government in

development is to facilitate and compliment the working of the private system, not to take its place. The task ahead of governments is to forge a conscious coalition between the State and the private sector to assume responsibility for overcoming poverty, a problem that threatens not only the poor, but also all communities (Kesseba, 1996:2).

(iii) Key Messages of the Human Development Report of 1997

According to the United Nations Development Programme (UNDP) (1997:1-2), Human Development Report 1997 presents seven key messages:

- The progress in reducing poverty over the 20th century is remarkable and unprecedented, but the advances have been uneven and marred by setbacks. Poverty thus remains pervasive.
- From a human development perspective, poverty means the denial of choices and opportunities for a tolerable life. Thus poverty should be looked at from the viewpoint of human poverty-poverty in terms of deprivations in various aspects of human life. Human poverty is thus multi-dimensional as opposed to uni-dimensional, as often reflected in the lack of income alone. A measure of human poverty, a composite index termed as the Human Poverty Index (HPI) constructed on the basis of deprivations in basic human development-short life, lack of knowledge, absence of overall economic provisions, represents the broader non-economic dimensions of impoverishment, rather than its narrow material dimension.
- There are changing faces and new forces of poverty and poor people all over the world are fighting them resiliently. Poverty eradication would need gender equality in terms of capabilities as well as opportunities.

- Sustained poverty reduction requires faster economic growth in countries where it has been failing and pro-poor economic growth in all countries. It would also need not only overall human development, but also a pro-poor pattern of it.
- Globalisation may contribute to poverty reduction by offering great opportunities, but only if it is managed more carefully and with more concern for global equity.
- For poverty eradication, the State must provide an enabling environment for broad-based political support and alliances for pro-poor policies and markets.
- Poverty is no longer inevitable, it should, therefore, no longer be tolerated. The worst aspects of human poverty should be eradicated within a decade or two to create a world that is more humane, more stable, more just.

2.4 The Selected Services to Improve the Quality of Life.

In this study, the researcher has identified health, water and sanitation as services of interest to be investigated in alleviation of poverty, thus improving the quality of life in rural communities. Good health is a major resource for social, economic and personal development, thus an important dimension of quality of life. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realise aspirations, to satisfy needs, and change or cope with the environment. Health is therefore seen as a resource for everyday life, not the objective of living. It is a positive concept emphasizing social and personal resources, as well as physical capacities (Ottawa Charter for Health Promotion, 1986:1).

According to Stewart (1985:173), the health or disease of a community is an expression of the dynamic relationships between the three ecological factors of host, agent and environment. Health, both physical and mental, therefore reflects the successful effort of the human being to live positively in relation to his/her external environment. Thus health is a state of perfect adjustment between the individual and his/her environment, which confront humans from

conception to death. Illness, on the other side, is the direct or indirect outcome of the three factors; environment, society and personality. These include climate, topography, socio-economic status, urban and social disorganisation, diseases of poverty, affluence, personality factors and physiological make-up (conflicts and instability). Disease is thus an inability or willingness to make adjustments (Stewart, 1985:175). The ultimate aim of medicine therefore is a state of absence of disease, the achievement of which requires that all aspects of host, agent and environment be in equilibrium (Stewart, 1985:173).

Water supplies and sanitation are among the major determinants of health. Health-related services, such as water and sanitation should ensure a certain average life expectancy and eliminate mass diseases and ill health. As Slabbert (1984:25) suggests, indicators of the actual health of the population as indicated by certain physical characteristics and the adequacy of existing health services, for instance inhabitants per physician, are used to determine the basic health requirements.

2.5 The Impact of Health, Water and Sanitation Services in Improving the Quality of Life of the People.

The World Health Organisation defines health as a state of physical, mental and social being, and not merely the absence of disease or infirmity. Water is life and sanitation is health. Therefore, there is no life without water, nor good without adequate sanitation. The World Health Organisation defines quality of life as the individual's perceptions of their position in life, in the context of the culture and value systems in which they live, in relation to their goals, expectations, standards and concerns. Therefore, when assessing the impact of health, water and sanitation services in improving the quality of life of individuals, families and communities, consideration should be made of the peoples perceptions of their position in life, in relation to their goals, expectations, standards, to be able to achieve security, self esteem and enjoyment of life in their physical, social, cultural and community environments (Zawide, 2002:1). As Zawide points out, it is envisaged that

access to improved health care facilities, safe and adequate water and sanitation services improve the quality of life in the following areas:

2.5.1 Health

Waterborne diseases are the single largest category of communicable diseases worldwide, and account for more than 4 million infant and child deaths per year. Diarrhoeal diseases account for most water-related infant and child deaths, and a high proportion of illness. Risk factors include contaminated water, poor sanitation, inadequate food hygiene and overcrowding. Many of the disease vectors thrive where there is poor drainage and inadequate provision of garbage collection, sanitation and piped water supply.

Chemical pollutants that affect human health are found in surface and ground water, as a result of industrial and agricultural activities. There is a need to regulate the limit of the hazardous chemicals concentration in the drinking water, in order to make it safe for human consumption. Intestinal worms, especially *Ascaris*/round worms debilitate millions of children and cause severe pain to hundreds of millions of people. Millions of children in rural areas, where irrigation canals are used for agriculture, are infected by bilharzias as a result of direct contact with the water when swimming, washing clothes and bathing.

In contrast, very few fatal cases of waterborne diseases are recorded in Europe and North America where health, water and sanitation services have been substantially improved. World Health Organisation (WHO) estimates that 25-33% of the global burden of diseases can be attributed to environmental risk factors. The improvement of health facilities averts effectively deaths from diarrhoea and other waterborne diseases, through oral rehydration and chemotherapy in the immediate term. The long-term solution is to minimise actual incidence through improvement in water supply, sanitation, food safety and related environmental intervention efforts.

On 3 July 2002, the South African Cabinet approved a White Paper on Sanitation, and a national implementation strategy to provide 3 million households with adequate sanitation. In the White Paper, it is envisaged that resources estimated in the region of R360 million to eliminate the sanitation backlog, will be mobilised by the year 2010. This would lead to lowering the mortality and morbidity rates from sanitation-related diseases, thus resulting in savings in health costs. Also, this would result in increasing productivity due to better health, lower absenteeism and creation of jobs. Thus, contributing to poverty alleviation in rural areas. Moreover, this would increase the learning abilities and attendance by school children, and heighten personal and national pride. Recent outbreaks of cholera and the annual total of 1.5 million cases of diarrhoea in children under five, highlight the importance of improving water supply and sanitation services to restore people's dignity, privacy, and quality of life.

2.5.2 Economic

The health benefits of improved water supply and sanitation services lead to savings in health costs, increase in productivity, and lower absenteeism from work. In many areas where women and children carry the burden of providing water for the household, time previously spent fetching water could be used more beneficially for economic activities, such as growing vegetables, working on farms, engagement in cottage industries (weaving, making baskets, embroideries, wood carving etc), and small business from home. In a study done in Port Elizabeth, Thomas et al. (1999) estimated that the time spent each day by people collecting water from communal taps in the city, added up to the equivalent of 100 working days. Much greater distances, and therefore time, are consumed by water collection in rural areas.

Therefore, improving health, water and sanitation services addresses the issue of sustainable operation and maintenance of the physical infrastructures, such as the hospitals, health centres, water and

sewage treatment plants, and garbage collection and disposal facilities. These are capital-intensive projects, which use huge investment, resulting in jobs for both skilled and unskilled workers. The private sector can benefit in the long term by providing spare parts, contracting operation and maintenance services. Therefore, the development of infrastructure, related to improvement of health, water and sanitation services contributes to the economic growth and, poverty alleviation by reducing unemployment and increasing household income, thus leading to a better standard of living. Thus, an increase in individual income, job security and financial well-being, will bring satisfaction and happiness, which are indicators of quality of life.

2.5.3 Social

In the urban areas, having a tap in the house and swimming pool in one's residence is a sign of social status, while in rural areas, a tap and a pit latrine boost people's feeling of their privacy and fulfilment of demands for good health. The swimming pool is a recreational facility, which indicates the quality of life. Without improved water supply and sanitation services, the pools may not be used most of the time, and the taps may frequently run dry. This indicates the positive impact of improved water supply and sanitation services on quality of life, related to social status. The extent to which an individual is able to achieve self-esteem depends on his/her personality, life style and individual choices and tastes. Improved health, water supply and sanitation services is social investment, which increase life expectancy, improve personal and domestic hygiene, and bring a sense of personal satisfaction and self-esteem.

2.5.4 Environment

Access to desired environmental sanitation services, where there are adequate facilities for refuse collection, cleaning of open drains and sewers, contribute greatly to the reduction of many disease vectors that live, breed or feed within or around houses. The diseases they cause

include some of the major causes of ill health and premature death in many urban and rural areas, especially malaria and diarrhoea. There are also many other diseases caused or carried by insects, that thrive when there is poor drainage and inadequate provision for garbage collection, sanitation and piped water supply.

A healthy city or village is one in which environmental factors contribute very little to ill health, instead, contribute much to promoting and supporting well-being. Perhaps the two best measures of “good governance” is the to which environmental hazards are no longer significant threats to life and health, especially for vulnerable groups in the poorest areas within a city or village, and the level of satisfaction that poor groups derive from their homes and neighbourhoods. Improvement of health, water supply and sanitation services provide innovative solutions to improving the quality of the environment, which enable people to live a healthy and productive life that is fulfilling the societal and cultural demands for material wealth, social status, physical and mental well-being.

2.6 Exploring Water and Sanitation Services

Clean water is required for drinking, maintaining a sanitary environment, for keeping food clean and for practising good personal hygiene. Indicators like distance to the service point, numbers of household to be served per service point (tube, well or tap) and sanitary facilities per person or household (number of persons served by a latrine or toilet) can be used to put up targets for water and sanitation requirements (Slabbert, 1984:25). As pointed out in the White Paper on National Sanitation Policy (WPNSP) (1996:6), the major aim of national sanitation and any consequent programme, is to contribute to improving the health and quality of life of the whole population of South Africa. Experience from national and international water and sanitation programmes has shown how essential it is to link water supply and sanitation with health and hygiene education. Only when all these are in place will real and lasting health benefits follow. In other words, people must be convinced of the need

for sanitation improvements, so that they can invest their own resources into those improvements and spontaneously encourage the practice of good hygiene (WPNSP, 1996:6). As suggested in the WPNSP (1996:7), improved sanitation facilities will only achieve a parallel reduction in diarrhoeal diseases if they are developed alongside hygiene programmes.

Hygiene therefore contributes to the prevention of the transmission of excreta-related diseases. It also seeks to promote ways to create barriers between the organism that cause disease, the intermediate carrier and people. Adequate sanitation is one way to minimise or manage the negative impact that human settlement has on environment. Lack of adequate sanitation and inadequately maintained or inappropriately designed systems constitute a range of pollution risks to the environment, especially to surface and ground water resources, which in turn pose a threat to health. Investments in infrastructure, including sanitation infrastructure, can deliver major benefits in terms of improved health, economic growth, enhancement of quality of life, poverty alleviation, and environmental sustainability, provided that services are in response to effective demand, and that delivery is effective and efficient (WPNSP, 1996:16).

2.6.1 The Sanitation Problem and its Impact

According to the Parliamentary Standing Committee on Water and Sanitation in South Africa, an estimated 21 million South Africans do not have access to adequate sanitation facilities. Those who have inadequate sanitation may be using the bucket system, unimproved pit toilets or the veld. In addition, there is a disturbing increase in poorly designed or operated waterborne sewerage systems. When these fail, the impact on health of the community and others downstream, and the pollution of the environment, is extremely serious (WPNSP, 1996:1). The inadequate excreta disposal facilities mentioned above, combined with unhygienic practices, represent South Africa's sanitation problem.

Often the unhygienic practices are related to the following:

- A lack of access to health and hygienic education;
- Inadequate water supplies;
- Poor facilities for the safe disposal of water and other domestic waste and;
- Inadequate toilet facilities (WPNSP, 1996:1).

As pointed out in the WPNSP (1996:1-20, the effects of the sanitation problem are threefold:

Health Impact - the impact of inadequate sanitation on health of the poor is significant in terms of the quality of life, and the education and development potential of communities.

Economic Impact - poor health keeps families in a cycle of poverty and lost income. The national cost of lost productivity, reduced educational potential and curative health care is substantial.

Environmental Effects - inadequate sanitation leads to disperse pollution of water sources. This in turn increases the cost of downstream water treatment, as well as the risk of disease for communities who use untreated water.

The Constitution of the Republic of South Africa (Act 108 of 1996) provides guarantees that every person the right of access to sufficient water and food, and to health care services. This guarantees every child the right to, amongst other things, basic nutrition and health care services. Access to sufficient affordable clean water for hygiene purposes could be seen as part of the primary health care service. The Government of South Africa is further instructed to take reasonable legislative and other measures within its available resources to achieve the progressive realisation of these rights.

It is therefore advocated in the White Paper on a National Water Policy for South Africa (1997:8) that the reform of the water law must put in place arrangements to ensure amongst other things, that all South Africans gain access to sufficient water to meet basic domestic needs. It is envisaged that this will reinforce the Water Services Bill to regulate the water supply and sanitation services provided by local authorities. Through promulgation of the White Paper in 1997, the South African Government supports the right of all its citizens to have access to basic water services necessary to afford them a healthy environment on an equitable, economically and environmentally sustainable basis. Access to basic water services also includes the provision of potable water supply and the removal and disposal of human excreta and wastewater.

Despite these good intention plans by the South African Government, the findings in the South African Health Review (1998:13), reveal that Africans, particularly those living in rural areas, are worse off in terms of the provision of safe drinking water, adequate sanitation, food and shelter. Hence providing clean water to all South African citizens remain one of the government's biggest challenges. The recent outbreak of cholera that struck mainly in the province of KwaZulu-Natal in August of 2000 highlighted this challenge. The outbreak of cholera struck in the heart of rural areas that were without proper sanitation.

In an article titled 'Exposing South Africa's Rural Underbelly', Haffajee (2001:1) claimed that cholera outbreak in KwaZulu-Natal killed 66 people, and infected more than 18 200 others in 5 months. Haffajee reports that the cholera epidemic struck in the absence of the most basic services, like clean water and sanitation. In his words: "The latest outbreak shows South Africa has taken its place in Africa, where cholera is omnipresent, and reveals that in development terms at least, South Africa is no economic tiger" (Current Affairs, 2001). Haffajee therefore contends that the latest outbreak also underscores the fact that about 12 million people in South Africa do not have access to

clean water, and that 21 million do not have decent sanitation. Consequently, the cholera epidemic has highlighted attention on the needs for clean water and sanitation, thus spurring the South African Government into action.

Subsequently, Ronnie Kasrils, the Water Affairs Minister, reported that the government has responded with an educational campaign and promised to deliver boreholes and pit latrines in areas hit by the disease (The South African Broadcasting Cooperation news of 19 May 2001, at 06h17am). Kasrils said the government would spend R100 million annually over the next three years to speed up water and sanitation provision in cholera prone areas. It is against such incidences as the outbreak of cholera epidemic that struck rural areas in KwaZulu-Natal, which were without clean water and sanitation, that this study highlights the importance of the provision of these services in prevention of poverty-related illnesses. Hence the European Union (EU) funding targets South Africa's poorest provinces for water and sanitation development projects.

The Department of Water Affairs and Forestry said the European Union has set aside nearly R500 million for water and sanitation development projects in the Northern Province, Eastern Cape and KwaZulu-Natal. On 30 November 2000, in a joint statement with the European Commission (EC) in South Africa, the Minister of Water Affairs said that the multifaceted water services support programme is scheduled to provide access to water and sanitation for up to 2.5 million people over the next three years, in some of the South Africa's poorest provinces. Ambassador Michael Laidler, Head of the EC in South Africa, said that as part of its ongoing commitment to the water and sanitation sector, the EC has already agreed to the first phase of funding (World Health Organisation (WHO), 2000:1). According to the WHO, Laidler said that the initial commitment covers the first three years of a six-year programme, and is valued at R301 million. Furthermore, Laidler said

that a decision on the second phase of funding, worth R179 million would be subject to a positive review of the first phase.

As pointed out in the Woza Report (2000:1), the primary objective of the programme is to provide basic water supply and sanitation to rural communities who are in dire need of these basic services. The Minister said that this would be done through a variety of activities, including the support of strategic policy development, water and sanitation services provision, and through institutional support to various levels of public sector institutions. The Minister further stated that the programme would support and strengthen the water and sanitation services sector, and improve the proper functioning of local government in terms of the current policy and legislative framework. Thus the European funding for this sector is provided under the European Programme for Reconstruction and Development in South Africa (Woza Report, 2000:1).

Despite tremendous efforts in the last two decades to provide improved water and sanitation services for the poor in the developing world, today 2.4 billion people worldwide still do not have any acceptable means of sanitation, while 1.1 billion people do not have an improved water supply. These are just two of the major findings from the Global Water Supply and Sanitation Assessment 2000, launched by the WHO and the United Nations Children's Fund (Unicef) (WHO, 2000:1). One of the important main findings was that there are four billion cases of diarrhoea in the world every year, with 2.2 million deaths, mostly among children under five. Therefore, safe water, adequate sanitation and hygiene can reduce diarrhoeal disease by between one-quarter and one-third of these cases (WHO, 2000:1). As highlighted in the WHO report, rural services still lag far behind urban ones, but delivering affordable services to the rapidly growing number of urban poor remains a formidable challenge.

WHO Director-General, Gro Harlem Brundtland and Unicef Executive Director, Carol Bellamy, in the introduction to the report said that access to safe water and to sanitary means of excreta disposal are universal needs and, indeed, basic human rights. They are essential elements of human development and poverty alleviation, and constitute an indispensable component of primary health care (WHO, 2000:1). Richard Jolly, Chair of the Water Supply and Sanitation Collaborative Council (WSSCC), a Geneva-based international organisation for water supply and sanitation professionals remarked that, "It is shameful, a scandal that almost half of the world's population does not have access to adequate sanitation" (WHO, 2000:1). Consequently, at the beginning of 24 November 2000 in Foz do Iguacu in Brazil, 500 water and sanitation experts met to agree on a worldwide programme to address this situation, based on the VISION 21 "Water for People" initiative (WHO, 2000:2). Vision 21 calls out to the world to correct the 'shameful' water and sanitation situation that is plaguing millions of people in developing countries.

Against the background that large numbers of people within South Africa and worldwide still do not have any acceptable means of sanitation and improved water supply. There is no doubt therefore that in rural areas particularly, health, water and sanitation services are useful, and can help to prevent certain serious diseases and to alleviate or even cure others. However, these services will be rendered less important if the major determinants of poverty are not addressed. It is however beyond the scope of this study to examine in detail the roots of poverty in South Africa, presumably this will or have been extensively addressed in other studies. Suffice to highlight poverty and the role of the State in alleviation of poverty by raising the quality of life of the people.

2.7 Indicators to Measure the Impact of Health, Water and Sanitation in the Improvement of the Quality of Life

Health should be seen as an integral part of the development agenda. There is, first of all, the basic recognition that deprivation of health is an aspect of underdevelopment. Just as for the individual, not having medical treatment for curable ailments constitutes poverty. Similarly, for a country not having adequate health arrangements is a part of underdevelopment. Therefore, the issue of health care should be placed at the centre of the development agenda (Mach, 1999:2).

In a nutshell, improvement in the quality of life encompasses those measures that seek to alleviate poverty. Hence much focus has been spent on poverty-associated discourse. In line with this topic under discussion, proposed indicators the researcher intends to use in measuring improvement in health services, and also direct links to improvement in the quality of life amongst poor communities are the following; access to basic sanitation, safe and clean water, and access to health care services. These indicators are based on internationally accepted norms or levels of service delivery, as sighted from the literature review.

2.7.1 Access to Basic Sanitation

This indicator should reflect the percentage of the population with adequate excreta disposal facilities. This should reveal the proportion of population with access to a sanitary facility for human excreta disposal in the dwelling or immediate vicinity. A sanitary facility is a unit for disposal of human excreta, which isolates faeces from contact with people, animals, crops and water sources. Suitable facilities range from simple but protected ventilated improved pit latrines to flush toilets with sewerage. All facilities, to be effective, must be correctly constructed and properly maintained. This includes; the urban population served by connections to public sewers, household systems (pit privies, pour-flush latrines, septic tank etc), communal toilets, and the rural population with adequate excreta disposal, such as pit privies, and

pour-flush latrines. Accessibility to adequate excreta disposal facilities is fundamental to decrease the faecal risk and the frequency of associated diseases. International targets for this indicator have been established under the auspices of the World Health Organisation (WHO) (United Nations Commission on Sustainable Development, 1996:83-84).

To acquire improvement in health services, there should be less overcrowding with availability of garbage collection and disposal facilities. Environmental factors should contribute very little to ill health, and contribute much to promoting and supporting well-being. Moreover, environmental hazards should no longer be significant threats to life and death, especially for vulnerable groups and in the poorest areas within a city. Therefore, access to desired environmental sanitation where there are adequate facilities for refuse collection, cleaning of open drains and sewers, contribute greatly to the reduction of many disease vectors that live, breed or feed within or around houses (Zawide, 2002:3).

2.7.2 Access to Safe, Clean Drinking Water

This indicator should reveal the percent of people with safe drinking water available in the home or with reasonable access. This should reflect the proportion of population with access to an adequate amount of safe drinking water in a dwelling or located within a convenient distance from the user's dwelling. This includes urban population served by house connections, urban population without house connections, but with reasonable access to public stand posts, and rural population with reasonable access to safe water.

Reasonable access to water is water supply in the home or within 15 minutes walking distance. A proper definition adopted should take local conditions into account. In urban areas, a distance of not more than 200 metres from a house to a public stand post may be considered

reasonable access. In rural areas, reasonable access implies that anyone does not have to spend a disproportionate part of the day fetching water for the family's needs. The amount of water needed to satisfy metabolic, hygienic, and domestic requirements should be 20 liters per person per day.

For the water to be safe, it should not contain biological or chemical agents at concentration levels directly detrimental to health. Safe water includes treated surface waters and untreated but uncontaminated water, such as that from protected boreholes, springs, and sanitary wells. Untreated surface waters, such as streams and lakes, should be considered safe only if the water quality is regularly monitored and considered acceptable by public health officials. Accessibility to safe drinking water is of fundamental significance to lowering the faecal risk and frequency of associated diseases (United Nations Commission on Sustainable Development, 1996:86).

2.7.3 Access to Health Services

Poor people often have no access to services thought to be basic in a society. Access to emergency health services is a good example, and one could measure access by determining the amount of people having access to these services. Adequate access therefore will be measured in terms of the distance, time and cost involved in securing these services. The kind of sanitation available and whether refuse is collected will also be determined and compared with the geographic distribution of the population's income. Such comparisons often illustrate the neglect of poorer areas; sometimes due to lack of bargaining power poor people have with local authorities. The presence or absence of these services can often influence significantly the quality of life of poor people.

When discussing access to health services for individuals or communities, a number of parameters have to be taken into account, such as the following:

(i) Distribution of Services

This refers to the quantity of health services and where they are located. The closer services are to the people's homes or places of work, the more accessible they are. Two hours traveling time is considered to be a maximum (Southern African Labour and Development Research Unit (SALDRU), 1983:4). As suggested by Buch & de Beer (1984:8), an accessible service is less than 5 km from people and provides care at all times, at a cost they can afford. Health service policy and the behaviour of health workers should not alienate people.

(ii) Cost of the Service

The fee payable for the services will be an important determinant of access. There are other costs involved as well, such as whether or not the person loses a day's wages when attending a clinic, and the cost of transport (SALDRU, 1983:4). As Buch & de Beer (1984:8-9) therefore suggest, the cost of the health service should not go beyond the means of the community. If that happens, an example of a study done by Buch & de Beer (1984) at Mhala district in Venda revealed that attendance dropped after a fee increase.

(iii) Distance

Distance problems influence patients' attendance at the health service. For example, Buch & de Beer (1984:8) point out that about half the ill patients and children at child health clinics come from the village that is close to the clinic, and attendance decreases progressively as villages get further away.

(iv) Service Times

Many health services operate only during normal working hours, creating serious problems of access for consumers of the service. Buch & de Beer claim that in their study (1984), they saw fewer patients at night than they estimated need to be. They attribute this to the high cost of night transport and the 5.00 p.m. clinic closing time.

(v) Alienation

If people feel alienated from the health service, they are less likely to seek help from it. As Buch & de Beer (1984:10) suggest, health workers should therefore develop good relationship with their patients, inform them adequately, not be elitist, and show respect for traditional beliefs and practices. These practices are intrinsic to the health services and are reinforced by the class background of the health professionals. For example, alienation can result from use of big words, the thinking that traditional customs and beliefs are backward, powerful people don't have to queue, special care is given to more affluent patients, scolding of those mothers whose children are malnourished without considering their problems.

(vi) Quality of Services

This has a subjective component relating to the user's attitude to the service being used, which can only be accurately assessed, by surveys of health services users. Objective factors, which relate to quality of services that can be assessed from ethnographic and secondary source methods, are overcrowding, expenditures on services, staff shortages, and others (SALDRU, 1983:4).

When discussing access to health services for individuals or communities, a number of parameters have to be taken into account, such as the following:

Socio-economic factors are included in the National Health Services Facilities Plan under the heading "Provisions of Basic Needs". The plan states that to maintain a very basic level of minimal health there are four conditions in order of importance:

- Safe drinking water
- Adequate food for human existence
- Basic sewerage and waste removal
- Reasonable housing (SALDRU, 1983:6).

As pointed out by McKeown (1974) (quoted in SALDRU, 1983:6), a convincing argument for the importance of improvement of socio-economic conditions on health has shown that the mortality rates for diseases such as tuberculosis and measles in Britain began to fall long before the introduction of either immunisation or effective chemotherapy. He attributes these improvements to improved nutrition and hygienic measures, which led to a decline in water-and food-borne diseases (SALDRU, 1983:6-7).

As suggested by Doyal (quoted in SALDRU, 1983:7-8), when discussing class differences in morbidity and mortality, people should take aspects of social and economic relations, such as distribution of income and patterns of work, and consumption in order to explain these differences. The argument by Doyal is that in capital societies, the distribution of ill health follows the distribution of income. Those with lower incomes tend to have higher rates of morbidity and mortality since income is a major determinant of the standard of housing individuals and families

can obtain, of where they live, of their diet and of their ability to remain warm and well clothed. All these factors are significant for health. Moreover, the quality of life (and therefore of health) is increasingly influenced by access to the goods and services provided by the State. Hence this study investigates the impact of the selected socio-economic public services (health, water and sanitation) in improving the quality of life among rural communities.

Also, geographical access to health services forms a part of the adequacy of existing services. Equitable access to health, water and sanitation therefore would imply that people with the greatest needs, in terms of both poor health status and poor socio-economic conditions, which are the most important determining factors behind much morbidity and mortality in South Africa, would receive the largest share of the above-mentioned services. Research in Britain has shown the reverse to be true. This has been described as the “inverse care law”; the availability of good medical care tends to vary inversely with the need of the population served (SALDRU, 1983:1). Hence the topic of this study that is under investigation.

It is widely acknowledged that health services alone are only a minor determinant of health to other factors, such as income, housing, nutrition, water supply, sanitation and others. For example, it is well known that in Britain, the incidence of tuberculosis (TB) began to fall long before the introduction of effective chemotherapy as standards of housing; nutrition and other socio-economic factors began to improve (SALDRU, 1983:1). Mindful however of the fact that health, water and sanitation services are not the sole determinant of good health, it is evident that lack of supply of these services serve to reinforce more fundamental ill health. Hence the interest in this study revolves around investigating the impact these services

have on improving the quality of life in rural communities of South Africa. Understanding the quality of life of rural population in South Africa is also important understanding policies related to the services that are associated with amelioration of the quality of life. Changes have been taking place in these services with increasing emphasis being placed on primary health care and community involvement.

2.8 Conclusion

In this chapter, the discussion began by clarifying the meaning of poverty and its problems. It was also argued in this section that poverty is widely recognised as a major determinant of the health status of individuals, households and communities. It has been pointed out however that poverty itself does not cause ill health, but can result in malnutrition, which renders individuals vulnerable to diseases that could be prevented if a person had good immune system. The four reasons for the significance of poverty and a list of poverty-related diseases have been explored. Thus an in-depth discussion on the scourge of poverty, particularly among rural communities who are worse off has been the focal point of attention. It was pointed out that in rural areas, the majority of illnesses stem from poverty and deprivation. Thus the majority of Africans who live in rural areas are directly affected by poverty. Also, the role of the State in alleviating poverty by raising the quality of life of the people has been discussed.

The discussion in this section also highlighted that the quality of life entails improvement in the health status and living standards as a result of access to health, water and sanitation services. The argument therefore is that health-related services, such as water and sanitation should ensure a certain average life expectancy and eliminate mass diseases and ill health. The adverse effects of the non-availability of basic services, such as health, water and sanitation have been singled out as posing risks in the health of the communities affected. Hence, the emphasis is on the importance of the provision of these services. The subsequent outbreak of cholera that struck in

KwaZulu-Natal in August 2000 has been identified as bearing testimony to the dangers of non-supply of clean water and sanitary services. The point has been made that despite the South African Government's efforts in providing water and sanitation services, many people in rural areas still do not have acceptable means of these services.

Finally, this section discussed international accepted indicators that measure improvement of health services, which have direct links to the improvement in the quality of life. These indicators will form the basis of empirical data collection for this study. The research was based on a narrow model of services (health, water and sanitation), which have been empirically proven to be insufficient to draw conclusive findings in other aspects of the survey. Considering the impact poverty-related factors such as quality housing, good nutrition, and income had on improvement of the quality of lives, I have come to the conclusion that their influences need to be investigated in detail in future studies. The next chapter focuses on the overview of the South African regulatory framework, in the form of legislation and policies that impact on the topic of this study.

CHAPTER 3

3. THE POLICY AND LEGISLATIVE FRAMEWORK IN THE DELIVERY OF WATER, SANITATION AND HEALTH SERVICES IN SOUTH AFRICA.

3.1. Introduction

The provision of health, water and sanitation services in South Africa cannot be understood without looking at the important provision of the Constitution of the Republic of South Africa (RSA) of 1996, (Act 108 of 1996). Section 27 of the Constitution guarantees every person the right to health care services, including reproductive health care, sufficient food and water, and to social security and appropriate social assistance if they are unable to support themselves and their dependants. The government is required to take reasonable legislative and other measures within its available resources to achieve the progressive realisation of these rights.

Since the first democratic elections of 1994, South Africans have been promised a better life. Consequent to this promise, countrywide local governments are seeking to improve the delivery of basic services to previously poorly served areas of their jurisdiction. The focus in South Africa at present therefore is on meeting basic needs by ensuring that all citizens have proper housing, water supply and sanitation, electricity, health care and other services. The South African Constitution is structured in such a way that it now reflects the interests of all sectors of the population, creates empowerment of individuals and communities, and upholds the rights of humans and the environment. Against this background, this chapter therefore explores the delivery of water, sanitation and health services in South Africa.

3.2. Water Service

Safe water is essential for health. We need water for drinking, for cooking, washing, for keeping our homes clean and water our vegetables and crops. According to the South African National Task Group (SANTAG), 2001:1), water service cost money and is complex, thus difficult to provide. As

SANTAG points out, before the new South African democratic government of 1994, the law did not provide for water service on a national scale. Wealthy people, who could pay for this service, were provided with clean water service by municipalities.

Most people in South Africa, particularly in rural areas however, were without water service. The burden of collecting and carrying water for household use fell on the women especially. As a result of contaminated drinking water, many people, especially children, became ill or even died. After 1994, the first democratic and representative government governed South Africa, and a national approach was adopted towards water service.

3.2.1 Legislation, Policy Direction and Government Undertakings with Regard to the Provision of Water.

Water is a scarce resource in South Africa, which should be protected and used carefully. Access to sufficient affordable clean water for hygiene purposes should therefore be seen as part of the primary health care services. New water regulations reflect a shift towards full cost recovery from water users and sets standards relating to provision, quality, operational efficiency and economic viability of water services. These regulations also provide a framework within which municipalities will set tariffs (National Expenditure Survey, 2000:287).

There seems to be some lack of clarity on the power and responsibility to set water tariffs. While the Constitution and the Department of Constitutional Development give municipalities discretion in water pricing, the 1997 White Paper on a National Water Policy for South Africa and the 1997 Water Services Act allow the National Minister discretionary powers over the pricing of water at national and local levels (RDP Policy Audit, 1999:15). The National Water Act of 1998 (Act 36 of 1998) regulates water resources and it abolishes the riparian system, which provided for unequal access to water resources.

To this end, key legislation with respect to sanitation is briefly discussed below.

- The Water Services Act 1997 (Act 108 of 1997) is to assist municipalities to undertake their role as water services authorities and to look after the interests of the consumer. It also clarifies the role of other water services institutions; especially water services providers and water boards.
- The National Water Act 1998 (Act 36 of 1998) legislates the way in which the water resource is protected, used, developed, conserved, managed and controlled. It also governs how a municipality may return effluent and other wastewater back to the water resource.
- The Municipal Structures Act 2000 (Act 33 of 2000) provides for the establishment of municipalities in accordance with the requirements relating to categories and types of municipality and to provide for an appropriate division of functions and powers between categories of municipality. The Act allocates the responsibility for water services to the District Municipality or the local municipality if authorised by the Minister of provincial and Local Government.
- The Division of Revenue Act, which is enacted annually, gives effect to Section 214(1) of the Constitution that provides for the equitable division of nationally raised revenue among the three spheres of government. The Act for 2002 makes provision for the CWSS as an "Indirect Conditional Grant " to fund basic level of water services and the implementation of infrastructure projects where municipalities lack the capacity to do so.

3.2.2 Free Basic Water Provision in South Africa

Since early in the year 2000, the Department of Water Affairs and Forestry (DWAF) has been investigating the feasibility of providing a basic level of water supply free to poor consumers. Given the reality that the poorest people cannot pay for basic water, the South African Government supported this initiative, with the announcement by

President Thabo Mbeki in September 2000 that the government aimed to provide free basic services. In October 2000, President Thabo Mbeki launched the African National Congress (ANC) local government election campaign at a rally in the Karoo, with a promise to provide some free basic services to the poor people. The President said that many people in South Africa were so poor that they could not even afford to pay for basic municipal services, like water and electricity (Business Day, 8 October 2000).

The President therefore made a promise that all people would be provided with a free basic amount of water and electricity, but those who exceed the basic amount would pay for the excess consumption. Consequently, in February 2001, the Minister of Water Affairs and Forestry, Mr. Ronnie Kasrils, announced that the government had decided to provide a basic supply of 6000 litres of safe water per month to poor households free of charge, as part of the government's integrated rural development strategy and urban renewal programme. The date for implementation by local government structures was 1 July 2001. This initiative has been supported by the majority of Municipal Councillors in the new municipalities established at the end of the year 2000.

However, although municipalities were expected to start implementing the free basic water policy from July 2001, it was recognised that some municipalities might not have the capacity to implement the policy to a full extent immediately. The national government and the South African Local Government Association (SALGA) are providing support to local government to ensure that they have the capacity to implement this policy (DWAF, 2001). While the national government has strongly promoted a free basic services initiative with a view to alleviating poverty, it is local government that is constitutionally mandated to deliver water services. This means, therefore, that free basic water must be implemented at the local level where decision-making must rest. However, because South Africa has a system of cooperative

governance, the provincial and national spheres of government are obliged to provide support to local government. Furthermore, provincial government is required to monitor the performance of local authorities.

(i) The Implementation of Free Basic Water Services.

The South African standard on a basic level of water supply sufficient to promote healthy living draws on the World Health Organisation (WHO) standard of 25 litres per person per day. This amounts to about 6000 litres per household per month for a household of eight people (DWAF, 2001:2). This volume has been set as the basic target for all households in South Africa and will be regulated as part of the strategy in terms of Sections 9 and 10 of the Water Services Act of 1997. However, local authorities will still have some discretion over this quantity. In some areas, they may choose to provide more, while in other areas only a smaller amount may be possible. For example, in some remote areas with scattered settlements, and in water stressed areas, it may not be feasible to provide 6000 litres of water. In such cases, a basic level could relate to what is possible using the technology that best serves the area, such as hand pumps or boreholes (DWAF, 2001:2).

In terms of the implementation status, as of 1 July 2001, approximately 23 million people have been receiving a free basic water supply from their local authorities (DWAF, 2001:3). The provision of free water has been a reality and in place in some municipalities like in Durban for a few years now. According to a media statement of 13 October 2000, the Minister of Water Affairs and Forestry, Ronnie Kasrils stated that in the last five years, the government has delivered safe water to 6 million people in rural areas, at a cost of R3.4 billion. This includes 3.5 million people that were provided with water in the

period March 1994 to March 1999, the greatest number of beneficiaries being in the Eastern Cape Province (34% of the total). Kasrils further stated that in October 1999, 7.5 million people had no access to running water.

In a media statement in February 2001, Kasrils stated that the DWAF's survey of 97 local authorities has found that 21 local councils were already offering some form of free water as follows:

- Ten provide between 5000 litres and 8000 litres free water to individual metered households. These included Humansdorp, De Wetsdorp, Kokstad, Durban, Kenhardt and Prieska.
- The other 11 local councils provide free services through communal standpipes and similar facilities.

Kasrils further indicated that in a vote of confidence in the South African Government, the European Union (EU) has contributed R500 million grants over the next three years for the water and sanitation services. The grant forms part of a R2.2 billion programme, which will provide water to 2.4 million people in KwaZulu-Natal, the Eastern Cape and the Northern Province. These three provinces were identified in 2000's report on poverty as being the poorest of the poor.

The provision of water services therefore will ensure that the poor communities, particularly rural communities do have relative equal access to basic water services to improve the quality of their lives. In rural areas, a tap boosts people's feeling of their privacy and fulfilment of demands for good health. It should be remembered that it emerged from the "Speak Out on Poverty" hearings held between March and June 1998 that

people expressed disappointment with the rate of delivery of promised services. Poor access to water, both for domestic and productive purposes, featured prominently in virtually all the hearings, in both rural and peri-urban areas.

Therefore, access to infrastructure and services, such as water has direct effects on health. Improved infrastructure will make a positive contribution to the health of the poor in rural areas in particular. The delivery of water therefore will enhance the health profile of the rural poor and alleviate poverty. Many diseases such as diarrhoea, intestinal helminth infestation, poliomyelitis, typhoid, schistosomiasis and cholera may result from lack of access to safe clean water, poor sanitation and unhygienic practices.

The existence of cholera and typhoid as major hazards in the rural areas is directly related to the fact that people need to use polluted water sources. In addition, a number of skin diseases, eye infections and other illnesses, which are related to poor hygiene, are prevalent in areas where scarce or polluted water supplies coincide with other predisposing factors to promote the spread of these diseases. Bilharzia is another debilitating illness, the prevalence of which derives from people being exposed to infected water sources because of the non-availability of clean water. Therefore, an adequate supply of clean water is fundamental if health is to be preserved.

(ii) Revenue Currently Available for Financing Basic Water.

Municipalities that are water services providers and water services providers contracted to municipalities must spend money to supply water to consumers. If consumers do not pay for the service, or only pay part of the costs, then the funds have

to be raised elsewhere to subsidise the cost of providing the service. Internal and external revenue options for subsidising the cost of basic water supplies are the following:

Internal Sources

- Surpluses raised within the water trading account by charging certain (non-poor) consumers more than the cost of providing the service to them.
- Surpluses raised from other accounts, typically from the municipal tax income.
- District council levies raised from business (traditionally used for capital finance).

External Sources

- The S-grant proportion of the equitable share of national revenue allocated to the municipality.
- Other transfers from national government, such as payments for services run by local authorities.

The application of internal sources of funds implies a cross-subsidy from certain consumers to others (DWAF, 2001:4).

(iii) Funding and Grants

Sources of funding for provision of water that are available to local government include the Municipal Infrastructure Grant (MIG), the Consolidated Municipal Infrastructure Programme (CMIP) and Equitable Share funding transfers from national to local government, and revenue collected by local authority.

(a) The Consolidated Municipal Infrastructure Programme (CMIP)

The CMIP furthers the aims of the Reconstruction and Development Programme ((RDP), through the provision of bulk, connector and internal services, and community services and facilities in support of needy communities in ways that enhance the integration of previously divided areas. The CMIP makes available capital grants to municipalities to provide services and facilities such as water, roads, storm water drainage, solid waste disposal, community lighting, clinics, cemeteries and multi-purpose community and sports facilities to needy communities (Department of Provincial and Local Government (DPLG).

The DPLG administers the CMIP Grant, which provides funding to municipalities for the provision of bulk infrastructure. The Local Economic Development (LED) Fund, an instrument aimed at promoting job creation at the local level, has enhanced local government's ability to alleviate poverty. Further consolidation of infrastructure grants from other national sector departments is planned for phased incorporation into a new Municipal Infrastructure Grant (MIG) during 2003/04 (National Treasury, 2003:74-75).

Since the inception of the CMIP in 1997, the programme has committed R8, 067 billion towards a range of project categories such as water, sanitation, roads and storm water management, solid waste disposal, community lighting, clinics, cemeteries and multi-purpose community facilities and sports facilities. In this regard, a total of 2

323 projects have been completed from 1997 to 2003 (Department of Provincial and Local Government).

(b)The Municipal Infrastructure Grant (MIG)

MIGs are conditional grants for capital investment provided by the national government. It is intended to provide capital finance for basic municipal infrastructure for poor households (those with household incomes of below R1 100 per month) and to a limited extent enterprises and deserving institutions. Municipalities in urban renewal and rural development programmes are favoured for support. The MIG will have an overall target of removing the backlog with regard to access to basic municipal services over a ten-year period (DWAF, 2002:5).

The grant will be phased in over a three-year period, through the merger of CMIP, the LED Fund, the Water Service Capital Grant, the Community Based Public Works Programme and the Building for Sports and Recreation Programme. Individual national line departments will continue to lead the monitoring and support of the implementation in their specific functions and priorities.

(c) The Equitable Share

The equitable share is provided by national government to the local government for subsidising operating costs. It was introduced to assist the local government to overcome the burden of service delivery to the poor.

(d) Local Authority Revenue

The Local Authorities' own revenue may be used to cross subsidise between rich and poor households. A broad assessment of municipal income in rural areas indicates that direct cost recovery is only applied to electricity. Any shortfall in the funding for other services such as water is either carried by the service provider or financed with intergovernmental transfers. The total cost of service provision in rural areas, with the exception of electricity, is therefore subsidised (DWAF, 2002:6).

(e) Subsidies

South Africa has the resources to subsidise service provision, specifically to the indigent. According to DWAF (2002:6), once-off capital subsidies that are currently provided for water is R600 to R1 000 per capita.

(iv) The New Sources of Revenue from National Fiscus to Support the Free Basic Water Policy.

The Minister of Finance, Trevor Manuel, in his budget speech of 21 February 2001 announced significant additional allocations to local government over the next three years. Mr. Manuel indicated that local government's total share of nationally raised revenue will rise by 11% a year, at a faster rate than any other sphere of government.

The increase in the equitable share allocation is the most direct contribution to the free basic services challenge. This allocation increased most rapidly from R1867 million in 2000/01 to R2618 million in 2001/02, and is projected to increase to R3551 million in 2003/04. The formula for the horizontal distribution of the equitable share favours poor areas with limited revenue raising potential, and thus the increased allocations will benefit those municipalities that have the most limited potential to cross-subsidise. In addition, the National

Treasury and the Department of Provincial and Local Government are investigating raising the poverty level used in the equitable share formula from R800 per households per month to R1100. Should such a change be approved, this will improve the horizontal equity of the distribution formula.

Local government will also receive additional conditional grant funding, most notably through the introduction of a transition grant to assist municipalities with the costs of amalgamation following boundary demarcations. Total transfers to local government, including the equitable share, rise from R6.5 billion in 2001/02 to R7.8 billion in 2003/04. These funds include R2.2 billion in allocations for the extension of basic municipal infrastructure to poor households (DWAF, 2001:6). All these measures of funding are to ensure that poor communities who cannot afford to pay for water services, are subsidised to ensure that the adverse effects of non-availability of safe clean water taken care of. Consequently, improvement to safe water services will enhance the quality of life, thus alleviates poverty.

3.3. Sanitation Service

Sanitation service is essential for health. People need sanitation services for getting rid of human and household waste material, and for keeping their homes healthy and as free of disease as possible. According to the South African National Task Group (SANTAG), 2001:1), sanitation service cost money and is complex, thus difficult to provide. After 1994, the first democratic and representative government governed South Africa. The new government adopted a national approach towards sanitation issues.

In August 1995, Sanitation "Think Tank" began a consultative process. In November 1995, six cooperating departments made up the National Sanitation Task Team (NSTT). These departments, who committed themselves to the improvement of sanitation, are Water Affairs and Forestry, Education, Environmental Affairs and Tourism, Health, Provincial Affairs and

Local Government, and Housing (SANTAG, 2001:2). As a result of their deliberations, a National Sanitation Policy was formulated in 1996. The Water Services Act (Act 108 of 1997) has bolstered this.

One of the main objectives of the Act is to ensure that everybody has access to basic water supply and sanitation services necessary for health and well-being. Basic services are the minimum service levels needed to make sure that a healthy and safe environment exists for everyone in the area that is serviced. This law tries to ensure that people, who were previously disadvantaged, will be able to take advantage of new developmental opportunities. A central objective of the Act is to protect the rights and needs of poor people.

3.3.1. The Provision of Sanitation Services in South Africa.

Providing adequate sanitation facilities for the poor people is one of South Africa's major challenges. An estimated 18 million South Africans are without access to such facilities and may be using the bucket system, pit toilets or the veld. In addition, there has been a disturbing increase in the numbers of poorly designed and poorly operated water-borne sewerage systems, especially in urban areas. It is therefore a firm belief of the South African government that sustainable development can only be achieved through a focus on poverty eradication and economic development (White Paper on Basic Household Sanitation, 2001:1). Water, sanitation and hygiene are regarded as key issues for the achievement of these objectives.

To this end, the government's sanitation programme is targeted towards the poorest of the poor, thus ensuring that the benefits of the programme are delivered to those persons that are most in need. The South African government is committed to ensuring that its entire people have access to adequate sanitation. According to the White Paper on Basic Household Sanitation, the government intends to

improve on the Millennium Development Goal to halve the sanitation backlog by 2015, by completely removing the backlog by the year 2010.

(i) The Period of Sanitation Policy Development and Implementation From 1994 to 2001.

Addressing the water supply and sanitation backlog was one of the first priorities of the newly elected democratic government in 1994. On 1 July 1994, a new Department of Water Affairs and Forestry was established that consolidated government staff from all parts of the previous structures into one new organisation. In the absence of a coherent policy for water supply and sanitation, the White Paper on Water Supply and Sanitation Policy was compiled that set out the policy for the new Department with specific regard to these services. The finalisation of the White Paper was identified as a key priority, as well as the development of an integrated implementation strategy for clearing the backlog in support of local government for sanitation provision (DWAF, 1994). In the execution of this intent, the government embarked on a major investment programme in 1994, aimed at the provision of basic services, primarily in poor rural areas. The DWAF consulted with a range of stakeholders, which formed the basis for the development of the Community Water Supply and Sanitation (CWSS) Programme. The primary objective of the CWSS programme is to extend the access to basic water supply and sanitation services to all people resident in South Africa.

The Constitution of the Republic of South Africa (Act 108 of 1996) was published in 1996 and assigned the local government the responsibility of providing water and sanitation services access to all. A range of municipal legislation has been developed and implemented since 1994 to transform the local

government, including the Local Government Municipal Demarcation Act 27 of 1998, the Municipal Structures Act 117 of 1998, the Municipal Structures Amendment Act 33 of 2000, and the Municipal Systems Act 32 of 2000. However, in the absence of fully developed local government structures, the DWAF was mandated to ensure that all South Africans have equitable access to water and sanitation services where local government was unable to carry out this mandate. Targets were set to eliminate the backlog over a ten-year period to provide each individual with at 25 litres of water per day within 200 metres of their home, and to provide each household with basic sanitation in the form of at least a Ventilated Improved Pit (VIP) latrine.

A National Sanitation Task Team comprising representatives of the national departments with responsibilities for providing sanitation service (i.e. Health, Education, Environmental Affairs and Tourism, Housing, Water Affairs and Forestry, Provincial and Local Government, and Public Works) and the Mvula Trust was established in 1995 to facilitate an integrated inter-departmental approach. The NSTT's specific objective was to provide a coherent framework for addressing the sanitation backlog. A process of consultation was undertaken with the three levels of government, non-governmental organisations (NGOs), community-based organisations (CBOs) and other stakeholders, which resulted in the compilation of the Draft White Paper on Sanitation (DWAF, 1996).

This policy document formed the basis for the development of the National Sanitation Programme in 1996, which was revised in 1998 (DWAF, 1996 and 1998). The NSTT launched a new initiative in 2000 to update the 1996 Draft White Paper on Sanitation in the light of legislative developments at both the national and local level that impact on local government service delivery, and to incorporate the experience gained in the

implementation of the sanitation programme. Stakeholder inputs were incorporated into the revised draft. Parliament subsequently endorsed the White Paper on Basic Household Sanitation during September 2001 (DWAF, 2001).

(ii) The Period of Sanitation Policy Development and Implementation from 2001 to 2002.

Over the last 7 years (1994 to 2001), considerable progress has been made in addressing the levels of under-servicing. However, the demand for the expansion of municipal infrastructure continued to exceed supply, leading to rising backlogs in some services and limited progress in the elimination of backlogs. Local government has been extensively restructured to meet these challenges and fulfil its developmental mandate. At the beginning of the period (2001), the national backlog of persons without access to adequate sanitation facilities was estimated to be 18 million or 3 million households (DWAF, 2002:3). The majority of persons falling in this category live in rural areas, peri-urban areas and informal settlement areas. It is also estimated that up 26% of urban households and 76% of rural households have inadequate sanitation. According to the DWAF (2002:3), this backlog was further reduced by 2.4 million persons during the next year.

The DWAF, supported and assisted by sanitation role players, has developed and launched a National Sanitation Programme that is already showing positive results. The Programme focuses on the eradication of the sanitation backlog in the rural, peri-urban and informal settlement areas by the year 2010. In addition, eradication of the bucket system (currently estimated at about 428 000 households) is to be achieved by 2007 (DWAF, 2002:3). These targets are to be met through the provision of two primary deliverables, namely promotion of sanitation, health

and hygiene awareness and the provision of a basic toilet facility.

Secondary deliverables necessary to create an appropriate enabling environment for a community-based approach includes training and capacity building elements. Projects will be implemented using a community-based approach. The highest priority will be given to those communities that face the greatest health risk due to inadequate sanitation and who cannot afford to meet their own requirements. To maximise synergy of effort, the prioritisation of communities will be aligned with the priority areas identified in the Integrated Sustainable Rural Development Strategy process.

The DWAF (2002:4) identified community participation as a key requirement for the success of the implementation programme. Projects are to be demand driven by the community, as demonstrated by the community's willingness to assist in project implementation. Where possible, projects are to be implemented without the use of external contractors to facilitate the upliftment of the local economic situation. Training is to be provided to members of the local community to construct the facilities. Sufficient information is to be provided to the community to enable them to make an informed decision with regard to the type of technology implemented.

The 2001 cholera outbreak and subsequent proposal and initiatives to contain the epidemic highlighted the importance of sanitation and the need for a close inter-departmental co-operation and clear leadership of the sector. The close link between water supply, sanitation and health necessitates that these issues are addressed jointly and in an integrated manner at national, provincial and local government level. The Department of Health, in collaboration with DWAF, has

developed a National Cholera Strategy to combat and prevent the spread of cholera. It includes immediate, medium and long-term interventions as well as how to deal with organisations, funding and logistical arrangements in case of emergencies.

A policy review process has been initiated to address the changes needed to reflect the new local government and municipal financial arrangements. A draft discussion document has been compiled to stimulate discussion and debate around key issues and policy options to support the process. The process is to be followed with bilateral meetings with key stakeholders and regional consultation workshops in order to compile a draft White Paper on Water Services, which will include broad sanitation areas. Policy gaps identified in the White Paper on Basic Household Sanitation, which are currently being addressed, include farm dweller sanitation, informal settlements, norms and standards, emergency sanitation, and free basic services.

3.3.2 Funding Mechanisms

Sources of funding for sanitation improvement that are available to local government include, the, Municipal Infrastructure Grant (MIG) and Equitable Share funding transfers from national to local government, the revenue collected by the local authority, and CMIP.

(a) Municipal Infrastructure Grants (MIGs)

Municipal Infrastructure Grants are conditional grants for capital investment provided by national government. It is intended to provide capital finance for basic municipal infrastructure for poor households (those with household incomes of below R1 100 per month) and to a limited extent micro enterprises and deserving institutions. Municipalities in the urban renewal and rural

development programmes are favoured for support. The Municipal Infrastructure Grant will have an overall target of removing the backlog with regard to access to basic municipal services over a ten-year period. The grant will be phased in over a three-year period, through the merger of Consolidated Municipal Infrastructure Programme, the Local Economic Development Fund, the Water Service Capital Grant, the Community Based Public Works Programme and the Building for Sports and Recreation Programme. Individual national line departments will continue to lead the monitoring and support of the implementation in their specific functions and priorities (DWAF, 2002:5).

(b) The Equitable Share

The Equitable Share is provided by national government to the local government for subsidising operating costs. It was introduced to assist the local government to overcome the burden of service delivery to the very poor.

Where the cost of service delivery exceeds the amount that is billed to very poor households, the subsidy will be used to contribute towards the general operating account of the local authority. This subsidy is an inter-governmental transfer of funds from national to local government. However, the Constitution indicates that inter-governmental transfers like the Equitable Share cannot be conditional, which means that local authorities have used the subsidy for other purposes.

(c) Local Authority Revenue

The Local Authorities' own revenue may be used to cross subsidise between rich and poor households. A broad assessment of municipal income in rural areas, (the areas with the greatest sanitation need), indicates that currently direct cost

recovery is only applied to electricity. Any shortfall in the funding for other services is either carried by the service provider or financed with inter-governmental transfers. The total cost of service provision in rural areas with the exception of electricity is therefore currently subsidised. Cost recovery in many areas remains a matter that requires urgent attention.

The local authority has discretion in deciding on the composition of the service delivery packages, the levels of service and the manner in which these are funded. The Integrated Development Plan is the mechanism for deciding on priorities and for steering and co-ordinating service delivery to avoid duplication of subsidies and the construction of houses without services (DWAF, 2002:6).

(d) Subsidies

Despite the view of the World Bank that service provision should not be subsidised, the South African government believe that this approach is justified. Due to the large disparity of rich and poor in South Africa, the average per capita income in South Africa is estimated to be R3 700 per annum, which exceeds the R3 000 that is defined to be the poverty line per annum, that is defined to be the poverty line. South Africa therefore has the resources to subsidise service provision, specifically to the indigent. Once-off capital subsidies are currently provided for housing (R15 000 to R17 000 per household); water (R600 to R1 000 per capita), sanitation (R1 200 per household) and rural electrification (DWAF, 2002:6).

(e)The Consolidated Municipal Infrastructure Programme (CMIP)

The CMIP furthers the aims of the Reconstruction and Development Programme ((RDP), through the provision of bulk, connector and internal services, and community services and facilities in support of needy communities in ways that enhance the integration of previously divided areas. The CMIP makes available capital grants to municipalities to provide services and facilities such as water, roads, storm water drainage, solid waste disposal, community lighting, clinics, cemeteries and multi-purpose community and sports facilities to needy communities (Department of Provincial and Local Government (DPLG).

The DPLG administers the CMIP Grant, which provides funding to municipalities for the provision of bulk infrastructure. The Local Economic Development (LED) Fund, and instrument aimed at promoting job creation at the local level, has enhanced local government's ability to alleviate poverty. Further consolidation of infrastructure grants from other national sector departments is planned for phased incorporation into a new Municipal Infrastructure Grant (MIG) during 2003/04 (National Treasury, 2003:74-75).

Since the inception of the CMIP in 1997, the programme has committed R8, 067 billion towards a range of project categories such as water, sanitation, roads and storm water management, solid waste disposal, community lighting, clinics, cemeteries and multi-purpose community facilities and sports facilities. In this regard, a total of 2 323 projects have been completed from 1997 to 2003 (Department of Provincial and Local Government).

3.3.3 Information and Education Programmes

A Water, Sanitation and Hygiene awareness campaign has been launched in collaboration with the United Nations Water Supply and Sanitation Collaborative Council. The aim of the campaign is to increase hygiene awareness and to promote hygienic sanitation practices. The Department of Education is also assessing the mechanism of including health and hygiene education on the curriculum in order to maximise education impact on hygienic sanitation practices.

3.3.4 Inter-Sectoral Approach-Roles and Responsibilities for Providing Services.

One of the main obstacles to the effective delivery of acceptable sanitation in the past has been the lack of clarity on the roles and responsibilities of the various role players. The roles and responsibilities of the three levels of government have subsequently been clarified in the White Paper on Basic Household Sanitation as follows:

- The local government is in the first instance accountable for the provision of sanitation services and, through its Environmental Health Practitioners, to promote health and hygiene awareness and to monitor the health of its communities. The local government must also take responsibility for driving the process set in the White Paper on Basic Household Sanitation at the local level, for creating an enabling environment through its municipal by-laws and for taking responsible decisions on levels of service to ensure that they are both appropriate and affordable. Local government is required to develop an Integrated Development Plan (IDP), which is aimed at the integrated development and management of its area of jurisdiction. One component of this plan is a Water Services Development Plan that reviews current service levels and backlogs and sets clear objectives with quantifiable performance indicators. Using these objectives, a domestic sanitation business plan is developed that

includes a detailed strategy development process. Councillors and local government officials are encouraged to participate in the development of this coherent strategy and to agree on the priorities and approaches.

- Provincial government is responsible for supporting local government in achieving their objectives and ensuring that they perform effectively. Support can be provided in a number of areas, including financial, human resources and technical. In addition, certain provincial departments, such as provincial departments of the environment, local government, education, health and housing are the implementation arms of their national counterparts.
- At a national government level, there are a number of role players responsible for sanitation. In accordance with a Cabinet decision, DWAF is responsible for co-ordinating the involvement of national government in the sanitation sector. Other key role players at the national level include the Department of Provincial and Local Government, the Department of Health, the Department of Education, the Department of Housing, the Department of Public Works, The Department of Environmental Affairs and Tourism and the National Treasury.
- The Department of Provincial and Local Government is the custodian of the Municipal Systems Act and the Municipal Structures Act. Matters relating to provincial and local government systems fall within this department's ambit. This includes promoting the development by the municipalities of their Integrated Development Plans, ensuring that provincial and local government have the capacity to fulfil their functions, co-ordination of the provincial and local government's equitable share and municipal infrastructure grants, and the provision of financial support to sanitation programmes.
- The focus of the Department of Health is to provide all South Africans with access to affordable, good quality health care. In co-operation with the provinces, the Department of Health has the primary responsibility to creating demand for sanitation services through

health and hygiene awareness and education programmes, developing standards and norms relating to health aspects of sanitation and water supply, co-ordinating interventions when a crises poses a regional or national health risk, and providing a systematic approach to the proposition of sanitation facilities in clinics, hospitals and other health institutions.

- The Department of Housing is responsible for developing norms and standards in respect of housing development and for co-ordinating the application of the housing subsidies administered by the provincial housing departments. The minimum level of service prescribed for sanitation is a VIP per household, unless the situation, such as soil conditions, dictates otherwise.
- The National Department of Education is responsible for the development of curricula, while the provincial departments are responsible for the provision of school facilities, including toilets and other sanitation facilities. The Department of Education, together with the Department of Health, develops curricula, guidelines and other support mechanisms to take up issues relating to health, hygiene and sanitation.
- The Department of Public Works acts as the implementing agent on behalf of the national and provincial government departments when facilities, such as schools and clinics, are constructed or rented. The Department has the responsibility in ensuring that adequate provisions are made for sanitation facilities in government and public buildings, and ensuring that norms and standards are complied with.
- The Department of Environmental Affairs and Tourism is responsible for the protection of the environment. The Department will take primary responsibility for developing policies, guidelines, procedures, norms and standards relating to the impact of sanitation systems on the environment and for monitoring environmental impacts of sanitation systems.

A number of co-ordinating structures have been established at the three levels of government. Co-ordination of sanitation programmes at a national level is through the National Sanitation Task Team (NSTT). In order to achieve greater alignment between sanitation and other municipal infrastructure programmes, the sanitation co-ordination structure will be re-established as a sub-committee of the Municipal Infrastructure Task Team. As the national sphere co-ordinator, DWAF will be responsible for convening the sanitation sub-committee and will ensure participation by all relevant stakeholders.

At a provincial level, Provincial Sanitation Co-ordinating Forums have been established that comprise representatives of the district and metropolitan local authorities and the relevant national government departments, and chaired by provincial representatives. Co-ordination and integration at the local government level will be the responsibility of the District Municipality or Metro as the Water Services Authority or the local municipality. The Integrated Development Plan is the mechanism for attaining this integration between role players at the local level, as well as between municipalities and their provincial and national government counterparts. Within the Integrated development Plan, the Water Services Development Plan provides the basis for sanitation provision and operation.

3.3.5 Implementation of Sanitation

Experience has shown that good health requires three essential components, that is, water, sanitation and hygiene. Good sanitation is as much about people and their personal dignity as it is about public health, infrastructure provision or environmental management. Government policy states that basic sanitation is a human right, and emphasizes the importance of involving ordinary people in choosing, planning and implementing sanitation improvements that meet their needs and aspirations.

(a) Phased Implementation

The Community Water Supply and Sanitation (CWSS) Programme was launched by DWAF to address backlogs in these areas. The first phase of the programme that was initiated in 1994 involved the identification and immediate implementation of key water projects. However, the provision of sanitation services lagged behind water, and only in 1997 was the National Sanitation Programme initiated.

During the second phase of the programme, the focus was on increasing the rate of delivery of water and sanitation services in order to meet the government target of eliminating the backlog within 10 years. The DWAF was assisted in this task by a large number of implementation agents and project teams, including NGOs and small-scale private sector support teams who undertook the project work on the ground. They worked to support local committees to assist in delivery and training in building, health and hygiene promotion.

The third and final phase of the programme is currently ongoing. The Masibambane (an isiZulu word meaning, "let us work together") Programme has been integrated with the CWSS programme. Masibambane is a sector support programme intended to enable the provision of basic water supply and sanitation services through a variety of activities. The focus is on rural communities in the provinces of Limpopo, KwaZulu-Natal and Eastern Cape, as 80% of the national backlogs in water supply and sanitation delivery are in these areas. Between January 2000 to February 2002, 65 542 new toilets and 4 768 upgraded toilets have been completed serving 545 320 people, and a total of 553 000 people have been positively impacted by health and hygiene education (DWAF, 2002:9). This has created

an additional short-term 11 662 jobs, of which 3 598 are for women.

(b) The Benefits of the Provision of Sanitation Services

Inadequate sanitation frequently results in the loss of privacy and dignity, and increases risks to personal safety when toilets are placed at a distance from the home. This is particularly true for women and the elderly. Poor sanitation and unusable facilities in many rural contributes to absenteeism and an uncongenial learning environment, and is cited as an important reason why many girls drop out of school (UNICEF, 2002).

The national sanitation programme therefore has immense potential to alleviate poverty directly through sanitation improvements which break the cycle of ill-health, lost income, foregone opportunities and economic impoverishment and indirectly, through investment in local knowledge, skills and implementation capacity. Where local representative structures and Small, Medium and Micro Enterprises (SMMEs) drive sanitation improvement, that knowledge is entrenched locally and funds intended for rural development remain within targeted communities, rather than flowing straight back to urban centres.

Community-based, rather than contractor-based approaches that focus on sanitation improvement for people are encouraged by government. Although contractor-driven approaches offer speedy delivery, community-based approaches are more likely to ensure long-lasting benefits with significant positive implications for community health and local economic development (Netshiswinzhe and Eales, 2002). Awareness is also raised about the link between health, sanitation and waste management, which leads to more sustainable health

improvements. Skills and jobs developed in the context of sanitation improvement remain within the community, and can be extended to other development initiatives. Community-managed projects have been shown to be more sustainable, because projects reflect local priorities and preferences, and result in a greater sense of ownership.

Access to desired environmental sanitation services where there are adequate facilities for refuse collection and cleaning of open drains and sewers, contribute greatly to the reduction of many disease vectors that live, breed or feed within or around houses. The diseases they cause include some of the major causes of ill health and premature death in many urban and rural areas, especially malaria and diarrhoea. There are also many other diseases caused or carried by insects that thrive when there is poor drainage and inadequate provision for garbage collection, sanitation and piped water supply. A healthy city or village therefore is one in which environmental factors contribute very little to ill health, but much to promoting and supporting well being.

The delivery of sanitary services therefore will improve access to basic needs; enhance the health profile of the rural poor and their access to employment opportunities. This would lead to lowering the mortality and morbidity rates from sanitation-related diseases, thus resulting in savings in health costs. It would result in increasing productivity due to better health and lower absenteeism and, creates jobs, thus contributing to poverty alleviation in rural areas. It would increase the learning abilities and attendance of school children, and heighten personal and national pride.

Thus, increase in individual income; job security and financial well-being will bring satisfaction and happiness, which are

indicators of quality of life (Zawide, 2002:2). This will contribute to both employment creation and government revenue, which in turn can be used for delivering additional infrastructure and social services (SAHR, 1996:15). Access to sanitary means of excrete disposal is essential element of human development and poverty alleviation that constitute an indispensable component of primary health care. Investments in infrastructure, including sanitation infrastructure can deliver major benefits in terms of improved health, economic growth, and enhancement of quality of life, poverty alleviation, and environmental sustainability.

3.3.6 Challenges

South Africa has made significant progress in the field of sanitation service provision since the introduction of the democratically elected government in 1994. Appropriate sanitation policies have been developed, adapted and refined in the light of practical experience with implementation. Many lessons have been learnt and these have been used to refine implementation strategies. According to the DWAF (2002:11), the major challenges now facing in South Africa in promoting sustainable, affordable and efficient service delivery, includes:

- Promoting the Water Service Development Planning Process, within the framework of the Integrated Development Plan, as the key instrument for planning, monitoring and regulating waster services, with full community involvement. Service provision should be demand-responsive rather than supply driven to ensure appropriate choices of technology, lower costs, better uses of resources and more sustainable services. The Water Service Development Plan should guide strategies related the choice of service levels and technology implemented.

- Developing an appropriate regulatory framework that ensures the effective, efficient, equitable and sustainable provision of at least basic sanitation services to all people living in South Africa, and cost-effective, reliable services to businesses and institutions.
- Finalisation of the institutional framework. Currently the local government structures must deal with a range of approaches to service provision that span both urban and rural areas. The allocation of powers and functions between district municipalities and local municipalities needs to be resolved.
- Rationalising the financial framework in order to support sustainable service provision, specifically with regard to the provision of free basic services and implementing appropriate pricing for services.
- Managing the transition to local government as the service provider and DWAF to become the supporter and regulator.

Furthermore, South Africa wishes to share its experience with its neighbours and all African countries, as well as learning from their experiences in order to realise its vision to clear the backlog in sanitation by 2010 in a sustainable manner.

3.4. The Provision of Health Services in South Africa.

In Chapter 2 (27) of the Republic of South Africa Constitution 1996 (Act 108 of 1996), it is stipulated that everyone has the right to have access to health care services. This stipulation is in response to unjust apartheid policies of the past that created imbalances with regard to access to health services. Consequently, the black population in particular had minimum access to quality health care. Thus, as a result of former apartheid policies, which ensured racial, gender and provincial disparities, South Africa exhibits major disparities and inequalities. The majority of the population of South Africa has inadequate access to basic services, such as health, clean water and basic sanitation.

Consequently, the South African Government has set itself the task of developing a unified health system, capable of delivering quality health care to all its citizens efficiently and in a caring environment. The strategic approach guiding the government in this endeavour is that of Comprehensive Primary Health Care, with the belief that this accords with the health objectives spelt out in the Reconstruction and Development Programme (RDP), which is the mechanism for socio-economic transformation in South Africa. The government advances a wide range of policies that will fundamentally transform the health care delivery system.

The South African Health System has undergone major changes over the last 5 to 10 years. This includes the shift from a mainly curative, hospital-based service to a primary health care, and community-based service. These changes also include the amalgamation of 14 different departments of health into one unified health service. These rapid changes have not only significantly increased the visibility of the nurse practitioner in South Africa, but are also posing challenges to the profession and health care services that need to be addressed (Geyer, 2001:17).

The major health care challenge therefore for the new South Africa is to provide equity in basic health care to all its citizens and, in the process, to rectify the underlying inequities in health services provision brought about by apartheid. Another major public health challenge facing South Africa is the epidemic of Human Immuno-Deficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). Recent estimates suggest that 16% of the adult population is HIV positive, with rates ranging as high as 27% in KwaZulu-Natal Province (Geyer, 2001:17).

3.4.1. The Concept of Primary Health Care

The concept of primary health care encompasses a political philosophy that calls for radical changes in both the design and content of traditional health care services. It advocates an approach to health care based on principles that allow people to receive the care that

enables them to lead socially and economically productive lives (Dennill, King & Swanepoel, 1999:2). According to the WHO (1988:15), the definition of primary health care as determined at Alma-Ata, is that it is an essential care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development, in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and the community with the national health system, bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care service.

The primary health care approach therefore is the underlying philosophy for the restructuring of the health system in South Africa. It embodies the concept of community development, and is based on full community participation in the planning, provision, control and monitoring of services. It aims to reduce inequalities in access to health services, especially in the rural areas and deprived communities. The development of health districts has been crucial to the transformation of the health system and the decentralised management of the new National Health System. Provinces have been subdivided into districts mainly on the basis of functional and geographic coherence. Clinics, health centres and independent medical practitioners are the main points of first contact with the health system (White Paper for the Transformation of the Health System in South Africa (WPTHS, 1997).

(i) The Provision of Primary Health Care (PHC) Services in South Africa.

The government of South Africa is committed to providing basic health care as a fundamental right. The first part of the national health care plan includes free health services at public primary health care (PHC) facilities, such as clinics and community health care centres. The aim is to steer patients away from large hospitals so that the burden of treating these patients can be lifted in order for them to deal with very sick patients. The primary health care approach is the most effective and cost effective means of improving the population's health. The success of PHC lies in a comprehensive approach, based on meeting the basic needs of the people, which enable them to live healthy life styles.

The services provided by PHC workers include immunisation; food and nutrition, communicable and endemic disease prevention; maternity care, screening of children; Integrated Management of Childhood Illnesses and child health care; health promotion; youth health services; counselling services; chronic diseases of older persons, rehabilitation; accident and emergency services; family planning, and oral health services (Government Communication and Information System, 2002:2).

PHC trained nurses or doctors at some clinics treated patients visiting PHC clinics. Patients with complications were referred to higher levels of care, such as hospitals if the conditions could not be treated at PHC level. The Department of Health Plan, which is based on the district model of PHC approach, in terms of the establishment of health districts in every part of South Africa, have demarcated 42 health regions and 162 health districts nationally. These health districts have been realigned with the newly demarcated municipalities (GCIS, 2002:3).

The provision of PHC services that is made universally accessible to all sectors of the community, in terms of bringing health care that is affordable and as close as possible to where people live and work, will reduce inequalities in access to health services, especially in the rural areas and deprived communities. The most common communicable diseases in South Africa are Tuberculosis (TB), malaria, measles and Sexual Transmitted Diseases (STDs). The appropriate and timeous immunisation of children against infectious diseases is one of the most cost-effective and beneficial preventive measures known. The provision of maternal, child health services and immunisation against the major infectious diseases will reduce morbidity and mortality rates.

In terms of the strategies for primary health care in South Africa, the promotion and protection of the health of the people, through health education about prevailing health problems and methods of preventing and controlling them, will lead to sustainable economic and social development that contributes to a better quality of life. The principle of the promotion of the provision of food supply and proper nutrition forms the basis of health. Without it, health for all people is not attainable.

Food supplementation which forms part of the PHC strategy, in which the provision of food to deprived groups or individuals to meet their minimum requirements when there is no other source available is advocated, will ensure that the devastating consequences of hunger and malnutrition is prevented. The major ways in which malnutrition expresses itself in children particularly are mainly Kwashiorkor and Marasmus. Although either these conditions can kill to the malnourished person, the provision of food supply and proper nutrition will enhance the immunity of the people, thus negate the devastating effects of parasitic diseases.

3.4.2. The Provision of Free Health Care

On 24 May 1994, former President of the Republic of South Africa, Mr. Nelson Mandela declared that all health care for children under the age of 6 years and pregnant women would be free. The purpose of this policy is to improve access to health care for women and children by removing the barrier of health service fees. The most common communicable diseases in South Africa are Tuberculosis (TB), malaria, measles and STDs. The appropriate and timely immunisation of children against infectious diseases is one of the most cost-effective and beneficial preventive measures known.

The mission of the South African Expanded Programme on Immunisation is to reduce death and disability from vaccine-preventable diseases by making immunisation accessible to all children and women of childbearing age. Immunisation against TB, whooping cough, tetanus, diphtheria, poliomyelitis, hepatitis B and measles are available free of charge to all children up to the age of five years. Tetanus vaccine is administered to women at risk during pregnancy to protect the newborn infant against neonatal tetanus. Other services include control of rabies and certain endemic diseases, such as malaria (GCIS, 2002:17).

As pointed out in the Child Health Unit for the Health Systems Trust (1996:iii), the free health care policy has led to a rise in the attendance of patients at most public health sector facilities. This suggests that the previous system of user fees was a deterrent to poor people using public health services. A further consequence of this policy is the increased attendance at antenatal clinics and an increase in the number of women booking for antenatal care. Thus, the reduction in the proportion of unbooked deliveries is associated with improved health care provision.

The experience of health care workers is that the free health care policy has helped to prevent serious illnesses or death. It could be concluded therefore that this policy has contributed towards meeting South Africa's policy objective of promoting equity within the health sector and promoting the principle of preventive health care. The provision of free health care therefore has removed the barriers of unaffordability to health care services, thus making it more accessible to poor people who would avoid seeking help in the past because of lack of funds. In turn, this has brought about alleviation of poverty, thereby enhancing the quality of life.

3.4.3. Telemedicine

Telemedicine can be broadly defined as the use of information and telecommunication technologies to provide medical information and services at a distance (Haywood, 2002:1). The World Health Organisation (WHO) defines telemedicine as the practice of medicine using interactive audio, visual and data communication. This includes medical care delivery, consultation, diagnosis and treatment, as well as education and transfer of medical data. This technology bridges the gap between the highly specialised and curative services located in urban areas and the poor health services in rural areas. The various disciplines involved include amongst others tele-radiology, tele-ophthalmology, tele-ultrasound, tele-dentistry, and tele-psychiatry. The communications technology utilised ranges from plain old telephone system, integrated services digital network, satellite, and cellular networks to microwave and mobile radio communication systems (Haywood, 2002:1).

The objective of the telemedicine system is to deliver health care, tele-education and tele-care services over a distance to South Africans in areas where the need is greatest. It is used to establish an amalgamation of South African medical schools to provide cost-effective medical education for health care providers throughout the

country. The system facilitates recruitment and retention of health care providers in rural communities (GCIS, 2002:4). According to GCIS (2002:4), by June 2000, there were 28 telemedicine pilot sites in 6 provinces. Static or dynamic images can be sent from the referring site to the provincial receive site or centre of excellence. Medical consultations can be interactive with the use of video conferencing equipment. An additional 73 sites are planned. The Department of Health and the Medical Research Council (MRC) have signed a memorandum of understanding and established the Research Centre for Telemedicine. The Centre is responsible for conducting the telemedicine research-based needs of the Department of Health and clinics.

South Africa's health care system ranges from highly specialised urban academic centres, to small rural clinics throughout the country. These rural areas have limited access to basic health care due to geographical isolation and poor public transportation. Telemedicine allows better utilisation of scarce medical personnel and resources. It also has the potential of improving access to, and quality of medical care at lower cost. In particular, telemedicine may be seen as a valuable tool for providing much needed medical services to underserved rural areas. It promises to enhance continued medical education of young doctors, nurses and other health care practitioners in rural areas, both in training and in established practice.

The mission of the South African Telemedicine System is to facilitate the provision of high quality, cost-effective health care to all the citizens of South Africa, particularly to women and children in the rural areas. The Telemedicine System will be used to establish an amalgamation of South African Medical Schools for the purpose of providing cost-effective medical education of health care providers in South Africa. The System will also facilitate recruitment and retention of health care providers in rural communities.

3.4.4 Services Provided by Health Professionals.

Health personnel are considered a crucial component to realise the Department of Health's vision. Medical students render health services to selected communities at clinics under the supervision of medical practitioners. In response to the urgent need for health care, especially in rural areas, the Department of Health has recruited professional from other countries. The use of foreign professionals has assisted in relieving the shortage of skilled medical practitioners in many parts of South Africa. There are some 5587 foreign qualified doctors working in South Africa. In 2000, 94% of doctors who completed their internship in 1999 were placed in public hospitals to do community service. (GCIS, 2002:8).

It is a known fact that traditionally, resources for health care in South Africa had been poorly distributed and health services were fragmented and ineffective. Although the South African Government has created a sustainable system of health care accessible to all people, whether living in the cities or the rural areas, there is still the problem of the shortage of qualified doctors in the rural State hospitals. The reason being that most South African doctors are attracted to the private sector and metropolitan areas, as well as abroad due to better working conditions and remuneration packages.

To improve the supply of professional health personnel in under-served areas, the Ministry of Health, after consultation with the various professional bodies and interested stakeholders introduced compulsory service for doctors in 1998. In terms of the Medical, Dental and Supplementary Health Service Professions Amendment Act, (Act No. 89 of 1997) that came into effect in January 1998, among the provisions of this Act is one that requires newly qualified medical doctors (in the year after their internships) to perform one year of remunerated community service in an under-served area designated by the Department of Health. Doctors who do not perform this year of

community service will not be able to register as medical practitioners with the Health Professions Council. The system of community service was extended to dentists in July 2000 and to pharmacists on 20 November 2000.

The main objective of the Department of Health in introducing community service is to ensure improved provision of health services to all the citizens of South Africa. In the process, this also provides young professionals with an opportunity to develop skills, acquire knowledge; behaviour patterns and critical thinking that will help them in their professional development (Reid & Conco, 1999:1). Ultimately, the accessibility of qualified medical practitioners will ensure the provision of specialised health care services to all citizens, which will enhance the quality of life among the poor communities living in rural areas in particular. Also, the provision of maternal, child health services and immunisation against the major infectious diseases will reduce morbidity and mortality rates.

3.4.5. The Provision of Ancillary Services.

Various independent organisations, most of them voluntary, also provide vital health services in South Africa. The GCIS (2002:14-15) identifies these organisations as follows:

- The South African Red Cross renders emergency, health and community services and offers training in first aid and home nursing. It also operates an ambulance service, medical supply points, old-age homes, an air ambulance and air-rescue service, and comprehensive youth programmes.
- The St John's Ambulance Foundation operates in major centres around South Africa and offers training in first aid and home care to individuals, schoolchildren, and commerce and industry. It operates eye-care clinics around the country aimed at underprivileged communities. Centres stock a range of first-aid

kits for factory, office and home environments, as well as hiring out mobility aids. Various community service projects in the field of PHC are undertaken.

- Medic Alert is a worldwide identification system. All members wear an identification emblem on which their medical condition and membership number are engraved. Health personnel have 24-hour telephone access to this register. Medic Alert also serves as a register for organ, tissue and body donors, as well as for people with pacemakers.
- The South African First Aid League provides first aid at sports meetings, civil protection and training in first aid. It also provides first-aid kits. Poison centres are staffed 24 hours a day. These centres also provide vital advice on antidotes and treatment for doctors, pharmacists, hospitals and the public.
- Life Line provides a 24-hour telephone counselling service for those in distress. Similar confidential services are Child Line, Rape Crisis and Suicide Anonymous.
- Alcoholics Anonymous is non-profit organisation aimed at helping addicts deal with alcoholism.
- Hospices are centres established to improve the quality of life of the terminally ill through care, support and love. Nursing staff looks after the physical, social, emotional and psychological needs of the patients and their relatives.
- Transnet's health care train, known as Phelophepa (good health) offers a unique service, bringing accessible and affordable health care facilities to rural communities. Since its inception five years ago, Phelophepa's education programme has broadened existing services, which include eye, dental, health and psychological clinics, and an x-ray and a pharmacy service. Qualified permanent staff runs the train. The basic health education programme gives volunteers from local communities the opportunity to enhance their basic health care knowledge. Topics such as baby care, how to keep your

environment and body clean, and the prevention of Sexual Transmitted Diseases (STDs) and AIDS, have been included in a five-day course presented weekly in the edu-clinic.

- It is estimated that more than 25% of South Africa's population is in need of some form of primary eye care. Sight Africa, the first primary eye care programme, was launched in April 1998. Sight Africa is the brainchild of Lions Club International of South Africa and South African Optometric Association. It aims to White Paper on Basic Household Sanitation provide primary eye care to disadvantaged or indigent people who are visually impaired. The Bureau for the Prevention of Blindness performs 4000 cataract operations each year to restore eyesight.

The afore-mentioned services would radically reduce the prevalence of poverty-related illnesses, thereby enhancing the quality of life if also made available to poor communities, particularly in rural areas.

3.5. Conclusion

This chapter began by discussing the provision of water and sanitation services in South Africa. It was highlighted therefore that addressing the water supply and sanitation backlog was one of the first priorities of the newly elected democratic government in 1994. This was guided by the Constitution provision that guarantees every person the right of access to these services, in which the government is instructed to take reasonable legislative and other measures within its available resources to achieve the progressive realisation of these rights.

The discussion also explored the legislation, policy direction and government undertakings with regard to the provision of water services. The provision of free basic water provision and revenue currently available for financing basic water has been discussed. The discussion further focused on the provision of sanitation services, starting from the period of sanitation policy development implementation from 1994 to 2001, and the period from 2001 to the present.

The discussion ended by looking at the major challenges now facing South Africa in promoting sustainable, affordable and efficient sanitation service delivery.

The last part of this chapter looked at the provision of health services in South Africa. In doing so, the concept of primary health care and its implementation in South Africa was discussed. Finally, this chapter also explored the provision of other health services, such as telemedicine, services provided by health professionals, and ancillary services. The benefits of the provision of rendering health, water and sanitation services has been highlighted throughout the discussion. The conclusion therefore is that the infrastructure development activities related to improvement of health, water and sanitation services therefore contribute to economic growth and poverty alleviation by reducing unemployment, and increasing household income leading to a better standard of living. Increase in individual income, job security and financial well-being will bring satisfaction and happiness, which are indicators of quality of life. The next chapter focuses on comparison and analysis of empirical findings.

CHAPTER 4

4. COMPARISON AND ANALYSIS OF EMPIRICAL FINDINGS

4.1 Introduction

This chapter focuses on the analysis of the empirical data in relation to the theoretical discourse. It does this by comparing the findings of two communities, those classified in the category of well serviced and the inadequately provided with health, water and sanitation services. The analysis of data specifically explores the impact of these services in improving the quality of life of the communities that were investigated, in terms of assessing the impact of the indicators for these services.

The focus is on the results of the empirical survey that was undertaken in the respective case study areas. Statistical data from these case studies will be used to provide the basis for the qualitative explanation of the impact of health, water and sanitation services in improving the quality of life among poor communities.

4.2. The Length of Stay in the Area

In order to assess the impact of health, water and sanitation services in ameliorating the quality of life among poor communities, the first question in the questionnaire enquired about the length of stay in the area. This question was posed to ascertain whether the respondents had lived in their areas for a period not less than five years. The rationale behind ascertainment of the length of stay in an area was based on the researcher's assumption that in order for these services that are under investigation to have meaningful impact for generalisation of the findings, people should have lived in a particular area for long period of time having access or deprived of access to these services.

Table 4.1 below provides the statistical data analysis for the length of stay in an area by all communities that were investigated.

Table 4.1. Length of Stay in the Area

Area	5 years or Less.	%	5 years or more	%
Squatter	18 households	30,0	42 households	70,0
Villages	7 households	4,4	153 households	95,6
Townships	18 households	5,1	335 households	94,9

The sample study of 60 respondents in Tsepetsepe squatter camp in Khayelitsha, about 65 kilometres from Cape Town, reflected the following:

- 18 (30%) indicated that they have lived in the area for a period of five years or less. Of the 18 (30%) respondents, none have lived in the area for a period less than three years.
- The majority, 42 (70%) of respondents have lived in the area for a period of six years or more. In this category, many of the respondents had indicated that they have lived in the area more than ten years.

Table 4.1 also reflects the sample study of 160 respondents in the rural villages of Ndenxa, Mampemvini, Tshayeleda and KwaDlomo, in Qhumanco, about 65 Kilometres from Cofimvaba in former Transkei homeland, Eastern Cape Province, that:

- 7 (4,4%) indicated that they have lived in the rural villages for a period of five years or less.
- 153 (95,6%) have lived in the area for a period of six years or more. Most importantly, of the respondents who have indicated that they have lived in the rural villages for a period of six years or longer, the

overwhelming majority has indicated that they have lived in the area longer than twenty years.

In the townships of Ezibeleni (Queensdale), formerly Transkei administered township, situated some 10 kilometres from the centre of Queenstown, Mbekweni, a township just North of Paarl, which is about 100 kilometres North of Cape Town, and Kraaifontein, a township which is about 65 kilometres from the centre of Cape Town, the sample of 353 respondents reflected the following:

- 18 (5,1%) indicated that they have lived in the area for a period of five years or less.
- 335 (94,9%) have lived in the area for period of 6 years or more. Like in the squatter area, in this category, the residents indicated that they have lived for a period of ten years and longer.

4.3. Access to Sanitation

Sanitation refers to the principles and practices relating to the collection, removal and disposal of human excreta, household waste water and refuse, as they impact upon people and their environment. People need sanitation for getting rid of human and household waste material, and for keeping their homes healthy and free of diseases. Good sanitation includes appropriate health and hygiene awareness behaviour, as well as acceptable, affordable and sustainable sanitation services (White Paper on Water and Sanitation Policy, 1996:1). As highlighted in the literature review in the National Sanitation Policy (1996:15), many diseases such as diarrhoea, intestinal helminth infestation, poliomyelitis, typhoid, schistosomiasis and cholera may result from poor sanitation and unhygienic practices. Therefore, investments in sanitation infrastructure installation can deliver major benefits in terms of improved health, economic growth, and enhancement of quality of life, poverty alleviation and environmental sustainability.

Table 4.2 below provides the statistical analysis on access to sanitation in all communities that were investigated.

Table 4.2. Access to Sanitation

Area	Type of Latrine	Number of Households	%
Squatter	Pit	15	25,0
Squatter	Veld	4	6,7
Squatter	Bucket	41	68,3
Villages	Pit	75	46,8
Village	Veld/Bush	85	53,2
Townships	Flush toilet	353	100
TOTAL		573	

In a survey that was carried out in a squatter camp of 60 households in Khayelitsha, in the Western Cape Province, Table 4.2 reveals the following:

- 41 of households (68,3%) used the hated bucket system, in which municipal workers physically collected excrement in unsanitary small pails.
- 15 households (25%) indicated that they owned pit latrines of some kind, which were built at the owner's initiative and cost.
- Only 4 respondents (6,7%) said they used the veld to get rid of human excreta.

In the rural villages, the sample study of 160 respondents revealed the following:

- 75 households (46,8%) were using pit latrines.
- 85 households (53,2%) indicated that they were still using the veld or bush to dispose off their excreta. There was no piped sewerage system in the rural villages.

In the townships, all 353 respondents (100%) indicated that they had access to a flush toilet within their premises.

A lack of, or inadequate sanitation services in the rural villages in particular, had led to extensive faecal contamination of the local environment, as well as pollution of rivers and streams in the vicinity. In the rural villages, most people were using unimproved pit latrines or the veld. Under these conditions, the potential for direct infection, as well as the contamination of food and drinking water supplies, was high. The resultant effect was the outbreak of diseases associated with faecal contamination, such as cholera in these villages in February 2003. In terms of the argument of this study, the prevalence of poverty-related gastro-intestinal illnesses that caused loss of lives was an indication of the poor quality of life that rural people were subjected to. This is with reference to the fact that poverty-associated illnesses and the unnecessary loss of lives could have been prevented should there be improved sanitation facilities.

As Wall (2000:124), points out, the benefit of sanitation provision is that households place high value on sanitation services that provide them with a private, convenient, odour-free facility, which removes excreta and waste water from the property or confines it appropriately within the property. This statement is pertinent to Tsepetsepe informal settlement in particular. At the time of administering the questionnaire, respondents expressed their unhappiness with the bucket system, and further complained that the latrines were erected too close to their premises. As a result, the unhygienic

conditions posed health risks, as well as creating foul smells within their shacks. Moreover, respondents raised concerns about the many flies that contaminated their food, as a result of the latrines that were built too close to their shacks. They claimed that the flies were coming from the bucket latrines, which became a nuisance when they were cooking or having their meals. The communal use of latrines exacerbated the situation.

Table 4.3 provides the statistical data analysis in terms of communal use of latrines in all areas under investigation.

Table 4.3. Sharing of the latrine

Area	Number of households sharing	%	Number of households not sharing	%
Squatter	57	95,0	3	5,0
Villages	22	13,7	138	86,3
Townships	44	12,5	309	87,5
TOTAL	123		573	

The sample study of 60 respondents in the informal settlement, as shown in Table 4.3 reveals the following:

- 57 households (95%) indicated that they shared their pit or bucket latrine with other households. Households sharing a pit or bucket latrine on a daily basis ranged from 5 to 20 people.
- Only 3 households (5%) indicated that they were not sharing their latrines.

There were three reasons for the communal use of latrines. First, due to overcrowding, there was a lack of accessible space to construct a latrine.

Secondly, there were often insufficient numbers of bucket latrines. Respondents indicated that there were only 6-bucket latrines in total for the entire informal settlement. Thirdly, some households did not have the necessary labour or expertise to construct a latrine.

Another environmental health risk was the pollution of the environment. In the squatter area for instance, as shown in Table 4.2 above, 4 households indicated that they had access to neither a pit latrine nor a bucket system. People in these households indicated that they used the nearby veld surrounding Tsepetsepe informal settlement for ablution because they did not have the resources to construct their own toilet facilities. Instead of being a burden to neighbours, they preferred to use the veld. This state of affairs posed a health risk to the residents of the area. Some residents who stayed nearby the households that used the veld complained that at times they would open their doors and find a big plastic container full of faeces placed next to their doorsteps. They blamed those households without latrines for dumping.

This clearly had a devastating impact on the people living in such conditions, exposing them to a wide range of diseases. As De Beer (1984:8) points out, the infective organisms that cause gastroenteritis are spread by inadequate sanitation, which allows the spread of faecal matter. This promotes the spread of faecal matter to food and eating implements. As Zawide (2002:1) points out, many of the disease vectors, such as cholera, diarrhoeal diseases, infective hepatitis, polio, poliomyelitis, scabies, and bilharzia thrives where there is poor drainage and inadequate provision of garbage collection, sanitation and clean water supply.

Constraints, such as the insufficient number of bucket latrines, which were over-utilised, unclean and unsafe, certainly discouraged some people from using them. It emerged from the respondents that because many households shared the latrines, some people would urinate or defaecate on the floor, which would certainly discourage other people from utilising such a facility. In addition, ignorance due to limited knowledge or awareness of hygiene behaviour to ensure good health would compel other members of the informal

settlement to resort to unhygienic methods of excreta disposal, such as using the veld or messing up of the few bucket latrines at their disposal.

The unhygienic conditions that existed in the informal settlement of Tsepetspepe therefore posed a health risk. As pointed out by Cunanan & Maharaj (2000:674), the quality and availability of non-personal health services, particularly sanitation and refuse disposal, play a key role in determining the health status of populations. Too many people sharing unimproved and poorly erected pit and bucket latrines, which were constantly overflowing and released foul smells during the time of the survey, constituted a range of pollution risks to the environment. In turn, this posed a threat to health. The closeness of these latrines to the shacks, as was observed during the survey, promoted the nuisance of flies in the households. The bad smell that came from these latrines made life uncomfortable. This state of affairs, which is prevalent in poverty-stricken communities, is a further reflection of the poor living conditions poor communities were subjected to.

Table 4.4 below provides the statistical data analysis on the satisfaction with the standard of living in all communities that were investigated.

Table 4.4. Satisfaction with the Standard of Living

Level of satisfaction	Squatter	%	Village	%	Townships	%
Very satisfied	0	0	0	0	58	16,4
Satisfied	5	8,3	43	26,8	193	54,7
Dissatisfied	8	13,3	68	42,5	83	23,5
Very Dissatisfied	47	78,3	49	30,6	19	5,4
TOTAL	60	99,9	160	99,9	353	100

*The cases where the total surmises to 100%, it is because of the rounding off of the decimal point.

Collection of the overflowing pails in these bucket latrines, once a week, also exacerbated the situation. Hence in Table 4.4 above reflects the following:

- The sample study of 60 respondents in the informal settlement, 47 households (78,3%), indicated that they were very dissatisfied with their standard of living.
- 8 respondents (13,3%) said they were dissatisfied.
- Only 5 respondents (8,3%) indicated that they were satisfied with their standard of living. Noteworthy to highlight is the fact that 5 respondents in the informal settlement who indicated their satisfaction with their standard of living, related it to access to clean water and refuse collection.

This poses a challenge to local government officials to pay attention to increasing the number of latrines and improving or upgrading existing ones to ensure that they were safe and hygienic. Thus, the installation of sanitation facilities would create an opportunity for health promotion and good hygienic practices.

Standing water in Tsepetspe informal settlement, which was common due to the lack of adequate storm water drainage, posed a health hazard, as it is associated with gastro-intestinal diseases. Lack of access to desired environmental sanitation, where there are inadequate facilities for cleaning of open drains and sewers that were often blocked, was the major complaint of the informal settlement residents. This does not contribute to the great reduction of many disease vectors that live, breed or feed within or around houses. The diseases they cause include some of the major causes of illnesses and premature death in many urban and rural areas, especially malaria and diarrhoea. With reference to the argument of this study, exposure of the people that lived in Tsepetspe informal settlement to major causes of illnesses and premature death, as a result of lack of access to desired environmental sanitation, where there were inadequate facilities for cleaning of open drains and sewers that were often blocked, rendered them to poor

quality of life. Premature death and the prevalence of poverty-related illnesses are a reflection of the poor quality of life, in terms of the indicators that determine the quality of life as espoused in the literature.

In terms of sanitation, it was interesting to learn that although the squatter area and the rural villages were both classified as areas poorly or not provided with sanitation services in this study, their needs differed to some extent. In the informal settlement for instance, overcrowding and lack of space was the major problem in terms of sanitation. In the rural villages, there was plenty of space and the problems associated with overcrowding were not applicable. In the informal settlement, there was the threat to environmental pollution. Moreover, overcrowding posed enormous threat, in terms of the rapid spread of infectious diseases such as scabies and measles.

Although the majority of the residents in the squatter camp had access to communal bucket system or pit latrines, the unhygienic conditions of these latrines, due to many people sharing on a daily basis, posed a health hazard. In the rural villages, although many people used the veld or pit latrines, there were few people who shared their pit latrines. However, because people in the rural villages had no access to clean water, many people that used the veld for excreta disposal posed a health risk of contaminating the water source for drinking and cooking purposes. Hence, the outbreak of cholera that afflicted many households with fatal consequences.

Many rural households appeared accustomed to using the veld or bush for toilet purposes. The 160 households as reflected in Table 4.2 revealed that 75 had access to pit latrines, whilst 85 still used the bush or veld for toilet purposes. It is noteworthy to point out that although 75 households reported that they had access to pit latrines, this high number could be attributed to the use of the recently installed pit latrines by the government, consequent to the cholera epidemic. The pit latrines had just been installed in March 2003. If it was not for the recently government built pit latrines, there would be many respondents who would have responded that they used the veld or bush for excreta disposal. In reality therefore, there were few individuals who had

indicated that they had built their own pit latrines for toilet purposes. The implications therefore were that the overwhelming majority of rural villagers were still reliant on the veld or the bush for excreta disposal, which posed serious health risks. Exposure to health risks in this regard therefore impacted adversely to the lives of rural people, with regard to the conceptualisation of good quality of life in this study.

Despite the installation of government pit latrines, rural residents indicated that they still used the veld or bush for toilet purposes, as the government had built too few communal pit latrines. Moreover, they complained that the pit latrines were too far from their homes. Compounding the problem was the fact that too many people were using these latrines, with people waiting their turns in long queues. This state of affairs compelled some households to continue the use of the veld or bush for toilet purposes. Those without pit latrines appeared to be ignorant about the repercussions of the health risks of using the veld, despite the recent outbreak of cholera in their areas.

The cholera epidemic in these rural villages has heightened awareness of the importance of health education and about hygienic practices to curb further outbreaks of fatal waterborne diseases. Good sanitation includes appropriate health and hygiene awareness as well as acceptable, affordable and sustainable sanitation services. Therefore, people in the rural villages should be convinced of the need for sanitation improvements, so that they could invest their own resources into those improvements and spontaneously encourage the practice of good hygiene.

4.4. Access to Clean Drinking Water

Fresh water of acceptable quality is a critical imperative for sustainable development. Water is a finite resource essential for agriculture, forestry, industry, indeed for human existence itself. Clean water is required for drinking, maintaining a sanitary environment, for keeping food clean and practising good personal hygiene. Access to safe, clean water is vital to

improving human health and well being, especially for poor communities. Access to sufficient affordable clean water for hygienic purposes could be seen as part of the primary health care service. It is accepted that the minimum of 25 litres per person per day is recognised worldwide as a requirement for direct consumption, for the preparation of food and for personal hygiene. It is not considered to be adequate for full, healthy and productive life, which is why it is considered as a minimum (National Sanitation Policy, 1996:15).

Table 4.5 below provides the responses of households in all communities investigated that had access or no access to a water tap.

Table 4.5. Access to a Water Tap

Area	Households had access to a tap water	%	Households had no access to a tap water	%
Squatter	60	100,0	0	
Villages	12	7,5	148	92,5
Townships	353	100,0	0	0
TOTAL	425		148	

Unlike in the townships where all 353 respondents (100%) reported that they had access to a water tap within their premises, Table 4.5 of the sample study of 60 households in squatter camp in Khayelitsha, Cape Town, revealed that all 60 respondents (100%) indicated that they did not have house connections, but had access to communal water supply within a walking distance to their homes. The distance to the water supply was less than 200 metres from their houses to a public standpoint, which might be considered reasonable access. Respondents however raised their concerns that they had access to only 5 communal water taps in total, and this covered all people that also lived in the informal settlement. The concern was the lengthy amount of time taken in waiting in a queue until the bucket was filled.

In the rural villages, Table 4.5 also reflected that the sample study of 160 households revealed the following:

- 148 respondents (92,5%) reported that they did not have access to safe and clean water or water tap within their premises.
- Only 12 respondents (7,5%) indicated that they had access to recently installed government communal water taps (March 2003), which was a response to the outbreak of cholera in their areas.

When considering the length of access to clean water, the communal water taps that 12 respondents claimed to have had access to, would not be recognisable as genuine access because, such water taps were installed in March 2003. Therefore, 2-month access would not have revealed a meaningful impact of water access in terms of the health status of individuals.

Table 4.6 below, provides the statistical data analysis of the number of rural households in the Eastern Cape Province that had access to a river or well.

Table 4.6. Access to a river or well

Area	Households that used a river or well for water purposes	%
Squatter	0	0
Villages	159	99,4
Townships	0	0
TOTAL	159	99,4

As reflected in Table 4.6 above, the sample study of 160 respondents in the rural villages reflected the following:

- 159 respondents (99,4%) indicated that they fetched water from the river or well.

- Only 1 respondent (, 6%) reported that they did not fetch water from the river. Apparently, in this particular home, they got their water from a water tank. The overwhelming majority of households that depended on a river or well as source of water, collected water more than once a day.

The absence of reticulated water did not only mean that the supply was polluted and limited, but that the water source was also often a long distance from the households. This meant that rural people often spent hours on a daily basis walking to the water supply, waiting their turn at the river or well, and then carrying small but heavy quantities of water home. This drastically limited the time available for any form of economic activity, which might help the burden of poverty that is prevalent in the rural villages.

As pointed out by De Beer (1984:7), poor people in rural villages in particular, do not have adequate sanitation or supplies of clean water. This has a devastating impact on their health, exposing them to a wide range of diseases. Lack of sufficient and clean water, and poor sanitation are associated with a number of diseases, which affect people without these services. As argued by Solleder & Ludidi (1990:4-5), a distinction is made between “water-borne” diseases and “water-shed” diseases. In “water-borne” diseases, the infectious pathogen is ingested and it follows therefore that such disease can be transmitted by any route, which permits faecal material to reach the mouth through contaminated food, contaminated utensils or dirty hands. “Water-shed” diseases result from inadequate personal hygiene to which lack of enough water is obviously the main contributing factor.

As De Beer (1984:8) points out, the existence of cholera as a major hazard in the rural areas is directly related to the fact that people need to use polluted water source. In addition, a number of skin diseases, eye infections and other illnesses, which are related to poor hygiene, are prevalent in areas where scarce or polluted water supplies coincide with other predisposing factors to promote the spread of these diseases. Hence, the research question for this study asks; “In terms of development initiatives that seek to alleviate

environmental risk factors in poor communities, to what extent has the provision of quality health, safe clean water and adequate sanitation services improved the quality of life among poor communities in South Africa?" The researcher therefore argues that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account.

As indicated in Table 4.8 on page 148, the sample study of 160 households in the rural villages, 59 respondents (36,8%) indicated that there was a member or members of the households who was or were affected by the outbreak of cholera in February 2003. Furthermore, the sample study of 353 respondents in the townships, 8 respondents (2,3%) reported that there was a member or members who was or were afflicted by cholera.

Table 4.7 provides the statistical data analysis for all areas investigated on the number of adult deaths due to poverty-related diseases.

Table 4.7. Adult Deaths Due to Poverty-Related Illnesses

Area	Nature of Disease	Number	%
Squatter	Tuberculosis	5 households	8,4
Villages	Tuberculosis	23 households	14,4
Village	Cholera	6 households	3,7
Township	Cholera	2 households	0,6
Townships	Tuberculosis	48 households	13,6
TOTAL		84	40,6

Table 4.7 above reflected the following:

- The sample study of 160 respondents in the rural villages revealed that 6 respondents indicated that in their households, a member or members of their family died of cholera.
- In the townships, only 2 households indicated that there was a person who died of cholera.

The prevalence of cholera epidemic in the rural villages and in the townships, and the loss of lives reflected the poor living standards, which was consequent to poverty-stricken conditions under which people lived. Considering that cholera is a preventable disease, access to safe clean water, adequate sanitation and adherence to good hygienic practices could have improved the fate of these communities.

Cholera is an acute bacterial infection of the intestine caused by ingestion of food or water contaminated with *Vibrio cholerae*. Symptoms include acute watery diarrhoea and vomiting, which can result in severe dehydration and death if treatment is not promptly given. During the interview, the researcher conducted on 25 April 2003, with Mrs. Dlali, Chief Professional Nurse in the clinic of the rural villages of Qhumanco, it emerged that health personnel treated an average of 55 patients per day during the cholera epidemic in February 2003. On busiest days, the number increased to 80 patients per day. The outbreak of cholera in the rural villages, in which 6 people died in February 2003, brought into public focus the devastating effects of poor hygiene practices and lack of access to safe clean water by poverty-stricken remote rural communities. The number of people affected and died of cholera exceeded these reported in this survey. The reason being that due to time and costs, it was not possible to cover all rural villages that were affected by cholera outbreak. To save time and costs, this study confined itself to 4 villages in the Qhumanco District.

Of interest is that 8 people were afflicted by cholera as reflected in Table 4.8 on page 148, and 2 people died of it in the townships, as revealed in Table 4.7 on page 145 above. This was contrary to the argument by authors in the literature review that in areas where quality health, safe clean water and adequate sanitation services are provided, people are not vulnerable to gastro-intestinal diseases. However, considering that all 353 respondents in the townships reported that they had access to flush toilets and clean water within their premises, which should have rendered them unsusceptible to cholera, it would seem therefore that those people who contracted the disease could have relocated to the surrounding townships. For example, a township like Queensdale (Ezibeleni), 10 kilometres from the centre of Queenstown, is located about 135 kilometres away from the cholera afflicted rural areas. Due to the constant movement of people, it could have happened that a member of the family relocated to the township after having contracted cholera.

In the informal settlement, all respondents indicated that there was no member in the household who was affected by cholera. The absence of cholera, which is a water-borne disease, could therefore be attributed to the availability of clean water. The statistical significance of cholera epidemic in areas where there was lack or non-existence of the provision of water and sanitation services could be attributed to the theories espoused by many authors in the literature review. This view was supported during the interview with Mrs. Dlali, who stated that the cholera outbreak in the rural villages was a result of lack of access to clean water and improved latrines. Therefore, the argument that in areas where health, water and sanitation services are inadequately provided or non-existent, there should be poor quality of life through the prevalence of mortality rates and poverty-related diseases. In this particular instance, it could be said that this argument received support.

4.5. Most Prevalent Diseases or Illnesses

Table 4.8 below provides detailed disease distribution in the informal settlement, rural villages and in the townships.

Table 4.8. Disease Distribution

Disease	Squatter	%	Village	%	Townships	%
Cholera	0	0	59	98,3	8	2,3
Scabies	13	21,6	33	20,6	49	13,8
Gastroenteritis	8	13,3	0	0	58	16,4
Tuberculosis	9	15	45	28,2	122	34,6
Measles	1	1,7	12	7,5	33	9,4
Typhoid	0	0	0	0	0	0
Kwashiorkor	1	1,7	5	3,2	5	1,4
Marasmus	1	1,7	1	0,6	2	0,6
TOTAL	33	55	152	158,4	277	78,5

4.5.1 Scabies

As reflected in Table 4.8 above, in all the areas, that is, squatter, rural villages and the townships, there has been significant prevalence of scabies. Scabies is one of the water-washed contagious disorders of the skin caused by small, wingless insects or mites called the Human Itch mite. Scabies is spread by personal contact, like shaking hands, sleeping together or by close contact with infected articles such as clothing, bedding or towels. It is usually found where people are crowded together or have frequent contact, and is most common among school children, families, roommates, and sexual partners. Scabies can be spread by the insect itself or by the egg. Its tendency to lead to super-infection with other pathogenic microorganisms and subsequent effects on kidney failure makes scabies a serious threat to well-being.

Given the poor socio-economic conditions prevalent among poor communities, it was not surprising that scabies was most prevalent in all the communities. Although households in the townships and squatter area had access to clean water, the prevalence of scabies could be attributed to inadequate personal hygiene and overcrowding. In the rural villages, the prevalence of the disease could be attributed to inadequate personal hygiene and personal contact. Lack of clean water is obviously the main contributing factor in the rural villages. Considering the complications of scabies such as super-infection with other pathogenic microorganisms and subsequent effects on kidney failure, exposure to such illness poses a threat to well-being. In terms of the argument of this study, the prevalence and the complications of being vulnerable to the fatality of kidney failure renders such people to poor quality of life.

4.5.2 Gastroenteritis

Table 4. 8 above also show that gastroenteritis has affected 13,3% of the households in the squatter area, and 16,4% of the households in the townships. In the rural villages, cholera presented itself with diarrhoea as one of its symptoms, and therefore it was difficult to differentiate it from gastro-enteritis. Gastro-enteritis could have also afflicted rural communities, but it was difficult to make a clear differential from the cholera symptoms of diarrhoea. Gastro-enteritis, which is the disease of the gastro-intestinal tract, manifests itself in vomiting and diarrhoea, with subsequent dehydration, electrolyte imbalance and malnutrition. It is a major cause of morbidity and mortality suffered by infants and small children (Solleder & Ludidi, 1990:5).

The incidence, prevalence and severity of gastro-enteritis in the rural villages, squatter areas and in the townships, provides a fair reflection of the poor socio-economic status in these communities, especially regarding children, whose vulnerability is increased by poor hygienic

practices, poor nutrition, sanitation and water supply. Adults, however, are also exposed to the hazards of enteric diseases such as typhoid, cholera, and dysentery. In view of the fact that empirical findings revealed the prevalence of gastroenteritis in the townships that had access to clean water supply and flush toilet facilities within their premises, it would appear that other factors, such as nutrition and hygienic practices also played a role in determining prevalence of gastroenteritis.

With regard to the number of under five years babies who died of poverty-related diseases, Table 4.9 provides statistical data analysis on infant mortality rate in all areas that were investigated.

Table 4.9. Under-5 Years Babies Deaths

Area	Nature of Disease	Number	%
Squatter	Gastroenteritis or Respiratory Disease	4	6,7
Villages	Cholera, Gastroenteritis or Respiratory Disease	19	11,2
Township	Gastroenteritis or Respiratory Disease	56	15,8
TOTAL		79	33,7

Table 4.9 above reveals the following:

- Of the 60 households questioned in the squatter area, 4 respondents (6,7%) reported that there was an under-5

years baby who died of either gastroenteritis or respiratory failure.

- In the rural villages, of the 160 respondents, 19 (11,2%) reported that the baby died of cholera, gastroenteritis or respiratory illnesses.
- In the townships, of the 353 respondents, 56 (15,8%) reported that the baby died of gastroenteritis or respiratory diseases.

The situation is made worse by the fact that gastro-enteritis is linked with other infectious diseases like measles, pneumonia and tuberculosis. Hence the respondents reported that the baby died of either gastro-enteritis or respiratory failure. As De Beer (1984:6-7) points out, in the case of gastroenteritis, the well-nourished child is likely to emerge none the worse for wear, while the initial disadvantage of lower body weight, decreased recuperative powers and a generally weakened constitution, the sudden rapid loss of fluid that accompanies gastroenteritis may well tip the balance and kill the child. Hence, the statistical significance of the prevalence of gastro-enteritis-related diseases in these poor socio-economic areas that were investigated.

To this end, it could be concluded that although access to safe clean water, adequate sanitation and good quality health services would undoubtedly reduce the prevalence of the disease, the influence of other factors however, such as the associated link with other infectious diseases (measles, pneumonia and tuberculosis), poor hygienic practices and poor nutrition (due to poverty), could have had significant influence in the determination of the prevalence of gastroenteritis. The services under investigation (health, water and sanitation services) alone therefore could not conclusively impact on the status of the quality of life of poor communities. The implication therefore is that poverty-related factors other than these services under investigation

had significant influence in determination of the poor quality of lives of people.

4.5.3 Tuberculosis

As indicated in Table 4.8 on page 148 above, the most prevalent disease was Tuberculosis (TB), which affected 15% of the households in the squatter area, 28,2% in the rural villages, and 34,6% in the townships.

With regard to mortality, Table 4.10 below provides details of adult deaths due to poverty-related illnesses.

Table 4.10. Adult Deaths Due to Poverty-Related Illnesses

Area	Nature of Disease	Number	%
Squatter	Tuberculosis	5	8,3
Villages	Tuberculosis	23	14,4
Village	Cholera	6	3,7
Township	Cholera	2	0,6
Township	Tuberculosis	48	13,6
TOTAL		84	40,6

Table 4.10 above reflects the following:

- The sample of 60 respondents in the squatter area indicated that 8,3% of the households died of Tuberculosis.
- In the rural villages, the sample of 160 respondents indicated 14,4% of TB-related deaths.
- In the townships, the sample of 353 respondents indicated 13,6% of TB-related deaths.

The tubercle bacilli exist in the human environment and commonly transmitted from an infected person to an uninfected person by droplet nuclei created through coughing or sneezing. Impoverished socio-economic conditions such as poor housing, overcrowding, malnutrition, lack of sanitation, lack of hygiene, and emotional and physical stress facilitate the conversion of dormant infection into a disease (Cunanan & Maharaji, 2000:676). Given the poor socio-economic conditions prevalent in the squatter area, rural villages and in the townships, it was not surprising that Tuberculosis was most prevalent in these areas. Once again, it would appear that health, water and sanitation alone were not the sole determinants of the quality of life within the communities that were investigated. The above-mentioned factors probably had a significant role to play.

4.5.4 Measles

Table 4.8 on page 148 above, reveals that in the squatter area, 1,7% of the households indicated that a child was affected by measles, 7,5% in the rural villages, and 9,4% in the townships. Measles is generally regarded as a mild childhood illness in industrialised societies and amongst the elite in developing communities. Amongst the poor communities that were investigated, however, measles represented the most serious and severe disease encountered by children. It is a highly infectious viral disease, characterised by fever, mucosal inflammation, and a typical skin rash.

The resultant depression of the immune system of the body during the infection brings about secondary bacterial infection. The complications of measles, which may lead to death, are pneumonia, gastroenteritis, and encephalitis. Blindness also results from eye infections in the presence of vitamin deficiencies (Wilson & Ramphela, 1989:114). Hence, the significant number of deaths of children under five years old in these areas under investigation. The significant prevalence of measles in the rural villages and the townships in particular, could be

attributed to non-immunised children because it is a preventable disease if communities have access to quality health care services.

Table 4.11 below gives a reflection of the status of immunisation of babies.

Table 4.11. Immunisation of Babies

Area	Number of non-immunised babies	%
Squatter	2	3,4
Villages	2	1,3
Township	7	1,9
TOTAL	9	6,6

Table 4.11 above reflects the following:

- From a sample of 60 respondents in the squatter area, 3,4% indicated that the baby was not immunised.
- In a sample of 160 respondents in the rural villages, 1,3% of respondents indicated that the baby was not immunised.
- In the townships, of 353 sample of respondents, 1,9% indicated non-immunisation of the baby.

Although an overwhelming majority of the children in these areas under investigation were immunised, non-immunised babies against infectious diseases, even if it is a small number, reflects a failure in the health care system to expand the immunisation programme. This could be an indication of the poor quality or under-utilisation of the health services provided in the area, in terms of the constraints that hinder access to health care services. Considering the fatality of the

complications of measles to a child, the significant prevalence and the number of babies that died from it in the rural villages and in the townships in particular, was indicative of the poor quality of life in these communities.

4.5.5 Diseases Associated with Malnutrition

Table 4.8 on page 148 above, indicates that in the squatter area, 1,7% of the households reported that a member of the household had been afflicted by Kwashiorkor and Marasmus respectively. In the rural villages, 3,2% reported Kwashiorkor, 0,6% indicated Marasmus, and in the townships, 1,4% indicated Kwashiorkor, whereas 0,6% pointed out Marasmus.

Kwashiorkor and Marasmus are malnutrition diseases directly related to poverty. The causes of these malnutrition diseases have been linked to insufficient dietary intake and disease, which result from low income, food shortages, and lack of clean drinking water and unsatisfactory health care (World Bank, 1996:4). The significant morbidity and mortality rates among these communities under investigation could be attributed to some infection or parasitic diseases, which in most cases only dealt the final blow.

Diseases that are usually only minor ailments in well-nourished individuals are devastating to the malnourished person. To illustrate this point, De Beer (1984:5) gives an example that a well nourished child who contracts measles, is likely to be ill for a while and then get better, no worse for the experience. In a poorly nourished child, this illness can quite easily progress to pneumonia and death. Even if these diseases do not kill the malnourished person, they tend to intensify the malnourishment by draining the individual's reserves.

As Wilson & Ramphele (1989:106) point out, extremely poor sanitation conditions further complicate the picture. From statistics, it is quite apparent that communities in informal settlement and rural villages were most vulnerable due to poverty and poor sanitation. In an ideal situation, quality health services would reverse the adverse impacts of malnourishment. The fact that there were cases of Kwashiorkor and Marasmus in these communities, gives rise to questions around the quality of the health services rendered in these areas. The prevalence of Kwashiorkor and Marasmus in all areas under investigation, irrespective of whether health, water, and sanitation services were provided or not, is a reflection that these services alone are not sufficient to improve the quality of life. Thus, poverty-related factors such as income and nutritious diet impacts adversely to the health of individuals. Therefore, in order for health, water and sanitation services to have a meaningful effect in amelioration of the quality of life, poverty-related factors have to be taken into account.

4.6. Access to Health Services

Good health is a major resource for social, economic and personal development, thus an important dimension of quality of life. Poverty, combined with poor public health conditions such as overcrowded housing, lack of accessible clean water and sanitation, render poor communities vulnerable to ill health. Access to health services therefore negates to a certain extent the adverse effects of exposure to poor socio-economic conditions.

Health should be seen as an integral part of the development agenda. As Mach (1999:2) points out, there is the basic recognition that deprivation of health is an aspect of underdevelopment. Not having medical treatment for curable ailments constitutes poverty. Health care service, however, is merely one of the determinants of health. A range of other factors such as housing, sanitation, access to safe drinking water and the like, impact on health status.

Good health is a priority for people and is an essential factor in achieving social and economic development. Yet, the resources devoted to health care often do not have the intended effect.

4.6.1 The Type of Health Care Facility

In terms of the type of health facility that was being used by the communities, Table 4.12 below provides the statistical data analysis on the type of health facility that was used by the communities that were investigated.

Table 4.12. Health Facility Used

Area	Private Doctor	%	Health Clinic	%
Squatter	1 Household	1,7	59 Households	98,3
Rural Villages	0	0	160 Households	100
Townships	72 Households	20,4	281 Households	79,6
TOTAL	73	22,1	500	277,9

Table 4.12 above reveals the following:

- In the squatter area, of 60 respondents, only 1 household (1,7%) reported that they often used a private doctor for health care.
- 59 (98,3%) of respondents indicated that they often used health centre within their vicinity.
- In the rural villages, all 160 respondents indicated that they often made use of the health clinics in their areas when they were sick.
- In the townships, of 353 respondents, 72 households (20,4%) reported that they often used a private doctor.
- 281 (79,6%) of respondents in the townships indicated that they often made use of health clinics to get health care treatment.

It emerged from the survey that the overwhelming majority of the communities, whether in the squatter area, rural villages or townships, were making maximum use of public health care facilities. Seventy-two households (20,4%) in the townships and 1 (1,7%) household in the informal settlement indicated that they made use of a private doctor. This could be attributed to having the privilege of accessing a medical aid financial scheme. This could be viewed as a luxury within low socio-economic households. Access to medical aid enables an individual to choose health care service that is of good quality. In cases of public health care services that are often perceived by members of the community, as below expectation of good quality, poor communities are reliant on them even if such services do not fulfil their health needs.

4.6.2 Accessibility of the Health Care Service

The major barrier to accessing health care is the cost of the service, distance and the cost of transportation, as these contributory factors influence patients' attendance at the health service. As suggested by SALDRU (1983:4), the closer services are to the peoples' homes or places of work, the more accessible they are. Two hours travelling time is considered to be a maximum distance acceptable worldwide. Buch & De Beer (1984:8) therefore have suggested that an accessible service is less than 5 kilometres from people and provides care at all times, at a cost people can afford.

Table 4.13 below provides statistical data pertaining to distance to a health service facility.

Table 4.13. Distance to a Health Service

Area	Distance in Km	Number	%
Squatter	Less than 1 km	60 Households	100,0
Villages	1-3 km	106 Households	66,3
Village	3-4 km	54 Households	33,7
Townships	1-3 km	283 Households	80,2
Townships	3-5 km	50 Households	14,2
Township	6 km and above	20 Households	5,6
TOTAL		573	

Table 4.13 above shows the following:

- In the squatter area, all 60 respondents indicated that the health care service was located nearby their households, and within a walking distance of less than 1 kilometre.
- In the rural villages, of the 160 households, the distance to the health care service was about 1-3 kilometres to 106 households (66,3%), while 54 households (33,7%) lived within a distance of about 3-4 kilometres from the health service.
- In the townships, of the 353 households, 283 (80,2%) lived within a distance of about 1-3 kilometres to the health service, 50 (14,2%) within 3-5 kilometres, while 20 (5,6%) within a distance of about 6 kilometres and above.

Table 4.13 reveals that the overwhelming majority of the people in all the communities under investigation had reasonable access to health care services, as they lived within a distance of less than 5 kilometres from the health service. Only 20 households (5,6%) from the townships indicated that they lived within a distance of about 6 kilometres and more, further away from the health service, which could be a barrier to accessing health care services. Considering that the overwhelming majority of people in these communities lived relatively close to the health care services, within a distance of less than 5 kilometres, it could be concluded that they had reasonable access to health care services. Thus, the barrier of distance did not pose an obstacle to accessing health care in these communities. Moreover, the minority 20 households in the townships, who indicated that they lived within a distance of 6 kilometres and more, the constraint of distance could not be a hindering factor if such households had the financial means to pay for public transport to get to the health centre.

Table 4.14 and 4.15 below provide the statistical data analysis on the mode of transport and time spent travelling to the health care centres.

Table 4.14. Mode of Transport

Area	Mode of Transport	Number	%
Squatter	foot	57 Households	95,0
Squatter	hired car	3 Households	5,0
Village	foot	137 Households	85,6
Village	Taxi	23 Households	14,4
Townships	foot	203 Households	57,5
Township	Private car or taxi	150 Households	42,5
TOTAL		573	

Table 4.15. Time Spent Travelling to the Health Care Service

Area	Travelling Time	Number	%
Squatter	Less 15 minutes	14	23,3
Squatter	15-29 minutes	34	56,7
Squatter	30-59 minutes	12	20,0
Village	Less 15 minutes	82	51,3
Village	15-29 minutes	47	29,4
Village	30-59 minutes	11	6,8
Village	1-2 hours	20	12,5
Township	Less 15 minutes	132	37,4
Township	15-29 minutes	114	32,3
Township	30-59 minutes	93	26,4
Township	1-2 hours	14	3,9
TOTAL		573	

Other factors that determine accessibility, such as the cost of transportation and cost of the health service rendered have to be taken into account, since they influence patients' attendance at the health service. The cost of transportation, the time spent travelling to the health service, and the time spent waiting for treatment must be seen as part of the total price of health care.

With regard to the mode of transport used, Table 4.14 above revealed the following:

- Of the 60 respondents in the squatter camp, 57 (95%) indicated that they often walked to get to the health service centre.
- Only 3 respondents in the squatter area (5%) said they hired a car.

- In the villages, of the 160 households, 137 (85,6%) responded that they walked to the health service centre.
- Only 23 respondents in the rural villages (14,4%) indicated that they travelled by a taxi.
- In the townships, of the 353 respondents, 203 households (57,5%) indicated that they walked to the health care service.
- 150 (42,5%) respondents in the townships said they were travelling by either a private car or taxi.

Considering that the overwhelming majority of households in all areas lived close to the health care services and indicated that they often walked to get to them, accessibility did not seem to pose a problem. Those households who reported that they used transport to travel to the health service, as shown in table 4.14 above, no person indicated that he/she travelled more than 2 hours, which is considered to be the acceptable maximum travelling time.

Table 4.16 and 4.17 below provides the statistical data analysis on the cost of transport and availability of ambulance service to the health facility.

Table 4.16. Transport Cost to the Health Care Service

Amount	No. in Squatter	%	No. in Villages	%	No. in Townships	%
R2	0	0	155	96,8	276	78,2
R3	0	0	5	3,2	52	14,7
R5	0	0	0	0	15	4,3
R6	0	0	0	0	10	2,8
R30	12	20	0	0	0	0
R50	22	36,7	0	0	0	0
R60	26	43,3	0	0	0	0

Table 4.17. Availability of Ambulance Service to the Health Centre

Area	Number indicated there was ambulance service available	%	Number indicated unavailability of ambulances	%
Squatter	43	71,6	17	28,3
Villages	4	2,5	156	97,5
Townships	318	90,1	35	9,9
TOTAL	365	164,2	208	135,7

In terms of the availability and cost of transport, Table 4.16 above illustrated the following:

- In the squatter area, of the 60 respondents, 12 households reported that hired transport cost R30.
- 22 of the respondents in the squatter area indicated that transport cost R50,
- 26 of households in the squatter area pointed out that transport cost R60.
- Only 3 respondents in the squatter area indicated that they ever hired a transport.
- In the rural villages, of the 160 respondents, 155 respondents indicated that there was public transport that cost R2.
- Only 5 respondents in the rural villages said they were charged R3.
- In the townships, of the 353 respondents, 276 respondents reported that public transport cost R2.
- 52 of the respondents in the townships said transport cost R3.
- 15 respondents in the township reported that transport cost R5.

- 10 of respondents in the townships indicated that they were charged R6.

In the squatter area, although the cost of hired transport appeared high and unaffordable to the financially struggling community, only 3 households indicated that they ever made use of the hired cars. However, in cases of emergencies, unaffordable hired transport could be a barrier to accessing health care, particularly in the evening, despite the closeness of the health care facility. Although availability of ambulance services could alleviate the problem of costly hired cars in the informal settlement, as 71,7% of households in Table 4.17 above indicated, that there were ambulances available, delays in ambulances reaching seriously injured or ill people was a major concern of residents in the informal settlement.

For example, in the Cape Argus of 17 July 2003, there was an article that raised serious concerns about delays in ambulance call-outs in reaching seriously injured people in Site B, Khayelitsha, where the squatter camp under investigation is located. This bears testimony to the problems raised by the communities in the squatter area. In this article, Western Cape Health Member of the Executive Council (MEC), Piet Meyer reported that he had witnessed worrying delays in ambulance response times, and had raised several such incidents with the ambulance service.

In addition, the MEC for Community Safety, Leonard Ramatlakane indicated that on a Friday night (4 July 2003), there was a three-hour period when no ambulance was available to transfer people with serious injuries to the Khayelitsha Community Health Centre in Site B. This was attributed to the lack of discipline among staff in the ambulance service. Unavailability of transport, and the ambulance service in particular, impacts negatively in terms of the quality of health service that is being rendered in such a community. This is indicative of the poor state of public health outreach services.

In the rural villages, 155 respondents reported that there was public transport available, in which they paid R2 to get to the health clinic; only 5 respondents indicated that they paid R5. In terms of the amount paid, it could be said that it was affordable within the financial means of the poor rural communities. With regard to availability of ambulances, of the 160 households, Table 4.17 above shows that 156 (97,5%) reported that there were no ambulances to transport emergency cases; only 4 (2,5%) reported that there was an ambulance service available.

Considering that the overwhelming majority of the people indicated that there were no ambulances available, accessibility of health care in cases of emergencies is adversely affected. The quality of health care in this aspect could be regarded as poor. In the townships, of the 353 households, 318 (90,1%) respondents reported that there were ambulances available, only 35 (9,9%) indicated that there was no ambulance service. Considering that the overwhelming majority said there were ambulances to transport the seriously ill to receive emergency health care, it could be concluded that the quality of health care in this aspect was good.

4.6.3 Availability of Mobile Clinics

Mobile clinics are the visiting points for mobile health teams, organised by the Provincial Government, the Local Authorities and welfare organisations. These clinics primarily offer child health care, immunisation and education for mothers. Health care delivery through mobile units raises the issue of the quality of services provided.

Table 4.18 below, provides the details of the availability of mobile clinics in the all areas that were investigated.

Table 4.18. Availability of Mobile Clinics in the Area

Area	Number indicated there were mobile clinics available	%	Number indicated unavailability of mobile clinics	%
Squatter	1	1,7	59	98,3
Villages	4	2,5	156	97,5
Townships	8	2,3	345	97,7
TOTAL	13		560	293,5

Table 4.18 above reflects the following:

- In the informal settlement, of the 60 households, 59 respondents (98,3%) indicated that there were no mobile clinics that visited their area.
- Only 1 respondent (1,7%) in the informal settlement indicated that there were mobile clinics that reached their area.
- In the rural villages, of the 160 households, 156 (97,5%) responded that there were no mobile clinics.
- Only 4 respondents in the rural villages indicated there were mobile clinics that reached their area.
- In the townships, of the 353 respondents, 345 (97,7%) indicated that there were no mobile clinics.
- Only 8 respondents (2,3%) in the townships indicated that there were mobile clinics that reached their area.

In view of the fact that the vast number of the respondents in all areas indicated that there were no mobile clinics that reached their areas, the conclusion that could be drawn therefore would be that the quality of health care being rendered was not satisfactory, particularly to those areas distant to the health care service. If the service of mobile clinics, which primarily offer child health care, immunisation and education for mothers, were made available to all communities, this would reduce the number of morbidity and mortality among poor communities. Thus, optimal use of health services would enhance the quality of life among these communities.

4.6.4 Satisfaction with the Health Service

This section has a subjective component relating to the users' attitude to the service being used, which can only be accurately assessed by surveys of health services users. In this study, subjective feelings and reactions to the quality of health services are measured and quantified by rudimentary scaling of reactions (for example, very satisfied/satisfied/dissatisfied/very dissatisfied).

Table 4.19 below, provides the statistical data on the attitudes towards satisfaction with health services.

Table 4.19. Attitude towards Health Care Services

Status of Satisfaction	Squatter	%	Villages	%	Townships	%
Satisfied	15	25	107	66,8	169	47,8
Very Satisfied	0	0	2	1,3	33	9,4
Dissatisfied	15	25	41	25,6	131	37,1
Very Dissatisfied	30	50	10	6,3	20	5,7
TOTAL	60	100	160	100	353	100

Table 4.19 above illustrates the following:

- In the squatter area, of the 60 respondents, 15 respondents (25%) indicated that they were satisfied with the health service they received at the health care centre.
- 15 (25%) respondents in the squatter area were dissatisfied.
- 30 (50%) respondents in the squatter area were very dissatisfied.
- In the rural villages, of the 160 respondents, 2 respondents (1,3%) were very satisfied,
- 107 (66,8%) respondents in the rural villages were satisfied.
- 41 (25,6%) respondents in the rural villages were dissatisfied.
- 10 (6,3%) respondents in the rural villages were very dissatisfied.
- In the townships, of the 353 respondents, 33 respondents (9,4%) were very satisfied.
- 169 (47,8%) respondents in the townships were satisfied.
- 131 (37,1%) respondents in the townships were dissatisfied.
- 20 (5,7%) respondents in the townships were very dissatisfied.

It would appear, therefore, that in the squatter area, of the 60 respondents, 75% of households were dissatisfied with the health services rendered at the community health centre, and only 25% were satisfied. In the rural villages, of the 160 respondents, only 31,8% of the households were dissatisfied, 68,2% were satisfied with the health services. In the townships, of the 353 respondents, 42,8%) were dissatisfied, whereas 57,2% were satisfied. It would appear therefore that in the squatter area, there were many people who were unhappy with the quality of health care services being rendered, only few were satisfied. Contrary to the squatter area, in the rural villages, many people were satisfied with the quality of health services rendered,

whilst only few were not happy. In the townships, although the majority of respondents were satisfied with the quality of health care services, in terms of the number or percentage, there was not much difference between those individuals satisfied and the unsatisfied. To this end, determinants of satisfaction or dissatisfaction are investigated.

(i) The Length of Waiting Time

Table 4.20 below, provides the statistical data analysis on the length of waiting time by communities in the health care services.

Table 4.20. The length of Waiting Time

Area	Less than 30 minutes	%	30 minutes to 1 hour	%	More than 1 hour	%
Squatter	1 Respondent	1,7	5 Respondents	8,3	54 Respondents	90
Villages	68 Respondents	42,5	59 Respondents	36,8	33 Respondents	20,6
Township	45 Respondents	12,7	88 Respondents	24,9	220 Respondents	62,3
TOTAL	114	56,9	152	70	307	172,9

In Table 4.20 above, 90% of respondents in the squatter area have indicated that they waited approximately more than 1 hour before being attended at the health care service. The common problem raised was long queues that often resulted in inconvenience of having to return the following day because it was too busy in the day of patients' choice. This was with reference to the set target number of patients to be seen on a particular day. In the rural villages, in

contrast to the squatter area, only 20,6% of the respondents reported that they waited more than 1 hour before being attended. In the townships, 62,3% of the respondents indicated that they waited more than 1 hour before being attended at the health clinic.

Considering that 75% of the respondents in the squatter area were dissatisfied with the quality of health care services rendered, it is not surprising that 90% responded waiting times were excessive. This would imply that the quality of health service rendered in the squatter areas was poor, which could be attributed to a number of factors that often precipitated this state of affairs. In the rural villages, 68,2% of the respondents indicated that they were satisfied with the quality of health service they received, as expected, only 20,6% reported that they waited approximately more than 1 hour before being attended at the health clinic.

The satisfaction could also be attributed to the fact that in the rural villages, people would indicate that when there were few people at the clinic, they would be attended quickly. This implied that on the days that the clinic was overcrowded, people would be patient and understanding because of the good experience of the past. The implication therefore would be that there was good quality health care being rendered in the rural villages, in comparison with the squatter area.

In the townships, although 62,3% of respondents reported that they waited approximately more than 1 hour before being attended at the health care facility, 57,2% of respondents were satisfied with the quality of health service they received. Satisfaction with the health care services in the townships, despite the long waiting times, could probably have been influenced by other determinants of satisfaction, which could be perceived positively by respondents. This would mean that a single variable was not sufficient to influence the attitude of people. Therefore, other variables also played a

significant role in determining people's attitudes. In cases of long waiting times at public health facilities, this could be attributed to overburdened and under-staffed of these services. There might be too many patients that needed attention with insufficient staff. For example, what emerged from the interview held on 25 April 2003 with Mrs. Dlali, Chief Professional Nurse at Qhumanco Clinic, was the expression of excessive workload due to large volumes of patients coming from different villages. There were only 4 registered nurses for an average of 80 patients per day on busiest days at the clinic. The introduction of free health care services to poverty-stricken communities could have further exacerbated the situation because, free health care services would most probably encourage large numbers of people to seek treatment.

(ii) Perception of the Length of Consultation

Table 4.21 below provides the details on the perception of the length of consultation for effective diagnosis.

Table 4.21. The length of a Consultation

Area	Less than 5 minutes	%	5 minutes or more	%
Squatter	39	65,0	21	35,0
Villages	80	50,0	80	50,0
Townships	123	34,8	230	65,2
TOTAL	242	149,8	331	150,2

Table 4.21 above illustrates the following:

- It is shown that in a squatter camp, of the 60 respondents, 39 (65%) indicated that a consultation took less than 5 minutes, 21 (35%) responded that a consultation took 5 minutes or more.

- In the villages, of the 160 respondents, 80 (50%) indicated that a consultation took less than 5 minutes, and another 80 respondents (50%) said that a consultation took 5 minutes or more.
- In the townships, of the 353 respondents, 123 (34,8%) indicated that a consultation took less than 5 minutes, 230 (65,2%) said a consultation took 5 minutes or more.

In terms of perceptions, as shown in table 4.19 above, 65% of respondents in the squatter area who indicated that a consultation took less than 5 minutes, believed that the consultation time was not long enough for effective diagnosis, whereas 21 (35%) were of the view that 5 minutes or more consultation time was long enough for effective diagnosis. In the villages, 47 (29,4%) of respondents felt that less than 5 minutes consultation time was not long enough for effective diagnosis, 113 (70,6%) were of the view that 5 minutes or more consultation time was long enough for effective diagnosis. In the townships, 123 (34,8%) of respondents felt that less than 5 minutes consultation was not long enough for effective diagnosis, whereas 230 (65,2%) were of the view that 5 minutes or more consultation time was long enough for effective diagnosis.

It would appear that in the squatter area in particular, there were consistencies in the feeling of dissatisfaction, as 65% majority of respondents indicated that consultation lasted less than 5 minutes, which they perceived to be insufficient to diagnose effectively. As usual in the rural villages, there were consistencies and satisfaction with the quality of health services rendered because, 70,6% of the respondents reported that the length of consultation lasted 5 minutes or more, which was perceived as adequate for effective diagnosis. In the townships, 65,2% of respondents who indicated that 5 minutes or more consultation time was long enough to diagnose effectively would imply satisfaction with the quality of health service rendered. The probability

therefore would be that the significance of value attached to the length of consultation time in the townships, overshadowed the negative impacts of long waiting times. As indicated earlier, satisfaction with the health care services, despite the long waiting times, could have probably been influenced by this variable.

(iii) Perception of Health Care Workers' Attitudes

The behaviour of health care workers should not alienate people in need of medical assistance because, if people feel alienated from the health service, they are less likely to seek help. If this happens, this would be defeating the principles and spirit for the introduction of the Comprehensive Primary Health Care in 1995 by the democratic government of South Africa.

Table 4.22 below provides the details of communities' attitudes towards health care workers.

Table 4.22. Attitudes Towards Health Care Workers

Area	Attitudes Good	%	Attitudes Bad	%
Squatter	13 Respondents	21,6	47 Respondents	78,4
Villages	140 Respondents	87,5	20 Respondents	12,5
Townships	273 Respondents	77,3	80 Respondents	22,7
TOTAL	426		147	

In the squatter area, Table 4.22 above shows that of the 60 respondents, 47 (78,4%) reported that they were often treated with disrespect and experienced arrogant attitudes from health care personnel. Although 87,3% of 47 of the respondents who indicated that they were often treated unfriendly and were discouraged from seeking medical help, 12,7% reported that although they felt offended, they were not discouraged from seeking medical help because they had no money to get alternate treatment from a private doctor.

In contrast to the squatter area, only 12,5% of 160 respondents in the rural villages reported that they were often treated with disrespect and experienced arrogant attitudes from health personnel. Of the 20 (12,5%) respondents in the rural villages who indicated that they were treated unfriendly, 90% said they were discouraged from seeking health care, and only 10% indicated that although they were treated badly, they were not discouraged from seeking medical treatment because when they became ill, they had no other alternative, but to go back to the clinic. In the townships, of the 353 respondents, only (80) 22,7% reported that they were treated badly. Of the 80 respondents (22,7%) that were treated badly, 73 respondents (91,3%) said they were discouraged from seeking medical care, and only 7 (8,7%) indicated that although they were not well handled, they were not discouraged from seeking medical treatment.

It would appear that the overwhelming majority of people in the squatter area were unhappy and frequently experienced negative attitudes of health personnel in the community health care centre. The large numbers of people seeking medical care, particularly in the urban areas, and staff shortages at the health care centres, could possibly have contributed to the arrogant attitudes of health providers. However, the large numbers of patients to be attended to, and staff shortages cannot be condoned as justification for the alleged unwarranted arrogant attitudes of health care personnel. This is against the basic values and principles espoused in Chapter 10 of the 1996 Constitution of the Republic of South Africa, which requires that people's needs be responded to and a high standard of professional ethics be promoted and maintained by public service employees

Moreover, in terms of "Batho Pele" (2000), a Sesotho term meaning "people first" and emphasising the importance of the patient within the health system, which is the name given to the South African Government's initiative to improve the delivery of service to the public, all citizens should be treated with courtesy and consideration. "Batho

Pele” aims to make certain that attitudes, systems and procedures are reoriented in favour of the users of the health services. Considering that these principles are based on a high standard of professional ethics that must be promoted and maintained, the behaviour of health personnel cannot be acceptable because it negates the aims of health promotion. Such attitudes subsequently discourage the consumers of the health services to seek medical care. It is therefore required that in order for health care services to impact positively in alleviating poverty, thus improving the quality of life, the attitude of health care providers should not alienate people from seeking health care.

Although the vast number of people in the rural villages and in the townships expressed satisfaction with the quality of the available health services, those living in formal housing in the townships within metropolitan areas were more likely to say that the quality of health care had improved because of the urban bias. In other words, the historical preferential treatment cities receive in terms of more resources at the expense of neglecting rural areas. It should be recalled that although ambitious plans have been formulated that could lead towards improving the health of everybody, particularly the poor in rural areas, discrepancies still exist. In the rural villages, however, although the majority of the respondents overwhelmingly indicated their satisfaction with the provision of health services, these results had to be interpreted with caution. It should be noted that when respondents in the rural areas do not have alternate point of reference, they could only relate to the reality they knew. Most rural communities might not have an expectation of a better level of care due to non-exposure to such services in the remote area, hence their response of satisfaction.

In the same vein, whilst the same could be said of respondents in the squatter area, that is, higher levels of expectations of care due to alternate point of reference, in other areas of the metropolitan areas that offer better health care, there were incidents that were evidence of health care negligence in the area. Although the researcher made

several attempts to interview health management in Khayelitsha Community Health Centre, where respondents in the squatter camp received their health care services, all endeavours were unsuccessful. An interview with the managers of the health service would have shed light on some of the concerns raised by the respondents in the squatter area, and would clarify certain aspects of the problems encountered by the communities in this area.

The aim of primary health care is the prevention and promotion of health, and early treatment of minor ailments. Therefore, if the environment in the health care services is hostile, people will feel alienated and will be hesitant to seek early treatment to minor illnesses. This could defeat the aims of prevention and promotion of health, and early treatment of minor illnesses to avoid complications. Although some respondents indicated that despite the negative attitudes of health care personnel, they were not discouraged from seeking medical help, there is a probability that they would only do so when they are in severe pain, as a result of the bad experiences. This would not augur well for the good intentions of the primary health care approach.

Considering that people in the informal settlements experienced hostile attitudes from health care professionals, conclusions could be drawn that the impact of health services in ameliorating the plight of poor communities could not be achieved. This is with reference to the goal and principles of the primary health approach that prevention and early treatment of minor ailments could prevent fatal complications. If people in a given community are unable to engage in productive economic activities due to illnesses, the standard of living drops as a result of pervasive poverty. As a consequence, people would be disabled to live quality lives that are both meaningful and enjoyable.

4.7 Quality of Life Indicators

Quality of life indicators, which are statistical measures of health, social, and economic situations, comprise of life expectancy, the birth weight, Child Mortality Rate, Maternal Mortality Rate, immunisation status of children, contraceptive prevalence, and HIV/AIDS awareness.

4.7.1 Life Expectancy

Life expectancy is the average number of years that a newborn could expect to live, if the baby were to pass through life, subject to the age-specific death rates of a given period. Table 4.22 and 4.23 below reflect life expectancy and the age of death of members of the households in all the communities that were investigated.

Table 4.23. The Age at Death of a Member of the Households

Age at Death	Squatter	%	Village	%	Townships	%
41-50 years	3	5	7	4,4	11	3,1
51-60 years	0	0	20	33,3	17	4,8
61-70 years	0	0	14	8,7	9	2,5
71 years and above	0	0	7	4,4	4	1,2
TOTAL	3	5	48	50,8	41	11,6

Table 4.24. The Ages of Members of the Households

Ages	Squatter	%	Village	%	Townships	%
25-40	43	71,6	17	10,6	90	25,5
41-50 years	14	23,3	28	17,5	88	24,9
51-60 years	3	5	29	18,2	70	19,8
61-70 years	0	0	48	30	69	19,5
71 years and above	0	0	38	23,7	36	10,2
TOTAL	60	99,9	160	100	353	99,9

The implication of the population distribution as reflected in Table 4.24, in terms of life expectancy revealed that in the squatter area, the eldest in the family was 59 years old, with only 3 people between the ages 51-59 years. In addition, Table 4.23 above shows that 3 respondents in the informal settlement indicated that there were members of the households that died aged between 41-50 years. It would appear therefore that the youth within the working age dominated the population distribution in the squatter area. In terms of the theories in literature review, the decrease in human longevity could be attributed to poor housing, innutritious diet due to poverty, inability to access affordable health care services, lack of clean water, inadequate sanitation, and socio-political instability.

These findings, however, should be interpreted with caution, considering the mobility of people. It should be taken into account that there is a trend for the youth to leave homes in order to exploit the opportunity of gaining independence by claiming homeless, thereby constructing their own shacks in the informal settlement. Nevertheless, considering that the general rate of life expectancy often reflects the level of socio-political stability, people' access to adequate nutrition, affordable health care, and influenced by adequate housing, water and sanitation services, the decrease in human longevity in the squatter

area could probably be attributed to poor nutrition due to poverty, poor quality housing, and poor sanitation.

When taking into account the associated ramifications of exposure to poor sanitation, overcrowding, air pollution and unhygienic bucket system latrines in particular, these conditions could have contributed to lower life expectancy in the informal settlement. It would appear therefore that the level of socio-political stability, access to clean water and affordable health care services alone is not sufficient to prevent the decrease in life expectancy. The implications are that the role of other factors such as good hygienic practices, adequate sanitation, good nutrition, and good quality housing should be taken into account in order to prevent the short life span.

In contrast to the squatter area, in the rural villages, Table 4.24 above shows that older people tend to live longer. In addition, Table 4.23 above shows that people died at all ages, including the age of 71 years and above. The increase in human longevity was contrary to the hypothesis and theories, which would expect people in rural villages to have shorter life spans due to unaffordable good nutrition as a result of poverty, lack of access to clean water and toilet facilities for excreta disposal.

Although rural communities were poverty-stricken, which meant that they could not afford adequate nutrition that promotes human longevity, and had no access to clean water and improved toilet facilities, access to adequate housing and health services could probably have played a significant role in increasing the length of time people were expected to live. Moreover, although people in the rural areas had no access to flush toilets, unlike in the squatter area where there was air pollution and environmental health hazards due to unhygienic bucket system latrines, people were not exposed to such health risks. It would appear that access to good quality of housing, health care services and less

exposure to air pollution impacted positively on the quality of life, in terms of increased life expectancy.

In the townships, Table 4.24 reflects that there was relatively even distribution of population among all age groups. In addition, Table 4.23 shows that there was relative distribution of deaths in all ages. The relative representativeness of all age groups reflected socio-political stability, gains in public health and access to primary health care services. Moreover, adequate housing, clean water supply and sanitation could probably have contributed to the increase in human longevity, which are key indicators for the quality of life in a society. It could be concluded therefore that access to health care services, good quality housing, water and sanitation improves the quality of life among poor communities.

4.7.2 The Birth Weight

Adequate birth weight is defined as equal or greater than 2,5 kilograms, the measurement being taken preferably within the first hours of life, before significant postnatal weight loss has occurred. Low birth weight births include those born too early (pre-term infants) and those who were carried to term, but were unusually small when born. A low birth weight baby is a signal of insufficient access to adequate food supply and lack of access or under-utilisation of health care services. Some risk factors associated with low birth weight include cigarette smoking, multiple births, low pregnancy weight gain and use of alcohol, tobacco and other illegal substances by pregnant women. Cigarette smoking is the most significant risk factor associated with low birth weight. The purpose of the indicator is to monitor the percentage of underweight newborns in a community.

Table 4.25 below, provides the details of babies born under weight.

Table 4.25. The Birth Weight

Area	Number of underweight babies	%
Squatter	7	11,7
Village	22	13,7
Townships	35	9,9
TOTAL	64	35,3

Table 4.25 above reflects the following:

- In the squatter area, of the 60 household, 7 respondents (11,7%) reported that there was a baby born underweight.
- In the rural areas, of the 160 households, 22 respondents (13,7%) indicated that there was a baby who was underweight at birth.
- In the townships, of the 353 households, 35 (9,9%) of respondents reported that there was a baby born underweight.

In all communities, that is, squatter area, rural villages, and townships, there was prevalence of low birth weight babies, which is a signal for insufficient access to adequate food supply and lack of access or under-utilisation of health care services.

Table 4.26 below, provides the details of the employment status in all areas.

Table 4.26. People Employed in the Households

Area	Nobody employed	%	1 person employed	%	2 people employed	%	3 people employed	%
Squatter	11 Households	18,3	39 Households	65	10 Households	16,6	0	0
Village	97 Households	60,6	46 Households	28,7	10 Households	6,3	7 Households	4,4
Township	127 Households	35,9	129 Households	36,5	75 Households	21,3	22 Households	6,3
TOTAL	235	114,8	214	130,2	95	44,2	29	10,7

In all areas, as shown in Table 4.26 above, a significant number of respondents in the households indicated that they were unemployed. If there was any source of income, it was usually a child or disability grant, or old age pension. Considering that many people in these communities were unemployed, which meant that they could not afford nutritious diet necessary for normal weight of newborn babies, it is therefore not surprising that there was significant number of babies born underweight.

Moreover, earlier in the discussion, a vast number of respondents in all areas indicated that there were no mobile clinics that reached their areas. The absence of mobile clinic service, which primarily offers child health care, immunisation and education for mothers, raises the issue

of under-utilisation of health services, particularly in remote rural areas. Therefore, low birth weight could be attributed to inadequate nutrition and under-utilisation or poor quality of health services, particularly pre-natal care services where mothers could receive health education about risk factors and be screened for health risks and pre-existing conditions, such as diabetes and hypertension. Women identified with risk factors could be referred to appropriate services to increase the chances of a healthy pregnancy and birth outcome. In an ideal world, good quality health services would monitor and take care of inadequate nutrition in communities.

The implications of babies born underweight would mean that their mothers would spend most of the time in health facilities where the baby had to attend doctor's appointments for check-ups. Due to the baby's low birth weight, the immune system is diminished, which means that such babies are susceptible to opportunistic infections. Moreover, low birth weight babies have low resistance, which means that extra money has to be spent on their health. In the health institutions, such babies can easily contract infections from the surrounding environment. If it were a working mother, it would mean that she would spend most of her productive time in taking care of the baby, thus losing on income generation activities. Loss of income, particularly on mothers who are "bread winners" would exacerbate the plight of poverty in the home.

4.7.3 Child Mortality Rate

As defined by Carabine & O'Reilly (1998:19), child mortality rate is the number of children who die before their fifth birthday out of every 1000 born alive. The death rate reflects factors such as nutrition, sanitation, communicable diseases, and accidents in and around the home.

Table 4.27 below provides the details of child mortality rates.

Table 4.27. Child Mortality Rate

Area	Number of under-5 deaths	%
Squatter	5 Respondents	8,4
Village	23 Respondents	14,4
Townships	57 Respondents	16,2
TOTAL	85	39

Table 4.27 above illustrates the following:

- In the informal settlement, of the 60 respondents, 5 (8,4%) indicated that there was a child who died just after birth or before the age of 5 years.
- In the rural villages, of the 160 respondents, 23 (14,4%) reported that there was a child who died just after birth or before the age of 5 years.
- In the townships, of the 353 respondents, 57 (16,2%) indicated that there was a child who died just after birth or before the age of 5 years.

Child mortality reflects on a population's social and economic development. The death rate in the squatter area could be attributed to factors such as inadequate nutrition due to unemployment and poverty, poor sanitation and communicable diseases. Also, the availability, utilisation and quality of health care, particularly perinatal care could be determinant factors for the deaths of children under 5 years of age. In the rural villages, the death of children could be attributed to inadequate nutrition, poor sanitation practices, communicable diseases, poverty, and under-utilisation of perinatal care services due to ignorance as a result of illiteracy. In the townships, the significant

high number of mortality rate of children under 5 years, where such deaths were least expected, could probably be as a resultant of inadequate nutrition, communicable diseases, the poor quality or under-utilisation of perinatal care service and poverty.

The significant prevalence of high mortality rates of children in all areas is an illustration of the devastating effects of poverty and poor quality or under-utilisation of perinatal health care services. Because many people in these poverty-stricken communities indicated that they were unemployed, they could not afford a well balanced diet. Earlier in the discussion, the empirical findings revealed that health care services were reasonably accessible to all communities under investigation. Health care services therefore could have been under-utilised due to ignorance or illiteracy.

The significant number of deaths of children therefore is a signal of the ineffectiveness or under-utilisation of perinatal health care services, coupled with poverty-related factors. The benefit attributed to improvement in the quality of life as a result of having access to quality of health services in the hypothesis has not received support in this regard. It would appear that poor nutrition, which is poverty-related, had a significant role in the determination of mortality rates among children in these communities.

4.7.4 Maternal Mortality Rate

Maternal Mortality Rate is the number of maternal deaths per 1000 (or per 10 000 or per 100 000) live births. This indicator is among the World Health Organisation's most used indicators for health. It estimates the proportion of pregnant women who die from causes related to or aggravated by the pregnancy or its management.

Table 4.28 below provides details of maternal mortality rates.

Table 4.28. Maternal Mortality Rate

Area	Number of maternal deaths	%
Squatter	2 Respondents	3,4
Village	13 Respondents	8,2
Townships	14 Respondents	3,9
TOTAL	29	

Table 4.28 illustrates the following:

- In the informal settlement, of the 60 respondents, 2 (3,4%) indicated that there was a family member in the household who died during pregnancy or childbirth.
- In the rural villages, of the 160 respondents, 13 (8,2%) indicated that there was a family member in the household who died during pregnancy or childbirth.
- In the townships, of the 353 respondents, 14 (3,9%) indicated that there was a family member in the household who died during pregnancy or childbirth.

Table 4.28 above shows a significantly high number of women who died during pregnancy or childbirth in the rural villages. In all the areas, the risks to mothers could probably be influenced by low socio-economic conditions, unsatisfactory health conditions preceding the pregnancy, incidence of the various complications of pregnancy and childbirth, and availability and utilisation of health care facilities, including prenatal and obstetric care. Maternal mortality represents a serious public health problem. The quality of health services in this regard plays a critical role in preventing the deaths of pregnant women. It would appear that the prevalence of maternal mortality, particularly

high levels in the rural villages, indicate weaknesses in the coverage and quality of reproductive health services, including family planning. The empirical findings therefore imply that health care services have not been effective enough in preventing the deaths of pregnant women.

4.7.5 Immunisation Status of Children 2-5 Years

By 2 years of age, children are expected to have completed a course of immunisations against communicable diseases such as measles, tuberculosis, poliomyelitis, diphtheria, whooping cough and tetanus. In the squatter area, Table 4.11 on page 154 above shows that 3.4% of respondents in the informal settlement reported that there was a child that was not immunised. In the rural villages, only 1.3% of respondents, whereas in the townships, only 1.9% of respondents indicated as such. Overall, it would appear that the proportion of non-immunised children in all areas under investigation was relatively low. However, in an ideal situation, there should not be a single child who has not received the full course of immunisation.

Good management of immunisation programmes, essential to the reduction of morbidity and mortality from major childhood infectious diseases, is a basic measure of the quality of health care services rendered in a given community. Despite the fact that the majority of respondents in all areas investigated indicated that their children were immunised, the significant prevalence of measles and the accompanied mortality rates in the rural villages and in the townships reflected the poor quality of life. It could be concluded that the health services were not effective in improvement of the quality of the people's lives in this instance.

4.7.6 Contraceptive Prevalence

This indicator is generally defined as the percentage of men or women of reproductive age using any method of contraceptive. The measure indicates the extent of people's conscious efforts to control their fertility.

Table 4.29 below, provides the status of contraceptive prevalence in all areas that were investigated.

Table 4.29. Contraceptive Prevalence

Area	Number Using Contraceptives	%
Squatter	34 Respondents	56,7
Village	58 Respondents	32,3
Townships	264 Respondents	74,8
TOTAL		

Table 4.29 above reflects the following:

- In the squatter area, of the 60 households, 56,7% of the respondents reported that there was a member or members of the household who used a method of birth control (contraceptives).
- In the rural villages, of the 160 households, 36,3% of respondents indicated there was a member or members of the household who used a method of birth control (contraceptives).
- In the townships, of the 353 respondents, 74, 8% indicated that a member or members of the household used a method of birth control (contraceptives).

In the squatter camp and in the rural villages, it would appear that there was ignorance with regard to efforts to control fertility. In the rural villages particularly, as could be expected, there was evident disregard for contraceptives. This could be attributed to cultural beliefs and strong values of the communities. Lack of efforts to control fertility in these communities was compounded by the fact that women maintained that their male partners did not take any responsibility for

birth control. Only in the townships, that there was significant evidence that communities made efforts to control their fertility.

In the townships, contraceptive prevalence can be regarded as an indirect indicator of progress in providing access to reproductive health services, including family planning, one of the elements of primary health care. In turn, this would improve the quality of life among township communities because; smaller families would enable the family to generate sufficient revenue to educate their offspring. An educated society contributes to the economic growth of the country and poverty alleviation, by enhancing the chances for employment. This leads to a better standard of living. Increase in individual income, job security and financial well-being therefore will bring satisfaction and happiness, which are indicators of quality of life.

4.7.7 HIV/AIDS Awareness

Table 4.30 below provides the statistical data analysis on HIV/AIDS awareness.

Table 4.30. HIV/AIDS Awareness

Area	Awareness of HIV/AIDS	%
Squatter	60 Respondents	100,0
Village	143 Respondents	89,4
Townships	331 Respondents	93,7
TOTAL	534	

Table 4.30 above reveals the following:

- In the informal settlement, shows that all 60 (100%) of respondents indicated that they have heard of HIV/AIDS and its transmission.

- In the rural areas, of the 160 respondents, there were 143 (89,4%) who indicated that they have heard of HIV/AIDS and its transmission.
- In the townships, of the 353 respondents, 331 (93,7%). indicated that they have heard of HIV/AIDS and its transmission.

Table 4.31. Awareness of the Spread of HIV/AIDS

Area	Beliefs that Mosquitos Spread HIV/AIDS	%
Squatter	38 Respondents	63,3
Village	62 Respondents	38,7
Townships	169 Respondents	47,8
TOTAL	269	

Table 4.32. Awareness of the Risk of Not Using a Condom

Area	Beliefs that Condom Protects HIV/AIDS Transmission	%
Squatter	58 Respondents	96,7
Village	113 Respondents	70,6
Townships	329 Respondents	93,2
TOTAL	500	

Table 4.33. Attitudes Towards the Use of a Condom

Area	Number Would Use a Condom	%
Squatter	53 Respondents	88,3
Village	103 Respondents	64,4
Townships	320 Respondents	90,6
TOTAL	476	

With regard to the spread of HIV/AIDS, Table 4.31 above illustrates that 63,3% of the 60 respondents in the squatter area thought that HIV/AIDS could be spread by mosquitos, but 96,7% in Table 4.32 above knew that sexual intercourse without a condom is a high risk for transmission of the disease. With such insight, Table 4.33 above shows that 88,3% of the respondents in the squatter area indicated that they would ask their new partner to wear a condom during sexual intercourse to protect against HIV/AIDS.

In the rural villages, Table 4.31 above shows that 38,7% of the 160 respondents thought that HIV/AIDS could be spread by mosquitos, but 70,6%% in Table 4.32 above, knew that sexual intercourse without a condom is high risk for transmission of the disease. With such insight, 64,4% of respondents in Table 4.33 above indicated that they would ask their new partner to wear a condom during sexual intercourse to protect against HIV/AIDS.

In the townships, of the 353 respondents, 47,8% in Table 4.31 above, thought that HIV/AIDS could be spread by mosquitos, but 93,2%% in Table 4.32 knew that sexual intercourse without a condom is high risk for transmission of the disease. With such insight, 90,6% of respondents in Table 4.33 above indicated that

they would ask their new partner to wear a condom during sexual intercourse to protect against HIV/AIDS.

Overall, it was interesting to observe that there was relatively reasonable awareness and acceptance of the existence of HIV/AIDS and its transmission in all the communities under investigation, despite misconceptions and controversies from other sectors of the South African society. However, the widespread misinformation about the means of transmission of HIV/AIDS, which was evident in all the communities that were under survey, did not pose a threat to the awareness and realisation of the fatality of the disease.

Relatively, the vast majority of respondents in all these communities knew that sexual intercourse without a condom is high risk for transmission of the disease. The vast majority of respondents in all the communities indicated that they would ask their new partner to wear a condom during sexual intercourse to protect against HIV/AIDS. For that reason, it would appear that health education about HIV/AIDS had been effective in all communities. Mrs Dlali, the Chief Professional Nurse in Qhumanco Health Clinic, confirmed this during an interview held on 25 April 2003. She informed the researcher that at the clinic, as health personnel, it was customary to educate patients about HIV/AIDS and other health issues.

A conclusion could be drawn therefore that awareness about the devastating effects of HIV/AIDS was a positive sign of the impact of health services, in terms of health education campaigns about the illness. Because the disease affects mostly the working age groups, HIV/AIDS awareness implies that if jobs were available, people in these communities would be able to provide for their families. In so doing, improvement in the standard of living would be achieved. However, due to large

numbers of people who were unemployed in these communities, the positive spin-offs of being in good health had no significant economic benefits in this regard, except for good chances of long life expectancy.

4.8. Conclusion

This chapter began by analysing the length of stay in an area in order to ascertain the impact of access or deprivation to health, water and sanitation. The rationale behind ascertainment of the length of stay in an area is based on the argument that to access or non-access to these services to have meaningful impact, respondents should have had stayed in a particular area for a couple of years.

In this section, the resultant effects of having access or non-access to water and sanitation services have been explored. It emerged that in areas where water and sanitation are adequately provided, diseases associated with inadequate or non-existence of these services, were less prevalent. In areas where water and sanitation were inadequate or non-existent, diseases like cholera, gastroenteritis, scabies amongst others, were prevalent.

Finally, the provision of health services and the adverse effects of poor quality services rendered were highlighted. It emerged from the discussion that when discussing access to health services for individuals or communities, a number of parameters have to be taken into account. A closer look at distance to the health service, cost of transport, availability of mobile clinics, the length of waiting time, consultation time, attitudes of health personnel, and satisfaction of customers are among many of the aspects that determines good quality health care services rendered in a given society. Life expectancy, the birth weight of babies, Child and Maternal Mortality Rates, immunisation status of children 2-5 years, contraceptive prevalence, and HIV/AIDS awareness were some of the aspects identified as indicators for good quality health care provision. Chapter 5 is a synthesis of the theoretical and empirical findings.

CHAPTER 5

SYNTHESIS OF THEORETICAL AND EMPIRICAL ASSESSMENTS

5.1. Introduction

The main focus of this study was to investigate the impact of health, water and sanitation services in improving the quality of life among poor communities. Mindful of the fact that health, water and sanitation services are not the sole determinants of the quality of life, other factors such as income, housing, and nutrition are worth mentioning. This study, however, confines itself to health, water and sanitation services. The research methods employed included both a theoretical literature and an empirical data survey.

In order to test the validity of the conclusions drawn from the theoretical survey, 6 poor communities in the Western Cape and Eastern Cape Provinces in the Republic of South Africa were chosen as suitable for investigation. Out of the 6 communities, 3 were chosen for being classified as adequately served with these services, in terms of having access to health services within a reasonable walking distance, flush toilets and piped water within their premises. Three other communities that were inadequately or non-provided with such services relates to inaccessible health services within reasonable walking distance, lack of access to clean safe clean water and sanitation services. In this study, communities categorised as well or adequately serviced comprised of Mbekweni and Kraaifontein townships in the Western Cape Province, and Ezibeleni (Queensdale) township in the Eastern Cape Province. Areas classified as poorly or inadequately serviced comprised of the Tsepitsepe informal (squatter camp) in the Western Cape Province, and four rural villages (Ndenxa, Mampemvini, Tshayelesa, KwaDlomo) in the Eastern Cape Province.

In the Western Cape Province, the areas for investigation were chosen for convenient access purposes, in terms of saving on costs and time. The choice of areas in the Eastern Cape Province was dictated by the fact that the researcher was born and bred in the province. Thus, familiarity with the

geography of the province would speed up the fieldwork process. Of primary importance, the rural villages that were selected in the province were unique in the sense that most villages were modernised and had access to basic services. In the chosen villages, they were unique because of backwardness and non-existence of clean water and toilet facilities. In terms of the premise of this study, although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account.

Considering the importance of access to health, water and sanitation services in enhancing the quality of people's lives, and the health risks due to non-provision of these services, the aim of this study was to provide a comparative analysis of the impact of these services in areas that were adequately served and those that were poorly served. The aim was also to explore the nature of local action in the context of the non-existence of these services. The aim was to learn how successfully members of deprived communities with such services draw on their own resources or ameliorate their living conditions, as they seek to survive.

The technique of empirical data collection for the study was by means of structured questionnaires that were administered by the researcher with the assistance of a trained fieldworker. The researcher trained one fieldworker for one day to help with the collection of data. The training provided an understanding of the project, standardised administration of the interviews and reiterated the issues of confidentiality, quality control and logistics. The fieldworker accompanied the researcher into the field and was guided and supervised. Furthermore, an interview with a Sister in Charge of a clinic in the rural areas and literature review was undertaken.

This section, therefore, compares the aim of the study with the findings and draws conclusions on the extent, and manner in which the goal has been achieved. Attention is also paid to the extent to which the hypotheses have

been confirmed. In other words, whether it was possible to infer a causal relationship between the variables, and how the results can be extended to the whole population.

5.2. Synthesis of Findings

The analysis of the empirical data to determine the statistical significance of health, water and sanitation services in influencing the improvement in the quality of life among poor communities are summarised below.

5.2.1 Health, Water and Sanitation Services

Statistical data from the case studies that were under investigation provides the basis for the explanation of the impact of health, water and sanitation services in improving the quality of life among poor communities as follows:

(1) Sanitation Services

It was found that out of the 60 households, a majority of 68,3% of respondents in Tsepetspe informal settlement utilised the hated bucket system, in which municipal workers physically collected excrement in unsanitary small pails. There were only 6-bucket latrines in total for the entire informal settlement, in which 5 to 20 people shared each toilet daily. Fifteen households (25%) owned unimproved pit latrines of some kind, which were built at the owners' initiatives and cost, and only 4 (6,7%) of respondents used the veld for toilet purposes. The closeness of the latrines and blocked drains, which were located too close the homes of respondents, led to foul smells and flies. Overcrowding exacerbated the situation.

In the rural villages, a lack of, or inadequate sanitation services have led to extensive faecal contamination of the local environment, as well as pollution of rivers and streams in the vicinity. Hence the outbreak of cholera in February 2003, which

was consequent to the use of contaminated water from the rivers or wells. As cited in literature review, inadequate sanitation leads to disperse pollution of water sources. This in turn increases the cost of downstream water treatment, as well as the risk of disease for communities who use untreated water. It could be concluded therefore that inadequate excreta disposal facilities, combined with unhygienic practices, represented the sanitation problem in the informal settlement and in the rural villages. The unhygienic practices could be attributed to a lack of access to health and hygienic education, inadequate water supplies, poor facilities for the safe disposal of water and other domestic waste, and inadequate toilet facilities.

It could be concluded therefore that people need sanitation facilities to get rid of human and household waste material, and for keeping their homes healthy and free of diseases, as argued by many authors in the literature. As highlighted in the National Sanitation Policy (1996:15), many diseases such as diarrhoea, intestinal helminth infestation, poliomyelitis, typhoid, schistosomiasis and cholera, may result from poor sanitation and unhygienic practices. As espoused in the theories that were discussed that in areas where health, water and sanitation services are inadequately or non-existent, the quality of life deteriorates as a result of the prevalence of mortality rates and poverty-related diseases received support in this instance. This is with reference to the fact that people in the rural villages contracted cholera and diarrhoeal diseases due to poor sanitation and unhygienic practices, in which people died. As espoused in the theories that were discussed, in areas where health, water and sanitation services are inadequately provided or non-existent, mortality rate and poverty-related diseases tend to be prevalent.

(ii) Water Services

With regard to access to clean drinking water, unlike in the townships where all 353 respondents had access to water within their premises, in the squatter area, residents did not have house connections, but had access to 5 communal water taps for the entire population within a walking distance of less 200 metres to their homes. The distance of less than 200 metres to a water supply is considered reasonable access. In contrast to the urban areas, in the rural villages, 92,5% of 160 households had no access to safe and clean water or a water tap within their premises. Only 7,5% of respondents who had access to recently installed government communal taps (March 2003), which was a response to the outbreak of cholera in their areas. Ninety-nine point four percent (99,4%) of respondents were fetching water from the river or well, while only ,6% of the respondents who did not fetch water from the river, but used a water tank.

The absence of reticulated water did not only mean that the supply was polluted and limited, but that the water source was also often a long distance from the households. This meant that rural people often spent hours everyday walking to the water supply, waiting for their turn at the river or well, and carrying small but heavy quantities of water home. This drastically limits the time available for any form of economic activity, which might help the burden of poverty that is prevalent in the rural villages. This situation has a devastating impact on their health, exposing them to a wide range of diseases. As argued by many authors in the literature, lack of sufficient and clean water is associated with a number of diseases, such as diarrhoea and cholera. The existence of cholera as a major hazard in the rural areas is directly related to the fact that people need to use polluted water source. Consequently, 36,8% of respondents in the villages indicated that there was a member or members of their

households who was or were affected by the outbreak of cholera.

The outbreak of cholera in February 2003 in the rural villages brought into public focus the adverse effects of using polluted water. The statistical significance of cholera epidemic in the rural areas was due to lack of toilet facilities, unhygienic practices, and the use of contaminated water. This bears testimony to the theories espoused in the literature review that lack of access to clean water, adequate sanitation and good hygienic practices pose health risks to people of contracting water-borne and water-shed diseases, such as cholera.

In water-borne diseases, Solleder & Ludidi (1990:4-5) argue that the infectious pathogen is ingested and it follows therefore that any route, which permits faecal material to reach the mouth through contaminated food, utensils or dirty hands, can transmit such disease. Mrs Dlali, the Chief Professional Nurse at the clinic in the rural villages, also confirmed that the outbreak of cholera in the rural villages was a result of lack of access to clean water and toilet facilities. The argument by many authors that in areas where health, water and sanitation services are inadequately provided or non-existent, environmental risk factors of poverty-associated gastrointestinal illnesses are prevalent, received support.

Contrary to the argument by the authors in the literature review, it was a surprise and unexpected to have 8 people afflicted by cholera that resulted to 2 deaths in the townships, where all 353 respondents had access to safe clean water and flush toilet facilities within their premises. Considering that they had access to clean tap water and flush toilets within their premises, which render them non-vulnerable to waterborne diseases such as cholera, the findings of this study were contrary to what have

been expected. It is a well-known fact that cholera is an acute bacterial infection of the intestine caused by ingestion of food or water contaminated with *Vibrio cholerae*. People could be at high risk of contracting cholera if they do not have access to clean water or toilet facilities for adequate excreta disposal.

Although the prevalence of cholera cases in the townships where it was least expected could be attributed to rapid urbanisation (the difficult to control of the movement of people from rural to urban areas) for a variety of reasons, this phenomenon poses challenges to the theories that cholera would be confined to areas where water and sanitation services are inadequately provided or non-existent. This finding, however, poses a challenge to develop strategic intervention strategies that seek to contain outbreaks, but preferably to prevent them by ameliorating the general plight of poor communities. This necessitates a more comprehensive and integrated approach than the traditional basic needs approach to development.

(iii) Health Services

The vast majority of respondents in all areas under investigation had reasonable access with regard to health care services because they lived close to the health care services. They lived within a maximum distance of less than 5 kilometres from the health service, which is regarded as the maximum distance acceptable in accessing health care services by authors in the literature. Only 20 respondents in the townships indicated that they lived within a distance of about 6 kilometres and above.

Respondents in the squatter area, however, were dissatisfied with the quality of health services rendered. The shortage of medication and the inconvenience of having to return the following day to get medication was the complaint prevalent in

all areas, including the townships and rural villages. Other problems raised by respondents in the squatter area was short consultation times, perceived not to be capable of effective diagnosis, negative attitudes of health care providers, delays in ambulance call-outs, and long queues that often resulted in inconveniences to patients of having to return to the clinic the following day, because it was too busy on the day of their choice. This was with reference to the set target number of patients to be seen on a particular day.

The complaint of unavailability of medication that was prevalent in all areas under investigation (informal settlement, townships, and rural villages), which caused inconvenience of having to return the following day to get medication, was an indicative of mismanagement by health authorities. In the rural villages for example, the problem of the shortage of medication was attributed to unavailability of transport to deliver medication from the capital of Bisho. Considering the fundamental direct impact of medication on the health status of individuals, delays in treating diseases that require prompt treatment impact adversely in the quality of health rendered. Moreover, this could discourage some patients from returning for treatment, which would not augur well with the principles of prevention and early detection of disease in the primary health care approach.

Thus, ineffective and inefficient provision of health care services in this regard would not result in the improvement of the quality of life among these communities. The problems experienced by respondents in the informal settlement were an indicative of the poor quality health care services rendered, which were conducive to alienation of such communities. Poor quality health care services would not contribute to the amelioration of the standard of living among informal settlement dwellers.

5.2.2 Quality of Life Outcomes

Quality of life outcomes as revealed by the survey of the areas that were under investigation are discussed below:

(i) Life expectancy

It also emerged from the empirical findings that there was short life expectancy in the informal settlement, as compared to the townships and rural villages. It is well documented in the literature that long life expectancy is influenced by good quality housing, nutritious diet, access to affordable health care services, clean water and sanitation services, and socio-political stability. The decrease in life expectancy could be attributed to poor nutrition, poor quality housing, overcrowding, air pollution and unhygienic bucket system latrines, and poor sanitation practices.

Although there was socio-political stability in the informal settlement, and communities had access to clean water and reasonable access to primary health care services, which are primary factors that determines human survival, it would appear that these factors alone were not sufficient to prevent the decrease in life expectancy. The implications are that the role of other factors such as good hygienic practices, adequate sanitation, good nutrition, and good quality housing has to be recognised in order to reach conclusions.

Contrary to the expectation of a short life span in the rural villages due to inability to afford good nutrition as a result of the prevalence of poverty, lack of access to safe clean water and toilet facilities for excreta disposal, there was an increase in human longevity. Longer life expectancy in the villages could be attributed to socio-political stability, access to adequate housing and primary health care services, and less exposure to air

pollution which could have played a significant role in increasing the length of time people were expected to live. It would appear that a lack of access to clean water, good hygienic practices and adequate sanitation did not impact adversely to life expectancy. Their effects could have probably been negated by the influence of the above intervening variables.

It could be concluded that health, water and sanitation services alone are not sufficient to determine human longevity. Thus, the argument in the literature review that in addition to the health, water and sanitation services, good quality housing, nutritious diet, and socio-political stability are significant in determination of life expectancy, has received support.

(ii) Disease Prevalence

The prevalence of diseases associated with non-provision of health, water and sanitation services was expected in the areas that were investigated, as espoused in the theories that were discussed and also the premise of this study. The prevalence of diseases in those areas investigated are summarised below.

(a) Gastroenteritis

The prevalence of gastroenteritis that affects children in a given community provides a fair reflection of its socio-economic status. The vulnerability of children is associated with poor nutrition, poor hygiene practices, poor sanitation and water supply. Table 4.6 above reveals that in all areas (informal settlement, rural areas, and townships), there was a significant number of people afflicted by gastroenteritis. It was unexpected to have a significant number of children afflicted by gastroenteritis in the townships, as empirical findings revealed that

households had access to clean water supply and flush toilet facilities within their premises.

In view of the fact that respondents in the townships had access to the above services, it would appear that poor nutrition and poor hygiene practices, particularly in babies' feeds preparations contributed significantly to the prevalence of gastroenteritis. In the rural villages, the presence of the above factors together with the absence of clean water and toilet facilities provided the 'fertile ground' for gastroenteritis prevalence. It was argued in the premise of this study that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account. The conclusion could be drawn that this premise was validated in this regard.

(b) Measles

Good management of immunisation programmes, essential to the reduction of morbidity and mortality from major childhood infectious diseases, is a basic measure of the quality of health care services rendered in a given community. Despite the fact that the majority of respondents in all areas investigated indicated that their children were immunised, the significant prevalence of measles and the accompanied mortality rates in the rural villages and in the townships reflected the poor quality of life. Measles is a preventable disease by extensive immunisation campaigns.

(c) Tuberculosis (TB)

The most prevalent disease was tuberculosis (TB), which plagued 15% of the ill people in the informal settlement, 28,2% of ill people in the rural villages, and 34,6% of the households in the townships. Impoverished socio-economic conditions such as poor housing, overcrowding, malnutrition, lack of sanitation, lack of good hygiene, and emotional and physical stress facilitate the conversion of dormant infection into a disease.

Given the poor socio-economic conditions prevalent in the informal settlement and in the rural villages, it was not surprising that tuberculosis was most prevalent in these areas. In the townships, however, although people also lived in poor socio-economic conditions, given the better quality housing, adequate sanitation, and better monthly income that would ensure affordability of adequate nutrition, it was a surprise that tuberculosis was most prevalent there than in other areas.

Moreover, tuberculosis-related deaths were most prevalent in the townships. It would appear therefore that although the townships were “better-off” in terms of family income and the standard of housing, other factors such as overcrowding, lack of good hygiene practices, emotional and physical stress, could have overshadowed the impact of other factors. This would therefore mean that access to health; water and sanitation services alone are not sufficient to prevent people from developing tuberculosis.

(iii) The Birth Weight

There were a significant number of underweight newborn babies in all areas that were investigated (informal settlement, rural villages, and townships), which was a signal for insufficient access to adequate food supply and lack of access or under-utilisation of health care services. Low birth weight could be attributed to inadequate nutrition and poor quality or under-utilisation of health care services, particularly pre-natal care services where mothers could receive health education about risk factors and be screened for health risks and pre-existing conditions, such as diabetes and hypertension. Women identified with risk factors could be referred to appropriate services to increase the chances of a healthy pregnancy and birth outcome.

Considering that many people in these communities were unemployed, which meant that they could not afford nutritious diet necessary for normal weight of newborn babies, it is therefore not surprising that there was significant number of babies born underweight. Moreover, earlier in the discussion, a vast number of respondents in all areas indicated that there were no mobile clinics that reached their areas. The absence of mobile clinic service, which primarily offers child health care, immunisation and education for mothers, raises the issue of under-utilisation of health services, particularly in remote rural areas. It could be concluded that health care services, particularly prenatal care, were not effective in prevention of babies born underweight.

(iv) Child Mortality Rate

There was a significant number of high Child Mortality Rates in all areas. Once again, the death rate of children under 5 years old could be attributed to inadequate nutrition, combined with other factors such as communicable diseases, poor sanitation practices, and under-utilisation or poor quality of perinatal care services. The child mortality rate of children, which reflects on a population's social and economic development, was significantly high in the townships, where such deaths were least expected. This is with reference to the generalised perception that health care services in the cities are of good quality than those in remote rural areas.

The significance of the prevalence of mortality rate of children in all areas is an illustration of the devastating effects of poverty and poor quality or under-utilisation of perinatal health care services. Because many people in these poverty-stricken communities indicated that they were unemployed, they could not afford nutritious diet necessary for a healthy child. The significant number of mortality rate of children therefore is a signal of the ineffectiveness or under-utilisation of health care services.

The benefit attributed to improvement in the quality of life as a result of having access to quality of health services in the literature has not received support in this regard. It would appear that poor nutrition, which is poverty-related, had a significant role in determination of mortality rate among children in these communities. This further validates the premise of this study that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of

thought in the health sector. Poverty-related factors also have to be taken into account.

(v) Maternal Mortality Rate

The maternal number of women who died during pregnancy or childbirth was significantly high in the townships where such deaths were least expected. The risks to mothers could probably be influenced by low socio-economic conditions, unsatisfactory health conditions preceding pregnancies, incidence of the various complications of pregnancy and childbirth, availability and utilisation prenatal and obstetric health care services. Maternal mortality represents a serious public health problem.

Contrary to what was expected, it would appear that In general, high levels of maternal mortality indicate weaknesses in the coverage and quality of reproductive health services, including family planning. Therefore, health care services have not been effective enough in preventing the death of pregnant women in the townships. The perceived good quality of health services in urban areas, as compared to the rural villages, where there had been relatively equivalent number of deaths, did not meet the expectation.

It has emerged from these findings that good quality housing, well balanced diet, and an income that is above the poverty line have consistently featured as cardinal influential factors in the amelioration of the quality of life, with resultant poverty alleviation. These factors are key indicators of poverty, which therefore implies that in order for health, water and sanitation services to have meaningful impact in improving the quality of life, other poverty-associated factors have to be taken care of. What this means therefore is that in certain instances, health, water and sanitation services alone have been found to be

insufficient to bring about good quality of life, which ultimately lead to poverty alleviation.

In view of the findings of this study, to reach a conclusive argument in some aspects of the discussion, these services could have been expanded to include the impact of a well balanced diet, good quality housing and above poverty line income. The findings of this study therefore have brought to the fore the interrelatedness and intrinsic nature of poverty-related factors with these services that are under investigation.

5.3. The Limitations of the Study

The following constraints complicated the empirical part of the research:

- The failure of the researcher to secure funding for the costs incurred in the conduct of the study was a constraint with regard to the strain to personal finances, particularly the costs involved in gathering data in the rural villages of the Eastern Cape Province. This constrained the researcher in terms of his financial commitments.
- The time span that was available for the completion of the study also posed a limitation to the data gathering.
- In terms of scientific research, one cannot ignore to acknowledge the impact of biasness as a constraint during the conduct of the survey. Scientific discourse contends that it is difficult, if not impossible to achieve total objectivity. Within the context of objectivity, despite the fact that one fieldworker assisted the researcher in gathering information, I am satisfied that precautionary measures were taken to minimise the impact of bias. As mentioned in the methodology of this study, one of the measures taken to minimise the impact of bias was training of the assistant fieldworker to get an understanding of the project and

standardised administration of the interviews, interpretation biases could have affected the study.

- In the townships in particular, some people were distrustful and suspicious of the motive for the interviews. It would appear that they perceived the researcher as an agent of the local municipality, particularly when it came to questions that were related to issues of family income and the number of people that were sleeping in the households. The association of the researcher with the local municipality could probably be the result of households being in arrears or non-payments of municipal services. Despite reassurances and clarification of the purpose of the visit, some responses could be unreliable.
- In the rural villages, because of low knowledge levels and ignorance, there were instances of uncertainty about the diseases that afflicted or led to death of a family member. This could somehow impact on the reflection of the prevalence of diseases in these communities.

5.4. Implications for Future Research

On the basis of the experience gathered in this study, a number of recommendations can be suggested concerning future research in this field. As far as samples are concerned, replication (and possible enlargement) of the study in other geographical areas of the country would be highly desirable.

Regarding the inclusion of other factors that are poverty-related for inclusion in future studies, the present research has highlighted their significant influence on improvement of the quality of life, which merit a more detailed evaluation. For example, the influence of good quality housing, well balanced diet, and income above poverty line on the improvement of the quality of life, thus bringing about poverty alleviation. Inclusion of these factors is particularly desirable in view of the fact that health, water and sanitation services' lone influence in other aspects of amelioration of quality of life was inconclusive without the inclusion of the above factors.

With regard to the impact of health, water and sanitation services in improving the quality of life among poor communities, the present research identified contra-intuitive findings, which merit a more detailed evaluation in future studies. For example, the influence of health, water and sanitation services on birth weight, child and maternal mortality rates in the townships, life expectancy in rural villages, the prevalence of diseases in the townships, such as gastroenteritis, measles, and tuberculosis, were contrary to the proposition of the theories of this study. However, these findings are in agreement with the premise of this study that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account. Overall, these findings have, nevertheless, highlighted a number of instances in which the provision or non-provision of health, water and sanitation services had a bearing on the quality of life among poor communities.

5.5. Conclusion

This section synthesised the theoretical and empirical assessments. The summary of the empirical findings explored the empirical findings of the impact of health, water and sanitation services in improving the quality of life among rural communities. The empirical findings were compared with theoretical data and conclusions highlighted. In addition, the most prevalent diseases, which are associated with the absence or ineffectiveness of the services under investigation and poverty-related factors, were highlighted. The conclusion is that health, water and sanitation services alone are not sufficient to prevent the adverse effects of poverty-related illnesses that ultimately lead to fatality. The following section wraps up the discussion of this study by providing conclusions reached in relation to empirical findings, and suggestions and recommendations are espoused.

CHAPTER 6

6. CONCLUSIONS AND RECOMMENDATIONS

This study has explored the role of health, water and sanitation services in improving the quality of life among poor communities. The analysis and assessment of empirical research findings made reference to the theories espoused in the literature review. This final chapter therefore provides a conclusion of the major findings and finishes with some final thoughts about the research.

It can be concluded that the solution is not only the improvement of health strategies, it is basically ensuring a balance or integrated management of health services. The theoretical models about the impact of these services were in certain instances validated as being in accordance with the propositions on which they were based. This is with reference to the fact that people in the rural villages contracted cholera and diarrhoeal diseases due to lack of access to reticulated water, poor sanitation and unhygienic practices. As espoused in the theories that were discussed, in areas where health, water and sanitation services are inadequately provided or non-existent, mortality rates and poverty-related diseases are prevalent. Overall, it could be concluded that a too narrow view of basic services satisfaction as contributing to the amelioration of the quality of life, could not be empirically validated.

It emerged from the empirical findings therefore that in order to improve the quality of life, there should be a holistic satisfaction of basic needs, comprising of various poverty-related factors. It is worth pointing out that the research was based on a narrow model of services (health, water and sanitation services), which have been empirically proven to be insufficient to draw conclusive findings in other areas of the survey. Considering the impact poverty-related factors such as quality housing, good nutrition, and income had on improvement of the quality of lives, I have come to the conclusion that their influences need to be investigated in detail in future studies, as alluded

to in chapter 5 of this study. This would require a holistic understanding of poverty, where anti-poverty action adopts a multi-dimensional approach.

The mainstream approach in the literature is that many diseases such as diarrhoea, intestinal helminth infestation, poliomyelitis, typhoid, schistosomiasis, and cholera may result from poor sanitation and unhygienic practices. Considering that people in the rural areas contracted cholera consequent to using contaminated water, as a result of lack of access to clean water and toilet facilities, it can be concluded that the theoretical models about the impact of non-provision of these services were validated as being in accordance with the propositions on which they were based. For example, the World Bank (1996:4) argues that many households in poor communities, particularly in the remote rural areas, lack access to potable water and adequate sanitation facilities, which pose a significant health risk of engendering waterborne diseases such as cholera.

The prevalence of poverty-related diseases such as measles, gastroenteritis, scabies, marasmus, kwashiorkor, and tuberculosis in all the areas that were surveyed, which are associated with poor quality or under-utilisation of health care services, overcrowding, poor personal hygiene practices, contaminated water, poor nutrition and sanitation, exposed the multi-dimensional nature of poverty. For example, the significant prevalence of gastroenteritis in the townships in particular, where respondents had access to these services, was contrary to the theories that were discussed, but in agreement with the premise of this study. In view of the fact that empirical findings revealed the prevalence of gastroenteritis in the townships that had access to clean water supply and flush toilet facilities within their premises, these findings are in harmony with the premise of this study that although the provision of health, safe clean water and adequate sanitation services lead to improvement in the standard of living, their impact alone does not incorporate all the attributes that enhance quality of life as suggested by mainstream schools of thought in the health sector. Poverty-related factors also have to be taken into account.

Moreover, considering that measles is a preventable disease by extensive immunisation campaigns, the significant prevalence of measles in the rural villages and in the townships due to non-immunised children is a reflection of the under-utilisation or failure of the health care system to expand the immunisation programme. The significant number of children afflicted by measles is indicative of the poor quality of life, when taking into account the fatal complications that often lead to death. It could be concluded therefore that the health services did not meet to the expectation of enhancing good quality of life. Scabies, marasmus, kwashiorkor and tuberculosis were prevalent in all areas investigated. Health, water and sanitation services alone could not prevent people in these communities from developing these illnesses.

It would appear that good personal hygiene practices and poverty-related factors, such as nutrition and above poverty line income, have a significant role in determining the prevalence of these diseases. This brought to the fore the interrelatedness and intrinsic nature of poverty-related factors with these services that are under investigation. The implications therefore are that anti-poverty policies and strategies would have to incorporate health, water and sanitation services in seeking to improve the standard of living among poor communities.

Furthermore, as espoused in the theories that were discussed, the incidence of birth weight, child and maternal mortality rates, and life expectancy are impacted on by the provision or non-existence of these services (health, water and sanitation) and poverty-related factors such as nutrition, income, and housing. This implies that the positive 'spin-offs' for the increase in human longevity, enhancement of chances for normal weight born babies, and a reduction in child and mortality rates are the result of the provision of effective and efficient quality health services, clean water and adequate sanitation. Moreover, access to good quality housing, good nutrition and above poverty line income contribute positively in the increase in life expectancy, normal weight born babies, and in reduction in child and mortality rates.

Based on the findings of this study, the following conclusions and recommendations can now be made:

6.1 Access to Water and Sanitation

The findings of this study have revealed that in the informal settlement, the vast majority of people used the hated communal bucket system of latrines, in which municipal workers physically collect excrement in unsanitary small pails. The minority of the population owned unimproved pit latrines of some kind, which were also shared. Few people used the veld for toilet purposes. Due to overcrowding and the closeness of these latrines to the homes of people in the informal settlement, foul smells from the latrines and blocked drains, and the nuisance of flies that contaminate food, posed health risks. In the rural villages, the vast majority of the people relied on the veld to get rid of human excreta. Only few people made use of poorly erected pit latrines.

With regard to water, the vast majority of rural people had no access to safe clean water. As a result, they fetched polluted water from a river or well and used it for drinking, cooking, and for personal hygiene purposes. The cholera outbreak in the rural villages in particular, shows that preventive measures for the eradication of cholera and other endemic diseases must be put in place and be closely monitored. The Department of Water Affairs and Forestry, together with the Department of Health at the three spheres of government, should work in close cooperation to avoid further outbreaks and deaths due to cholera.

Given the unhygienic conditions and practices in the informal settlement, it would be beneficial to the communities if the Western Cape provincial government could support the local authorities with funds needed to build the basic minimum level of service. This could be done by the release of the sanitation subsidy from the Municipal Infrastructure Programme so that the bucket system could be done away with, and a more appropriate sustainable hygienic sewerage system could be considered. Moreover, the provision of adequate facilities for the cleaning of open drains and sewers would

contribute to a significant reduction of many disease vectors that live, breed or feed within or around houses.

In both the informal settlement and in rural villages, human wastes must be properly disposed of, in order to avoid contamination of water and food, and to prevent people from contact with disease vectors and organisms. In advancing the provision of sanitation and water supply in the rural villages, the areas that were severely affected by the cholera epidemic should be given priority. Improving water and sanitation facilities do not necessarily lead to a decrease in water and sanitation-related diseases. To bring about real improvements in health, the installation of facilities has to go hand in hand with their proper use and maintenance. Thus, for the process of improving sanitation to be successful, it needs to be integrated with an education process, which provides people with information on health and good hygienic practices. People must be convinced of the need for sanitation improvements, so that they can invest their resources into those improvements and spontaneously encourage the practice of good hygiene.

The education process, in the rural areas particularly, should focus on the promotion of sanitation in order to stimulate demand for improved sanitation. This calls for special approaches to motivate people that they use improved ventilated pit latrines, which are suitable for such local conditions. Health education and promotion can be mutually reinforcing, each generating more awareness of health issues. Health personnel should play a meaningful role in the promotion of health and hygiene, particularly at the local level where Environmental Health Officers already exist. Community sanitation should become a strong element of all primary health care programmes and be linked to new water supply infrastructure. Schools should be used as a focal point for water, sanitation, and hygiene education through encouragement of the adoption of good hygienic practices from an early age. Improved water and sanitation facilities will only achieve a parallel reduction in diarrhoeal diseases if they are developed alongside hygiene programmes.

The role of local government should be to help make this possible. The Environmental Health Unit Authority in the local government has the responsibility of developing and maintaining a clean, safe and pleasant physical environment in all human settlements. To do this, the local government could assist the communities with the installation of communal water taps near homes and low cost ventilated improved pit latrines for each household in the rural villages. For the success of the water supply and sanitation projects, active participation of local people in the water supply and sanitation schemes from the beginning is of vital importance. For the local rural people to have a sense of ownership of these schemes, they should be given appropriate opportunities to contribute to design, construction, operation and maintenance.

Water and sanitation schemes must be planned and implemented in the broader context of community development, in order to capture full benefits accruing from investments made. This proposal points to three specific policy implications. First, water supply and sanitation schemes must be designed in ways that will enable the communities to enhance their capabilities in initiating and sustaining collective actions (see the heading 2.9 economic in chapter 2). Second, every effort must be made to promote income generation activities among the rural community members to enhance their ability to participate in the form of labour, cash or material contributions towards project construction, operation and maintenance (see introduction in chapter 1 and in chapter 2 as above). Third, in view of the fact that fetching water for cooking, child care and cleaning the house is usually done by women, and that they are more concerned about family health and the availability and quality of water for home consumption, the views and opinions of women must be fully reflected on the decisions affecting project design and implementation (see chapter 2 as above).

In accordance with the principle of good governance, water and sanitation projects should ensure active community participation through the implementation of appropriate decentralisation policies. This is with reference to the opportunities made available to local communities to participate in the

affairs of local government, through mechanisms that give them a voice and influence in policy-making and programme delivery. Decentralisation of functions to local structures could be done through the reduction of “red tape” by development of new simplified and transparent administrative procedures, which could provide greater empowerment of poor communities both to be involved in decisions that affect their daily lives and to hold local officials accountable for their performance.

Moreover, local government officials could establish partnerships with Community-Based Organisations (CBOs), private sector and Non-Governmental Organisations (NGOs) in order to facilitate progress in development initiatives and empowerment of communities. Institutional capacity could be improved by the better definition of mandates and functions of institutions, and restructuring those with a service delivery role so that they are enabled to better focus on serving the poor. Thus, improving the capacity of organisations involved in policy formulation and service delivery affecting the poor could be done through training of public officials and local communities involved in water and sanitation projects, appropriate incentive system, and good supervision to ensure accountability for performance of actions.

6.2 Control of Communicable Diseases

The findings of this study have shown that communicable diseases, both among adult and childhood populations, are one of the main causes of morbidity and mortality in the areas that were under investigation. Tuberculosis alone is the most frequently occurring notifiable disease and a complex public health problem. Measles and gastrointestinal diseases among children still carry high prevalence and fatality rates. Cholera in rural villages in particular, is also a cause for great concern because of its high prevalence.

It has been pointed out earlier in the discussion above that there is a great need to promote good hygienic practices and provide water and sanitation facilities to prevent the outbreak of gastro-intestinal diseases in the informal

settlement and in the rural villages. However, in view of the fact that 8 people in the townships were unexpectedly afflicted by cholera and led to 2 deaths, despite having had access to safe clean water and adequate sanitation, any development initiative that seeks to ameliorate the plight of poor communities, should adopt an approach of regional technical co-operation in public health measures to prevent the spread of the disease. Regional co-operation is of critical importance, considering the mobility of the population. The cases of cholera in areas that were least expected could be attributed to the movement of people. The challenge posed therefore is not confined solely to areas without safe clean water and adequate sanitation services, but to the surrounding areas that have access to safe clean water and adequate sanitation within the region, due to the movement of people. This calls for innovative policy guidelines that seek to contain the spread of the disease within the source area of infection as a monitoring and control mechanism.

With regard to the prevalence of diarrhoeal diseases, which are related to poor nutrition, hygiene, water supply and sanitation, there were a significant number of children afflicted by gastroenteritis in the townships in relation to the informal settlement and rural villages. It was unexpected to have high numbers of children in the townships suffering from diarrhoeal diseases, despite the fact that people had access to clean water and adequate sanitation services. Since it would appear that access to clean water and sanitation services did not show to have had a significant impact on the reduction of diarrhoeal diseases, poor hygienic preparations of feeds for babies seem to have contributed greatly. In keeping with the emphasis on an integrated, comprehensive primary health care service, a health facility-based nutrition programme should be established as an integral part of the health education campaigns in the pre-natal and post-natal clinics. Emphasis should be on personal hygiene, such as washing hands after going to the toilet or changing the nappies of babies, and before the preparation of babies' feeds.

Pregnant women and lactating mothers should be taught the importance of adhering to the correct formula for food preparations and keeping of food containers, such as bottles, for feeding clean. The promotion of breast-feeding

to mothers would reduce the number of diarrhoeal diseases due to limited risks associated with poor preparations and contamination of breast milk. In instances where diarrhoeal diseases are a result of poor food preparations due to inability to afford nutritious ingredients, it would be required of the health authorities to adopt a multi-sectoral approach in which other departments, such as Welfare, Water Affairs and Forestry, Housing and Environment, work together because poverty alleviation requires a multi-dimensional approach.

Measles, which is a preventable disease by extensive immunisation campaigns, afflicted children in all communities that were investigated. It was contrary to what one would have thought, however, that despite the fact that the majority of respondents in all areas investigated indicated that their children were immunised, there was significant prevalence of measles and mortality rates. In the townships in particular, this is contrary to the findings of previous studies that a child in an urban area is more likely to receive his or her immunisation than one in a rural village. The implications therefore are that ignorance about the importance of vaccination against measles is not area bound or confined solely among rural people. Therefore, health education about the importance of vaccination against measles should be expanded to include the services of Non-Governmental Organisations (NGOs) and community-based organisations (CBOs)

Moreover, it would be advisable for health authorities to improve access to health care services by increasing the number and frequency of mobile clinics that visit homes, especially in rural and informal settlements where such a service does not exist. The high turnover of health care professionals for "greener pastures" in the private sector and overseas countries impacts adversely on the attainment of good quality health care services. The shortage of staff in the health care services, which was raised as a major problem in the clinic of rural villages, could be an obstacle to the promotion of immunisation of children. Also, the arrogant attitude of personnel, which was consistently raised as a concern in the informal settlement, could be attributed to excessive workload due to staff shortages. Therefore, to enable effective

immunisation campaigns, the retention of professional health care workers and the recruitment of new staff should become a priority of the Department of Health. One of the ways to do this would be the provision of incentives such as competitive salaries and fringe benefits. There should be an improvement in the conditions of work and availability of adequate infrastructure, drugs and other resources for an improved standard of service delivery.

Tuberculosis emerged from the findings of this study as the most prevalent disease due to poor socio-economic conditions such as poor housing, overcrowding, and malnutrition, lack of sanitation and hygienic practices, and emotional and physical stress. It was surprising, however, that in the townships the prevalence of tuberculosis and related death tolls was more significant than in the informal settlement and rural villages, given better quality of housing, adequate sanitation, and income that could enable township communities to afford improved nutrition.

The most salient feature of these findings is the consistent presence of poverty-related factors that negates the impact of health, water and sanitation services. Therefore, any measure that seeks to ameliorate the plight of poor communities against the ramifications of tuberculosis should begin by addressing poverty-related factors, such as the provision of good quality housing, measures to assist with the affordability of a nutritious diet, and the provision of basic services such as water, health and sanitation. To do this, a multi-disciplinary approach should be promoted to secure collaboration between sectors within the government departments.

The Department of Health therefore should collaborate its efforts of tuberculosis management with the Department of Housing, Social Welfare, Education, and Water Affairs and Forestry in a primary health care setting. It is important that a multi-sectoral approach should be promoted to ensure that the determinants of tuberculosis are dealt with in a comprehensive manner. It would be helpful if the Department of Health would involve other key role players such as NGOs, community-based organisations, and the private sector to invest adequate resources in tuberculosis management. Also, health

care providers should encourage increased involvement of communities in the treatment and management of tuberculosis. Health education campaigns should focus on the importance of regular intake of medication for the prescribed period, nutritious diet, healthy life styles, and good hygienic practices.

6.3 Poverty-Related Diseases

The findings of this study revealed that kwashiorkor and marasmus, which are malnutrition diseases directly related to poverty, were prevalent in all areas that were investigated, with significant prevalence in the rural areas. These findings bear testimony to numerous studies on poverty and socio-economic conditions in South Africa, which have shown that people living in rural areas are more likely to live in poverty-stricken conditions than those residing in urban areas. The causes of these malnutrition diseases have been linked to insufficient dietary intake and disease, which result from low income, food shortages, and lack of clean water and unsatisfactory health care.

Based on these findings, a holistic understanding of poverty is crucial for an effective intervention strategy. It has emerged from the study that poverty permeates all sectors and is reflected in all aspects of life. Considering that malnutrition, as a result of poverty, expresses itself mainly in kwashiorkor and marasmus in children, an integrated poverty reduction approach in terms of management of funds and natural resources would be fundamental in reducing the devastating consequences of hunger and malnutrition in any society. The government, in partnership with the private sector and NGOs should create opportunities that enable individuals to lead a long and healthy life, in which they are educated and have access to a decent standard of living. These approaches should focus primarily on the satisfaction of basic needs that include not only food and shelter, but health, education, water and sanitation, as well.

In the rural villages in particular, the government, together with other stakeholders should enable the communities to revive traditional pastoral

farming activities and crops cultivation, which enabled rural people to be economically self-sufficient, instead of reliance for survival solely on cash remittances from migrant labour and food bought in trading stores. Initially, rural communities could be assisted with irrigation equipment and fertilisation of their fields so that they can plough seasonal crops and vegetables on subsistence basis. In the long-term, these endeavours could be expanded into the market of exportation. Food cultivation would be a platform for job creation and hunger alleviation. Moreover, the Primary School Nutrition Programme, which supplies food to indigent children should be strengthened and properly managed to alleviate hunger and the development of malnutrition related diseases in all schools, both in rural and urban areas.

6.4 Life Expectancy

It is well documented in the literature that long life expectancy is influenced by good quality housing, nutritious diet, access to affordable health care services, clean water and sanitation services, and socio-political stability. Contrary to the expectation of a short life span in the rural villages due to inability to afford good nutrition as a result of the prevalence of poverty, lack of access to safe clean water and toilet facilities for excreta disposal, there was an increase in human longevity as illustrated in table 4.22. Long life expectancy in the rural villages could be attributed to access to adequate housing, less exposure to air pollution, and primary health services, which could have played a significant role in increasing the length of time people were expected to live.

Shorter life expectancy rate among people in the informal settlement, which could be attributed to poor nutrition, poor quality of housing, poor sanitation and hygienic practices, highlights the ramifications of poverty. In order to improve the quality of life among communities in the informal settlement, there should be collaboration among the government departments. It would be beneficiary to the communities if the Department of Housing could give priority to building brick houses of reasonable size in replacement of the existing poor quality structures of housing in the squatter camp. This would greatly improve

overcrowding and exposure to extreme temperatures, which render people vulnerable to respiratory problems and the rapid spread of infectious diseases. The Department of Health should seriously consider incorporating adequate food provision to all children and patients under its auspices. This is fundamental considering that medication should not be taken in an empty stomach for effective treatment. Moreover, it would be contradictory to health education about the importance of eating a well balance diet for speedy recovery from disease, if such teachings are not accompanied by commitments to enable the realisation of good health status.

6.5 The Quality of Health Services

All areas under investigation had reasonable access to health care services. The unavailability of medication and the inconvenience of having to return the following day to get medication, however, was a complaint prevalent in all areas. Other problems raised by respondents in the squatter area was short consultation times, perceived not to be capable of effective diagnosis, negative attitudes of health care providers, delays in ambulance call-outs, and long queues that often resulted in inconveniences to patients of having to return to the clinic the following day because it was too busy on the day of their choice. This was with reference to the set target number of patients to be seen on a particular day.

In view of the fact that availability of medication is one of the key indicators traditionally used worldwide for the assessment of the quality of health care services rendered, it is of fundamental importance for health authorities to prioritise the issue of medication shortages in all public health facilities. This requires the practice of effective and efficient management in ensuring that patients get the prescribed medication on time. In the rural villages for instance, the problem of the shortage of medication, which was consistently raised by the majority of people and confirmed by the Sister-in-Charge, was attributed to delays and unavailability of transport to deliver medication from the capital of Bisho. A delay in transportation is a reflection of mismanagement and bureaucratic rigidity. This calls for serious consideration

of improvement in the management of health care services. Moreover, there should be focus on the improvement of governance and public management aspects of services, health and standard of living rather than a predominantly public health approach. Considering that medication has a direct impact on the health status of individuals, prompt receipt of medication by patients should not be compromised. Moreover, given the fact that infection-related diseases require prompt treatment to avoid complications, availability of medication at all times should be taken seriously and regarded as obligatory on behalf of health services management, otherwise this would negate the good intentions of the primary health care approach.

The complaints of the negative attitudes of health care personnel, long queues, and short consultation times perceived to be incapable of diagnosing effectively, which were raised in the informal settlement, are attributable to staff shortages. As highlighted earlier in the discussion, health authorities should prioritise the retention and recruitment of health care providers, and improvement of work conditions in order to reduce the amount of workload. It is a known fact that there is a high turnover of health professionals from public health care services in search of “greener pastures” in the private sector and overseas countries. Hence the poor quality of health care services rendered in public health care sector. Moreover, in supplementation of staff shortages, health authorities should seriously consider training local community workers who could assist with the workload by performing manual tasks and conducting health education to patients and their families. Health professionals could be relieved of such duties and give quality health care to patients. This programme could yield positive “spin-offs” by reducing the number of unemployed people, thus bringing about poverty alleviation.

6.6 Low Birth Weight

Low birth weight is a signal of inadequate food supply and lack of access to adequate health care services, particularly preconception counselling and comprehensive pre-natal care. Low birth weight births include babies born too early (pre-term infants) and those who were carried to term, but were

unusually small when born. Some risk factors associated with low birth weight include cigarette and tobacco smoking, multiple births, low pregnancy weight gain and use of alcohol, and other illegal substances. Cigarette smoking is the most significant risk factor associated with low birth weight.

The findings of this study showed that there was a prevalence of low birth weight babies in all the areas under investigation. Given the fact that people in the townships were in a better position in terms of family income and access to quality health services, it was unexpected to have the highest prevalence of babies born underweight. The Family Planning Services therefore should place more emphasis on health education. Preconception counselling should educate people about the importance of good nutrition and the dangers of unhealthy habits such as alcohol, cigarette and tobacco smoking. At pre-natal clinics, women should be screened for health risks and those identified with risk factors should be referred to appropriate services to increase the chances of a healthy pregnancy and birth outcome. It would be advisable for the Department of Health to take control of food supply resources to be able to provide to the identified needy mothers.

6.7 Child Mortality

The child mortality rate reflects on a population's social and economic development. It is associated with poor nutrition and sanitation, communicable diseases, poor quality or under-used perinatal care services, and accidents in and around the home. Once again, it was a surprise that child mortality was significant in the townships, in relation to the informal settlement and the rural villages.

Cognisant that child mortality is a complex issue because multiple factors influence a successful birth outcome, the importance of early access to comprehensive pre-natal care in the first trimester of pregnancy is fundamental to the overall decline of child mortality. Comprehensive pre-natal care includes psychological counselling, nutritional counselling, food supplementation, health education, as well as medical and obstetric services.

In addition, information that can improve a child's health and chances of survival, such as information about maternal stress, nutritional counselling, and prevention of sudden infant death syndrome, can be disseminated during pre-natal visits. Some intervention strategies that need to be enhanced include expanding eligibility for family planning access and services, improvements in nutrition, substance abuse prevention and treatment, smoking prevention and cessation efforts, stress reduction, basic education, and empowerment of childbearing-age women.

The government should also embark on environmental interventions, advances in clinical medicine, improvements in access to quality health care services, and improvement in the standards of living, which could contribute to a remarkable decline in child mortality. The government should expand and promote childhood immunisations and strategies aimed at the reduction of mother-to-child HIV transmission. Education programmes focusing on prevention of teen pregnancy by abstinence from early sexual practices would reduce child mortality because infants born to teenage mothers are at high risk of being born with a low birth weight, and with a high mortality rate.

6.8 Maternal Mortality

There was a prevalence of maternal deaths in all communities that were investigated. The striking feature was the high number of mothers in the rural villages who died during pregnancy or childbirth. The risks to mothers is attributable to low socio-economic conditions, unsatisfactory health conditions preceding pregnancies, incidence of various complications of pregnancy and childbirth, as well as the availability and utilisation of prenatal and obstetric health care services. The direct principal causes attributable to maternal mortality include haemorrhage, abortions, conditions associated with hypertension in pregnancy like eclampsia, dystocia and post-delivery infections.

Maternal mortality represents a serious public health problem. In general, high levels of maternal mortality indicate weaknesses in the coverage and quality of reproductive health services, including family planning. The multi-faceted nature of the problem requires a multi-dimensional programme approach to deal with it. Therefore, improving access to and ensuring the availability of quality family planning information and services, particularly among high risk groups, such as teenagers, women over 40 years old and those of high parity, would help to reduce maternal mortality. Health authorities should extend emergency obstetric services and the quality of services needs to be improved to prevent avoidable maternal deaths.

Communities should be encouraged to utilise the prenatal and obstetric health care services within their vicinities. There should be a programme that integrates more aspects of reproductive health and family planning information and services into the primary health care programme. Community participation should be promoted, particularly male participation. During the conduct of the survey in the rural villages, there were some families that were still dependent on traditional self-delivery at home. The key to overcoming this situation is to educate the community to understand the risks and danger signs of pregnancy and delivery, and to mobilise them to obtain appropriate care quickly. Community-based information and education should emphasise the potential risk of obstetric complications for all pregnant women and the need for individuals and family members to recognise danger signs.

6.9 Final Conclusion

The findings of this study have shown that poverty, combined with poor public health conditions, overcrowded poor quality housing, and a lack of accessible drinking water and sanitation, renders communities vulnerable to ill health. Given the poor socio-economic conditions prevalent in the communities under investigation, it was not surprising that tuberculosis was most prevalent in all areas. As such, poverty-related factors had significant influences in many instances. It became evident therefore that in certain instances, health, water, and sanitation services alone are not sufficient to make conclusive findings.

Thus, the impact of poverty-related factors necessitates the expansion of the factors that impact on the quality of life to include their influence. This calls for a holistic approach in assessing the factors that bring about the improvement in the quality of life among poor communities. Of utmost importance is the realisation that any development initiative that seeks to alleviate the plight of poor communities, would have to adopt a comprehensive multi-sectoral approach aimed at addressing as many as possible poverty-related factors in a closely co-ordinated and integrated way, because poverty permeates all aspects of human lives. A better-coordinated development effort with regard to improved integrated development services could be a solution. The findings of this study, nevertheless, highlights a number of issues, which could have a bearing on the amelioration of the standard of living among poor communities.

REFERENCES

African National Congress. 1994. **The Reconstruction and Development Programme: A Policy Framework.**

Barrow, C.J. 1997. **Environmental and Social Impact Assessment: An Introduction.** John Wiley, New York, (pp 226-259).

Bhorat, H., Leibbrandt, M., Maziya, M., Van Der Berg, S. & Woolard, I. 2001. **Fighting Poverty: Labour Markets and Inequality in South Africa.** University of Cape Town Press, Landsdowne.

Bless, B. & Higson-Smith, C. 1995. **Fundamentals of Social Research Methods: An African Perspective.** Juta & Co, Ltd, Kenwyn.

Bowling, A. 1997. **Measuring Health: A Review of Quality of Life Measurement Scales.** Open University Press: Buckingham.

Booyesen, F.R. 2003. **HIV/AIDS and Poverty: Evidence from the Free State Province.** In SAJEMS NS 6 (2).

Buch, E. & de Beer, C. 1984. **Health and Health Care in Mhala: Second Carnegie Inquiry into Poverty and Development in Southern Africa.** Carnegie Conference Paper No. 192: Cape Town.

Burkey, S. 1993. **People First: A Guide to Self-Reliant, Participatory Rural Development.** Zed Books Ltd, London.

Business Day, 9 October 2000.

Cape Argus, 17 July 2003.

Cape Argus. **Rural Poor Neglected, Says United Nations Report.** 5 February 2001.

Carabine, D. & O'Reilly, M. 1998. **The Challenge of Eradicating Poverty in the World: An African Response.** Uganda Martyrs University Press, Uganda.

Chambers, R. 1983. **Rural Development: Putting the Last First.** Longman Scientific & Technical, Longman Group UK Limited, England.

Child Health Unit for the Health Systems Trust. 1996. **Free Health Care for Pregnant Women and Children Under Six in South Africa: An Impact Assessment.** Health Systems Trust: Durban.

China, A. & Malan, L. 2000. **The Implications of the Tygerberg Integrated Development Planning for Poverty Reduction in Macassar.** Unpublished Paper: Foundation for Contemporary Research (NGO), Cape Town.

Cloete, F. & Wissink, H. (eds) 2000. **"Policy Evaluation or Assessment", Improving Public Policy.** Van Schaik Publishers, Pretoria.

Cloete, F. 2000. **Policy Evaluation or Assessment.** Van Schaik Publishers, Pretoria.

Cottle, E. 2002. **The Cholera Outbreak: A 2000-2002 Case Study of the Source of the Outbreak in the Madlebe Tribal Authority Areas, uThungulu Region, KwaZulu-Natal.** Health Systems Trust, Durban.

Cunnam, P. & Maharaj, B. 2000. **"Against the Odds: Health Care in an Informal Settlement in Durban"**. In *Development Southern Africa*, 17 (5).

De Beer, C. 1984. **Some Diseases Associated with Poverty.** Department of Community Medicine: University of the Witwatersrand, Johannesburg.

Dlali, M. 2003. Chief Professional Nurse, Qhumanco Community Health Services, Eastern Cape Province: Personal Interview. 25 April, Qhumanco Clinic, Eastern Cape Province.

DWAF. 1997. **White Paper on a National Water Policy for South Africa.**

DWAF. 2001 a. **Cabinet Memorandum: Publication of a Revised White Paper on Sanitation and the New Approach to the Provision of Sanitation Services in South Africa.** Department of Water Affairs and Forestry.

DWAF. 2001 b. **White Paper on Basic Household Sanitation in South Africa.**

DWAF. 2002 a. **Cabinet Memorandum: Submission of a Co-ordinated Progress Report on the Government's Domestic National Sanitation Programme in South Africa.** Department of Water Affairs and Forestry, April 2002.

DWAF. 2002 b. **The Development of a Sanitation Policy and Practice in South Africa: Preliminary Draft Paper.** Department of Water Affairs and Forestry, July 2002.

Esterhuysen, P. & Lass, M. 1996/7. **Africa at Glance: Facts and Figures of Quality of Life and Political Change.** Africa Institute of South Africa.

Finsterbusch, K., Llewellyn, L.G. & Wolf, C.P. 1983. **Social Impact Assessment Methods.** Sage Publications, London.

GCIS. 2002. **Health.** Department of Health, South Africa Year Book.

Geyer, N. "Enabling Legislation in Diagnosis and Prescription of Medicine by Nurses or Health Practitioners. In Curations, November 2001.

Government Gazette of the Republic of South Africa. **Municipal Demarcation Act of 1998 (Act 27 of 1998).**

Government Gazette of the Republic of South Africa. **Municipal Structures Act of 2000 (Act 33 of 2000).**

Government Gazette of the Republic of South Africa. **Municipal Systems Act of 2000 (Act 32 of 2000).**

Government Gazette of the Republic of South Africa. **National Water Act of 1998 (Act 36 of 1998).**

Government Gazette of the Republic of South Africa. **Water Services Act of 1997 (Act 108 of 1997).**

Government Gazette. 1997. **White Paper for the Transformation of the Health System in South Africa.**

Government Gazette. **Republic of South Africa Constitution of 1996 (Act 108 of 1996).**

Government of Vietnam. 2002. **Localising Millennium Development Goals for Poverty Reduction in Vietnam: Ensuring Good Governance for Poverty Reduction.** Poverty Task Force

Haffajee, F. **Cholera: "Exposing South Africa's Rural Underbelly".** Current Affairs, 19 January 2001.

Hill, E. 1997. **Development for Health.** Oxfam Publication, United Kingdom.

Human Rights Committee. 2000. **Social and Economic Rights in the Western Cape and a Report Back on the Eastern Cape Report of October 1999.** The Human Rights Committee of South Africa, South Africa.

Johnson, J.B. & Joslyn, R.A. 1986. **Political Science Research Methods**. Congressional Quarterly Press, Washington.

Kasrils, R. "**Government to Spend R100 Million to Combat Cholera**". South African Broadcasting Corporation. News of 19 May 2001.

Kesseba, A. 1996. **International Fund for Agricultural Development: Focusing on the Alleviation of Poverty in Sub-Saharan Africa**.

Mach, A. 1999. **Amartya Sen on Development and Health**.

Manuel, T. 2001. **Budget Speech**. Republic of South Africa Parliament.

May, J. & Govender, J. 1998. **Poverty and Inequality in South Africa**. Report Prepared for the Office of the Executive Deputy President and the Inter-Ministerial Committee for Poverty and Inequality in South Africa.

Miles, I. 1985. **Social Indicators for Human Development**. Frances Printer (Publishers) Limited, London.

Moller, V. 2000. **Monitoring Quality of Life in Durban, South Africa**. In Urban Health & Development Bulletin, 3 (3).

National Treasury of the Republic of South Africa. 2003. **Estimates of National Expenditure**.

Netshiswinzhe, B. & Eales, K. 2002. **Why Community-Based Approaches to Sanitation Improvement are Essential for Rural Development, and What the Real Reasons are for Slow Sanitation Delivery?** Presentation to the Portfolio Committee on Water Affairs and Forestry in South Africa.

Obasanjo, O. 2001. **Poverty Eradication: Paying Lip Service to International Cooperation**. Inaugural Address to the 3rd United Nations Conference on Least Developed Countries at Brussels. 14 May 2001.

Ottawa Charter for Health Promotion. **An International Conference on Health Promotion: The Move Towards a New Public Health.** Conference Held on November 17-21, 1986 in Ottawa.

Parnell, S. & Pieterse, E. 1999. **Municipal Poverty Reduction Framework.** Technical Reports on Municipal Poverty Reduction for the Cape Metropolitan Area. Isandla Institute, Cape Town.

Pieterse, E. & Van Donk, M. 2003. **Defining Poverty and Exploring Responses: Poverty.** In OD Debate, 10 (1)

Republic of South Africa. 1996. **White Paper on National Sanitation Policy.**

SALDRU. 1983. **Access to Health Services in the Greater Cape Town Area: Community Health Research Project.** SALDRU Working Paper No. 55, Cape Town.

Schreiner, B. & Van Koppen, B. 2001. **Catchment Management Agencies for Poverty Eradication in South Africa.** Paper Presented at a Symposium in the DWAF: Cape Town.

Scott, L. 2002. **A Poverty Indicator System for Local Government.** In Development Southern Africa, 19 (4).

Simone, A. & Santi, K. 1999. **Dimensions and Dynamics of Poverty in South Africa.** Country Report Prepared for CODESRIA Project on Civil Society and Poverty. Isandla Institute, Cape Town.

Slabbert, T.J.C. 1984. **Appropriate Technology for the Basic Needs of South Africa.** Institute for Planning Research, University of Port Elizabeth.

Solleder, G. & Ludidi, L.L. 1990. **"Effects of Inadequate Water Supply and Poor Sanitation on Health and Development of Transkei Communities".** In Current Status of Water Supply Paper (1).

South African Health Review. 1996. **Socio-Economic Context of Health.** Health Systems Trust and the Henry J. Kaiser Family Foundation, South Africa.

South African Health Review. 1999. **Poverty and Human Rights.**
<http://www.hst.org.za>.

South African Health Review. 2000. **Primary Health Care Facilities Survey.**
<http://www.hst.org.za>.

Statistics South Africa 2001.

Stewart, T.H. 1985. **An Introduction to Public Health.** (3rd Edition). Butterworth Publishers (Pty) Ltd, Butterworth.

Swart, D. 1998. **Natural Resources Management and Rural Poverty: "Partnership for Sustainability"**. Regional Conference Convened by the Globe Southern Africa on the Environment in Cape Town.

UNCEF. 2002. **School Sanitation and Hygiene Education.** UNICEF WES, School Sanitation.

United Nations Commission on Sustainable Development. 1996. **Indicators of Sustainable Development Framework and Methodologies.** United Nations: New York.

United Nations Development Programme. 1997. **Poverty and Human Development: Sub-Saharan African Perspective.** United Development Report Office, New York.

Vlok, M.E. 1982. **Manual of Advanced Nursing.** (4th edition) Juta & Company Limited, Cape Town.

Wagstaff & Watanabe. 2000. **Socio-Economic Inequalities in Child Malnutrition in the Developed World.**

Wall, K. 2000. **A Resume of World Bank Water and Sanitation Experience of Value to South Africa.** Water Research Commission: Pretoria.

WHO. 2000. **Global Water Supply and Sanitation Assessment Report.**

Wilson, F. & Ramphela, M. 1989. **Uprooting Poverty: The South African Challenge.** David Philip, Cape Town.

World Bank. 1996. **Poverty Reduction and Human Resource Development in the Caribbean.** Caribbean Division, Latin America.

World Bank. 2001. **Understanding and Responding to Poverty.** The World Bank Group, Poverty Net Home.
<http://www.worldbank.org/poverty/mission/up1.htm>.

Woza Report. 2000. **European Water Programme Targets South Africa's Poorest Provinces.** Woza Internet (Pty) Ltd. <http://www.woza.co.za>.

Zawide, F. 2002. **World Health Organisation Collaborating Centre for Urban Health:** Medical Research Council, Cape Town.

Other Websites Consulted

http://www.ifpri.cgiar.org/2020/newslet/nv_0496/nv_0496f.htm.

<http://www.polity.org.za/govdocs/reports.html>.

<http://www.who.int/infwha52/toourhealth/amarty.html>.

<http://www.who.int/watersanitationhealth/Globassessment/Global5-5.htm>.

<http://www.worldbank/poverty/data/trends/mort.htm>

<http://www.unicef.org/programme/wes/info/school.htm>.

<http://dplg.gov.za>

APPENDIX A

QUESTIONNAIRE

Study of the Impact of Health, Water and Sanitation Services on Improvement of the Quality of Life.

This study is conducted by Wellman Wela Manona, in fulfilment of the requirements for the Doctor of Philosophy Degree in the School of Public Management and Planning at the University of Stellenbosch. The aim of the study is to learn more about the impact of health, water and sanitation in alleviation of poverty, thus improving the quality of life among poor communities.

All responses to all questions are **completely confidential**. To ensure adherence to the rights to privacy and confidentiality, **participation is voluntary and anonymous**; that is, a portion for the filling of names has been deliberately omitted. **None of the questionnaires, once they are filled out, will ever be seen by anyone except the researcher and the statician who will be quantifying the data collected.**

INSTRUCTIONS

1. The questionnaire will be administered by the researcher with the assistance of a trained fieldworker.
2. The questions will be asked using the indigineous language spoken by the particular community that is being investigated.
3. All of the questions can be answered by inserting the number in each of the empty box corresponding to the answer opted for.
4. Any explanations or comments may be written in the margins and on the back of the questionnaire.

5. Note Well: The answers given by respondents will be completely **confidential**. It is important to emphasize to respondents that they be as honest as they can in answering this questionnaire.

The Impact of Selected Socio-Economic Public Services (Health, Water and Sanitation) in Alleviation of Poverty, thus Improving the Quality of Life Among Rural Communities.

1

Questionnaire on Quality of Life Sanitation and Health (Interviewer describe or ask)

NB. Variable 2 is the area (squatter camp, rural villages, townships)

1. For how long have you been staying in this township/village? **(Variable 3)**

5years or less	1
6 or more years	2

2

2. What type of toilet is used at the residence? **(Variable 4)**

Flush toilet inside	1
Flush toilet outside	2
Pit latrine	3
Bush/veld	4
Bucket latrine	5

3

3. Is toilet shared with other household/s? **(Variable 5)**

No	1
Yes	2

4

4. If the toilet is shared with other households, how many households are served by the latrine/toilet? **(Variable 6)**

5

households

5. If you usually use a flush toilet, for how many years have you had access to it?

6

(Variable 7)

5years or less	1
6 or more years	2

6. How often does the municipality collect your refuse or garbage? **(Variable 8)**

7

Once a week	1
One in 2 weeks	2

Once a month	3
Never	4

7. Does the municipality provide you with a litterbin or a black plastic container?

(Variable 9)

No	1
Yes	2

☐

Office use

☐ 8

8. How far is the nearest health facility like a hospital or clinic to the home?
(Variable 10)

..... Kilometres

☐ 9

9. How do you normally get to the health facility (doctor/the nearest health clinic/hospital) that you usually make use of? (Variables 11,12,13, 14 & 15)

Mode of transport	Yes	No
On foot	1	2
By bicycle	1	2
By train/bus/taxi	1	2
By private car/motor cycle	1	2
Other (specify):	1	2

10

☐ 11

☐ 12

☐ 13

☐ 14

☐

15

10. How long does it take you to get to a doctor/the nearest health clinic/hospital?
(Variable 16)

Less than 15 minutes	1
15 - 29 minutes	2
30 - 59 minutes	3
1 - 2 hours	4
More than 2 hours	5

16

17

☐ 18

☐ 19

☐

☐

☐

11. Does the following health services in your area accept patients every day of the week? (Variables 17,18 &19)

20

21

22

Health service	Yes	No
Private Doctor	1	2
The health clinic	1	2
The hospital	1	2

☐

☐

☐

23

12. Is transport available to the health centre? (Variable 20)

No	1
Yes	2

☐

13. How much do you pay for transport to get to the health centre and back?
(Variable 21)

R.....

Office use

 24

14. Are there mobile clinics to reach your area? (Variable 22)

No	1
Yes	2

 25

15. Are there ambulance services to transport the sick to hospital? (Variable 23)

No	1
Yes	2

 26

16. Do you have a 24-hour health service in your area? (Variable 24)

No	1
Yes	2

 27

17. Do you think the standard of care in clinics is worse than in public hospitals?
(Variable 25)

No	1
Yes	2

 28

18. How satisfied are you with the existing health service- very satisfied,
satisfied,
dissatisfied, very dissatisfied. (Variable 26)

Very satisfied	1
Satisfied	2
Dissatisfied	3
Very dissatisfied	4

29

19. Approximately how long do you have to wait before being attended at the
health facility- 30 minutes, 1 hour, 2 hours or more? (Variable 27)

- 30 minutes	1
30 minutes to 1 hour	2
More than 1 hour	3

30

20. How long does a consultation take-less than 5 minutes, 5 minutes or more?
(Variable 28)

31

Less than 5 minutes	1
5 minutes or more	2

☐

21. Do you think the time the consultation has taken is long enough for effective diagnosis? (**Variable 29**)

No	1
Yes	2

☐ 32

22. Is there anyone in the family who suffers or suffered from the following diseases? (**Variables 30, 31, 32, 33, 34, 35, 36, 37**)

Disease	Yes	No
Cholera	1	2
Scabies	1	2
Gastroenteritis	1	2
TB	1	2
Measles	1	2
Typhoid	1	2
Kwarshiokor	1	2
Marasmus	1	2

☐ 33

☐ 34

☐ 35

☐ 36

☐ 37

☐ 38

☐ 39

☐ 40

23. Is there anyone in the family who suffers from any disease that has not been mentioned above? (**Variable 38**)

No	1
Yes	2

☐ 41

24. If Yes, what disease? (**Variable 39**)

☐ 42

25. Are you aware of the government's introduction of free health care for children under six and pregnant women? (**Variable 40**)

No	1
Yes	2

☐ 43

26. If yes, did this make access easier and improved quality of care, or access and quality remained the same? (**Variable 41**)

Access easier and improved quality of care	1
Access and quality remained the same	2
Access easier, but quality of care poor	3

☐ 44

27. Do you think that since the introduction of the free health care programme health services had become worse or better? (**Variable 42**)

Worse	1
Better	2

Office use

 45

28. If health services had become worse, what do you think is the single most important reason why it has become worse? (**Variable 43**)

.....
.....
.....

 46

29. Do the health providers generally treat you friendly when you visit the health facility? (**Variable 44**)

No	1
Yes	2

 47

30. If you were treated badly, does this discourage you from seeking medical help at the clinic or hospital? (**Variable 45**)

No	1
Yes	2

 48

31. Is there any family member who died during pregnancy or childbirth recently, or in the past year/s? (**Variable 46**)

No	1
Yes	2

 49

32. Is there any adult member of the family who died recently or years ago? (**Variable 47**)

No	1
Yes	2

 50

33. What was the cause of death? (**Variables 48,49,50, 51 & 52**)

Disease	Yes	No
Cholera	1	2
Dysentery	1	2
Gastroenteritis	1	2
TB	1	2
Other:	1	2

Office use

<input type="checkbox"/>	51
<input type="checkbox"/>	52
<input type="checkbox"/>	53
<input type="checkbox"/>	54
<input type="checkbox"/>	55

34. Have you heard of HIV/AIDS and its transmission? (**Variable 53**)

No	1
Yes	2

<input type="checkbox"/>	56
--------------------------	----

35. Do you think mosquitoes could spread AIDS? (**Variable 54**)

No	1
Yes	2

<input type="checkbox"/>	57
--------------------------	----

36. Do you think that sex without a condom is high risk for transmission of the disease? (**Variable 55**)

No	1
Yes	2

<input type="checkbox"/>	58
--------------------------	----

37. Would you use a condom when having sex with a new partner? (**Variable 56**)

No	1
Yes	2

<input type="checkbox"/>	59
--------------------------	----

38. Is there any baby who died just after birth or before the age of 5 years? (**Variable 57**)

No	1
Yes	2

<input type="checkbox"/>	60
--------------------------	----

39. Was the baby a boy or girl? (**Variable 58**)

Boy	1
Girl	2

<input type="checkbox"/>	61
--------------------------	----

40. What was the cause of death? (Diarrhoea, TB, Cholera, other illness?)

(Variables 59, 60, 61, 62 & 63)

Disease	Yes	No
Cholera	1	2
Dysentery	1	2
Gastroenteritis	1	2
TB	1	2
Other:	1	2

Office use

	62
	63
	64
	65
	66

41. Do you have a clinic that caters for babies? (Variable 64)

No	1
Yes	2

	67
--	----

42. Do you have a clinic that caters for pregnant women? (Variable 65)

No	1
Yes	2

	68
--	----

43. Was the baby immunised? (Check the clinic card) (Variable 66)

No	1
Yes	2

	69
--	----

44. How satisfied are you in general with your standard of living? (Variable 67)

Very satisfied	1
Satisfied	2
Dissatisfied	3
Very dissatisfied	4

	70
--	----

45. How satisfied are you in general with the provision of health services, clean water and refuse collection?

(Variable 68)

Very satisfied	1
Satisfied	2
Dissatisfied	3
Very dissatisfied	4

71

--

72

46. How many people are working for an income in the home? (**Variable 69**)

..... people

☐

47. How much is the total family income? (Indicate per day, week, month or year)
(Variable 70)

R..... per

Office use

73
 74

48. Anybody getting disability, or Old Pension Grant? (Variable 71)

No	1
Yes	2

75

49. How many people usually sleep in this home? (Variable 72)

..... people

76

50. Do you receive any supplement food from the health facility for the child/children?

(Variable 73)

No	1
Yes	2

77

51. Does your child or children receive food at school? (Variable 74)

No	1
Yes	2

78

52. Are you aware of contraceptives? (Variable 75)

No	1
Yes	2

79

53. Does any person in the family use any method of birth control (contraceptives)?

(Variable 76)

No	1
Yes	2

80

54. Is there a water tap inside or outside the home? (Variable 77)

No	1
Yes	2

81

55. If outside, how long do you walk to get to the water tap? (Variable 78)

.....hours..... minutes

82
 83

56. How many households are served by the tap? (Variable 79)

84

57. If you have access to tap water, for how many years have you had access to tap water? **(Variable 80)**

5 years or less	1
6 or more years	2

Office use

 85

58. Do you collect water from the river or well? **(Variable 81)**

No	1
Yes	2

 86

59. What is the age of the eldest in the family? **(Variable 82)**

 years 87

60. Did anyone from this household die since you moved into this house? **(Variable 83)**

No	1
Yes	2

88

61. If yes, how old was the last person that died in this household? **(Variable 84)**

 years

89

62. Were any children born since you moved into this house? **(Variable 85)**

No	1
Yes	2

90

63. Was the weight of the last baby that was born normal, over weight or under weight?

(Variable 86)

Normal	1
Over weight	2
Under weight	3

91

Thank you for your cooperation