

**DESIGNING AN INSTRUMENT
TO MEASURE
QUALITY OF LIFE
IN
LOW COST HOUSING SETTLEMENTS**

By

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Submitted in partial fulfilment of the academic requirements for the degree of Master in Environment and Development in the Centre for Environment, Agriculture and Development, School of Environmental Sciences, University Of KwaZulu-Natal

Pietermaritzburg 2005

ABSTRACT

South Africa's post-apartheid housing situation is permeated with the knowledge and criticisms of low-income housing. Of late, the latter has gained more exposure than the merits of the process of low-income housing provision, but the criticisms have been generalised comments that have rarely been based on a methodical format of collection and analysis. Furthermore, there have been no reported instruments that have garnered *collective* perceptions of residents of low-income housing settlements. In light of this gap, in both the academic and political aspects of low-income housing, this dissertation describes the design of a multi-construct instrument, aimed at determining quality of life (QOL) in low-income settlements, and specifically describes the two aspects of development of that instrument. It describes the development of the model, as well as the development of the instrument that is derived from that model. Furthermore, results of qualitative tests of fitness for the model and internal reliability tests of the instrument are also described. The model design details the development of domains and variables, derived primarily from literature, while the instrument details the design of items that constitute each variable. Cronbach's alpha reliability tests used to determine the internal reliability of items of the instrument indicate good internal consistencies of twelve of the fifteen constructs constituting the instrument, while frequency tables and descriptive statistics indicate high prioritisation of existing domains used within the model. This high prioritisation and good internal consistencies suggests that the model and instrument are adequately appropriate, relevant and reliable in as far as they have been developed at this stage, and with suitable modifications as recommended on the basis of the research, will yield an appropriate tool for similar studies.

PREFACE

The research described in this mini-dissertation
was carried out at the Centre for Environment,
Agriculture and Development, University of KwaZulu-Natal,
Pietermaritzburg, under the supervision of Prof. R. J. Fincham

This mini-dissertation represents the original work
of the author and has not otherwise been submitted in any form
for any degree or diploma at any university.
Where use has been made of the work of others
it is duly acknowledged in the text.



Signed: (Renusha Chanda - Candidate)



Signed: (Prof. R. J. Fincham - Supervisor)

ACKNOWLEDGEMENTS

The author would like to thank the following organisations and persons:

- The National Research Foundation (NRF) for their financial assistance, without which this year of study would not be possible.
- The International Development Research Council (IDRC) for their financial help and for the provision of the context for this study.
- My supervisor, Prof. R. J. Fincham for his inputs, patience and help throughout the research study.
- Dudu Ngcobo for her help in the interviews.
- Phindy Makhatini for her help in facilitating the survey process.
- The residents of Ambleton without whom this study would not exist.
- The admin staff of CEAD for all their help.
- The rest of the CEAD staff for their help and input.
- The staff of the Msunduzi Local Municipality.
- My friends and colleagues for all their support.
- Cyprian Alokwu for the photographs.
- My family, for everything, especially through a very difficult and emotional time.
- And lastly, thank you to my brother, Pravesh Chanda, for everything, and for all the times you were there for me and I never told you how much it meant to me, and who passed away tragically before the submission of this dissertation.

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COMPONENT A

ABBREVIATIONS AND ACRONYMS

CDC	:	Centres for Disease Control (United States of America)
DOH	:	Department of Housing
EQOL	:	Environmental Quality of Life
GDP	:	Gross Domestic Product
GEAR	:	Growth, Employment and Rehabilitation
GIS	:	Geographic Information Systems
HDI	:	Human Development Index
HRQOL	:	Health-Related Quality of Life
HRSC	:	Human Sciences Research Council
IDP	:	Integrated Development Plan
KZN	:	KwaZulu-Natal
LCH	:	Low Cost Housing
NHFC	:	National Housing Finance Corporation
NURCHA	:	National Urban Reconstruction and Housing agency
PHDB	:	Provincial Housing Development Board
QOL	:	Quality of Life
SALDRU	:	South African Labour and Development Research Unit
RDP	:	Reconstruction and Development Programme
SA	:	South Africa
SPSS	:	Statistical Package for the Social Sciences
USA/US	:	United States of America
WHO	:	World Health Organisation
WHOQOL	:	World Health Organisation's Quality of Life Group

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Chapter 1: Addressing the Challenges to Housing and the Role of Quality of Life Studies

1.1 Introduction

It is often very difficult to unite two large and distinct fields of study, especially if this union must yield a theoretical model as well as a reliable and appropriate multi-construct instrument. It is no different when the fields of quality of life (QOL) and low cost housing studies are drawn together. This study, being a smaller component of a larger research body concerned with the interaction of humans within the urban environment, seeks to unite these two fields of study for the aforementioned purpose, i.e. to produce a theoretical model as well as to design reliable constructs of a measurement instrument. Indeed, for the initial stages of instrument design, internal consistency of items constituting constructs is of concern and this study aims to test the internal consistency of items within the constructs of the designed instrument as a preliminary reliability test. The theoretical model, designed with an understanding borne out of literature reviews, is essential as it is the theoretical support of the designed questionnaire. However, the acknowledgement of the limitations of literature and thus the design of the model, infers the need to test not only the instruments internal consistency but also the fit of the model. However, since the design and development of the model and instrument is still in its infancy, the model will be tested primarily via qualitative feedback from respondents. This qualitative feedback involves asking the sample population, in the form of a structured questionnaire template, their rating of the importance of the domains utilised in the model formation. This is discussed in latter chapters.

The above provides a brief understanding of what this dissertation will entail but the rationale behind the development of the instrument and thus the unification of the abovementioned diverse fields of study will be provided in the following sections. These sections will detail the apparent requirement for housing, the drive towards housing provision and the reported challenges encountered in the provision of low-cost houses.

1.2 *The Reason behind Housing Provision*

Apartheid South Africa produced an aftermath of inequality and poverty akin to lower income countries, although South Africa was classified within the upper middle-income country category (Schlemmer and Møller, 1997). This was reflected by objective social indicators generated from South African data. This included the Human Development Index (HDI), which was recorded at 0.557 in 1980 and 0.677 in 1991 (Schlemmer and Møller, 1997). The difference, however, between racial groups was vast, with the HDI for Whites being 0.901 in 1991 while the HDI recorded for Blacks in the same year was 0,5 (Schlemmer and Møller, 1997). Similar characteristics were reflected by the inequality indicator, the Gini coefficient, where as inequality increases, the figure rises between zero and one. The Gini coefficient rated South Africa as one of the most unequal countries within the upper middle income country category with a Gini coefficient of 0.68 (Human Sciences Research Council (HSRC), 2004), rivalled only by Brazil during the period of the early nineties (Klasen, 1997; Schlemmer and Møller, 1997). Further reflection was provided by other social indicators like infant mortality and life expectancy (Schlemmer and Møller, 1997). Thus, the country displayed characteristics of both a third and first world, where a small percentage, differentiated by race, exhibited affluence while the larger population, exhibited immense poverty (Gelb, 2003).

South Africa's democratic government saw housing as a method of addressing this poverty after the apartheid era (van Rensburg *et. al.*, 2001). The Reconstruction and Development Programme (RDP) (Scholand and Tubeni-Ndzube, 1999; Rust, 2003; Corder, 1997; Fitchett, 2001), the Growth, Employment and Rehabilitation (GEAR) documents, adaptation of the Agenda 21 programmes (DOH, 2004) as well as the Housing White Paper of 1994, the Capital Housing Subsidy Scheme of 1995 (Fitchett, 2001) and the Housing Act of 1997 and subsequent amendments is evidence of this drive for provision of housing. The above policies and frameworks primarily dealt with the vision of the provision of formalised, low-cost houses for the large numbers of people unable to provide for themselves as well as to decrease the large numbers of informal houses and settlements being constructed throughout the country. Low cost housing units were initiated by the idea of the housing subsidy,

which was an amount funded by the National Department of Housing to beneficiaries who qualified (DOH, 2004).

1.3 The Challenges to Housing Provision

The process of provision, however, has encountered a variety of reported hurdles. Much of these challenges revolve around poor or inadequate funding itself and related financial constraints (DOH, 2004; Rust, 2003) as well as inconsistencies and errors within housing policy (Rust, 2003.) However, an unexpected challenge remains that of including and integrating the social and economic needs of the beneficiaries of these subsidies rather than interpreting the mere provision of houses as enough to fulfil their overall well-being (Boaden, 1990). It is believed that overlooking the fundamental social, environmental and economic aspects of well-being are the reasons for the manifestation of examples where housing units are being sold soon after they are transferred to beneficiaries (DOH, 2004; Rust, 2003). This speaks of the challenge that “beneficiaries did not regard the house provided as an asset” (DOH, 2004: 4) or from a social perspective that beneficiaries did not regard the house as a “home”. Boaden (1990) further indicates that since low cost houses are themselves not as superior as “conventional” formalised housing, beneficiaries living in informal settlements would rather remain in the informal houses until they can attain a more conventional house (Boaden, 1990). Further issues regarding low cost housing initiatives include poor location, in relation to the city or town centre, and the effects that this has on residents, particularly on their ability to commute to work or to attain commodities (Fitchett, 2001; Smit, 2000; Rust, 2003) although this criticism is contested by other studies (Venter *et. al.*, 2004). Two other inconsistencies in the provision of low-cost housing are their poor quality, especially with regard to the RDP houses, as well as the their small sizes in comparison to conventional houses, which is inadequate to provide for a normal sized family (Rust, 2003).

From the above, it may not be apparent that the reported criticisms and challenges have rarely, or not at all, involved the community and their perspectives. However, the lack of involvement of the community becomes apparent when reports and

reviewed literature do not mention methodical and tested measurement tools aimed at garnering collective community perspectives. Thus, the reports have primarily been generalised comments that have not utilised any standard methodological instrument, at least from the evidence provided by the reviewed literature. If, however, an instrument has been utilised, then it has not been reported in the majority of literature. It is for this reason that a subjective QOL study is believed to be of utmost importance as a method of evaluation of the dominant “elite perspective” (Mukherjee, 1989: 65) of low-cost housing provision. This concept is a borrowed one that is used here to illustrate the criticisms of low cost housing usually from persons not residing in these settlements but who are involved in their execution, development and monitoring. These “elite perspectives” or criticisms require evaluation based on the understanding that they rarely are based on standardised survey results. Subjective studies are required, because objective measurements may not fulfil the requirement of understanding the social aspects and interactions of humans (Veenhoven, 2002). This is evidenced by the low-cost housing process itself, where as an objective measure, the numbers of houses provided for a certain number of people are thought to constitute the fulfilment of well-being. However, as discussed previously, the social and economic related criticisms indicate that the mere provision of houses (an objective indicator) may not appropriately illustrate the bigger picture.

1.4 *The Need for a Methodological Instrument for QOL Studies in a Low Cost Site*

Drawing from the previous paragraphs, developing an instrument to measure QOL in low cost housing settlements has a variety of purposes. The first and most apparent is that there has previously been no standardised instrument for testing QOL in low-cost housing (LCH) settlements in South Africa as is evidenced by the lack of reported studies in these areas. This, is of course, of great importance, both academically and also for gathering concise and reliable data. This is imperative because data generated usually feed back to policy and unreliable data run the risks of becoming poor informants. The repercussions of this are paramount in terms of the impact on the lives of residents. The second is that, in light of all the criticisms

that LCH have received over the past couple of years, a standardised instrument could consolidate the general and elitist comments of challenges and thus provide a holistic understanding of them. Conversely, individual constructs or variables can be tested to gain concise and in-depth understanding of challenges. These understandings, whether holistic or individual, could either reinforce or refute the perception of the challenges encountered. A further incentive for the design of an instrument is the “grassroots” approach in its development and use. This garners the perspective of the residents and not the “elites”. The understanding of local perceptions is also important to address the communication and understanding of these people towards the concept and process of low cost housing provision. And, last but not least, a standardised instrument can act as a monitoring tool, to ascertain the perception of residents towards the settlement as time elapses.

This study also acknowledges the need for the development of a model that underpins the establishment of a methodological instrument that will address QOL studies in a precise and reliable manner. It is imperative that this model must also be tested, whether it is qualitatively or statistically, because it is the theoretical basis of the instrument.

1.5 *Research aim and objectives*

The term “instrument” utilised here indicates a methodological instrument in the form of a questionnaire or interview; that ultimately seeks to obtain reliable and valid QOL data. The term “model” refers to the theoretical understanding that provides the rationale behind the development of an instrument.

1.5.1 *Aim*

To develop an instrument that can be used to evaluate the quality of life within a low cost housing settlement.

1.5.2 Objectives

- To review and critique the development of existing methodological models, methods and instruments.
- To produce an appropriate model either by adaptation of existing models or development of a new model, that informs the design of an instrument that can be used to determine QOL in a low-cost housing settlement.
- To utilise the data received from interviews to evaluate the internal consistency of items of each construct and thus reliability of the instrument developed.
- To qualitatively test the model via respondent feedback and other collected data.

1.6 Structure of the dissertation

This dissertation will initially describe the framework that has been developed for the analysis of literature with respect to the two primary topics of discussion, i.e. QOL and low-cost housing. The subsequent chapters borrow from this format and will discuss, firstly, QOL in general with respect to definitions, significance and methods as well as community QOL. This chapter responds to the first objective where a critique and review of existing models and instruments is performed. The third chapter will discuss housing issues in relation to policy, low cost housing and reported challenges in housing provision to provide an elaboration of the context within which this QOL study is situated. The subsequent chapter will answer to the second objective and will detail the design of the instrument, its underlying model and specific operational definitions.

Chapter 2: Framework of Dissertation

This framework is essentially the skeleton onto which the review component of this dissertation is modelled. It is borne of the reviewed literature that is appropriate to this study as well as the particular focus of this study. Therefore, methods and methods of measurement are given priority within the framework and are discussed in detail.

The study ties together two large fields of study, one being the quality of life sphere and the other being that of low cost housing. A framework is provided as Figure 1, where the shaded region includes that which will be included in the literature review and the clear regions are those that are related but due to the particular focus of the study, will not be included. Reasons for including or dismissing certain aspects are also dependent on its applicability to the case in point, that being its applicability to a low cost housing settlement. Methods of measurement are highlighted, as the focus of this research is to develop an instrument after reviewing the literature and critiquing the previously utilised models/instruments. This therefore, becomes the focus of the study and all other aspects of the study will be associated to it.

The quality of life (QOL) component of the theoretical framework is divided into both the subjective and objective aspects that are typically known to comprise it (Mukherjee, 1989; Cummins, 2000). The framework acknowledges that since indicators determining quality of life can be either objective or subjective, it is primarily in the methods (and therefore results) that this distinction can be ascertained. For example, determining access and satisfaction to health care services could involve, as an objective indicator, counting the approximate number of clinics in any one area and thus concluding whether there are sufficient clinics that are accessible. For subjective results, the method changes to asking individuals if clinics are accessible in terms of having the transport fees and available time to access them. Thus, the indicator (access and satisfaction of healthcare services) is the same for both objective and subjective studies but are differentiated by the method and results obtained. Therefore, since the indicators are not distinct, they

are reflected within the framework as being both of an objective and subjective nature, even though only the subjective aspects will be considered.

Only four examples of QOL topics are provided within the framework, i.e. Health-Related QOL, Community QOL, Gender-Related QOL and the social index comprising of income levels, level of education *etc.* This is in part due to the inability to adequately reflect the multitude of indicators, in one single diagram or framework. This is perhaps the merit of placing a QOL study within a particular context because it tends to focus the indicators required for the study. The context, therefore, of this particular study and review is broadly that of formalised, RDP low cost housing settlements.

Because low-cost housing and the provision of subsidies are borne from policy, legislative documents and policies will also be reviewed, and an emphasis will be placed on historical impetuses for policy change and its influence on the present day housing scenario and provision.

The ensuing chapters use the logic of the theoretical framework and will discuss relevant topics in respective chapters and sections.

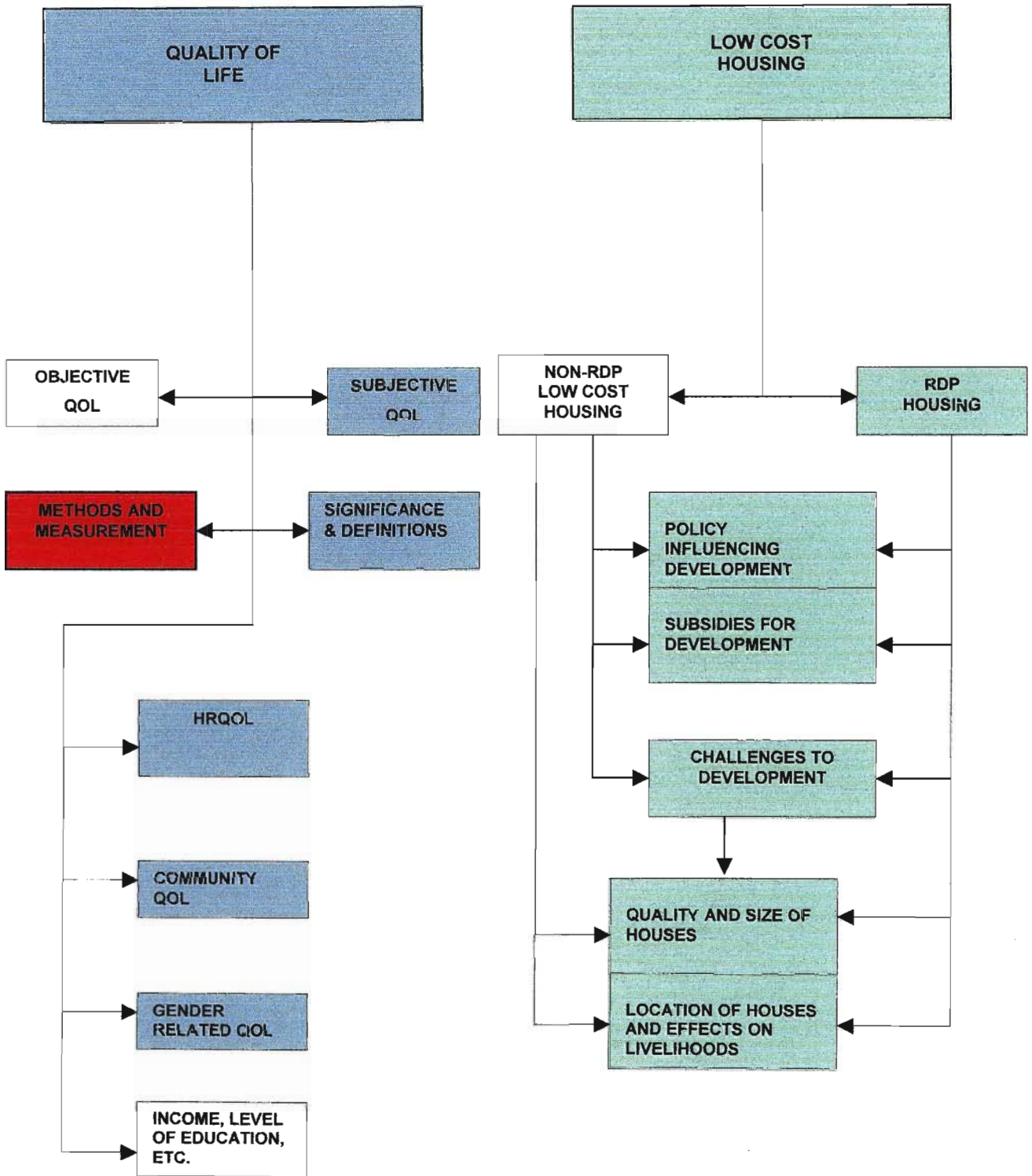


FIGURE 1: FRAMEWORK OF DISSERTATION

Chapter 3: Quality of Life

3.1 Historical and contextual background of QOL studies

The term quality of life has an obscure past. By itself it has a very short history whilst its roots are embedded in the “social indicators” movement that was initiated in the 1960’s in the United States (US) and parts of Europe and gained momentum in the following years (Rapley, 2003; Prutkin, 2002; Johansson, 2002). Rapley, (2003) indicates that there were two schools of development of the quality of life concept, one being the Scandinavian view and the other the American view. While the former concentrated on objective indicators primarily those of access to material resources, the latter embellished the subjective realm of the concept (Rapley, 2003). Thus, contemporary understanding of quality of life included the realisation of its bi-faceted nature, with the objective and subjective components being very real aspects of the discipline, even though their roles were (and still are) disputed by many scholars (Veenhoven, 2002; Mukherjee, 1989). Indicators developed and frequently utilised for the assessment of quality of life were mortality, morbidity, crime and unemployment rates as well as Gross Domestic Product (GDP) as objective indicators while subjective indicators included happiness, well-being, satisfaction and sense of place/community (Rapley, 2003). However, both the objective and subjective indicators, being primarily concerned with human quality of life were all encompassed as “social indicators” and further classification included “criterion indicators” and “descriptive social indicators” (Rapley, 2003: 12-13). Criterion indicators are also sometimes referred to as normative welfare indicators and included indicators like income levels, mortality rates and the like (Rapley, 2003). Descriptive social indicators are much less rigid than the criterion indicators and are more qualitative in nature. They essentially describe the state of a society as it appears, interacts, interrelates and changes over time (Rapley, 2003).

Within South Africa, the transition into democracy has seen the increased employment of social indicators, which in contrast to their use during apartheid, reflect the statistics of the country as a whole. Social indicating was typically fragmented in the past where socio-economic indicators were either collected or

measured by segregated organisations or groups; or where data were not collected for a certain portions of the population (Møller, 1997). Examples of the emerging use of social indicator studies include post apartheid censuses, the first national burden of disease profile in 2000 (Bradshaw *et. al.*, 2003) the 1993 SALDRU survey, aimed at obtaining rates and severity of poverty (Klasen, 1997) and the similar, 1995 October Household Survey (Møller, 1997). Further studies include specific quality of life and well-being research like those conducted by Westaway, (*in press*); Westaway, (2001); May and Norton, (1997); Louw, (1997); Mattes and Christie, (1997); Beukes and van der Colff, (1997) and Harris, (1997), to name just a few. Most of these studies were primarily subjective ones dealing with perceptions of crime, poverty, democratic government, life within townships or other previously marginalized settlements, and overall satisfaction. The abovementioned studies therefore indicate that the use of particularly subjective social indicators is becoming more prominent as the country realises the need for obtaining more reflective results of QOL in the country.

Recent developments in quality of life studies include indicators such as “happy life expectancies”, “subjective well-being” and “personal well-being” (Rapley, 2003: 18-23). These are borne of the reasoning that macroscopic quality of life indexes and indicators rarely provides a complete picture of quality of life. The continuation of development of indicators and their validation indicates that the field is still developing and also signifies that although the concept is malleable it is important that it be defined for whatever context it is applied to (Centers for Disease Control (CDC), 2000). This, however, presents the difficulty in defining the concept, simply because its adaptability confronts the user with a need to focus the definition.

3.2 Defining QOL

A number of definitions for quality of life exist. They all reiterate the holistic approach to its measurement and understanding but are too broad for definitive studies. Definitions from the World Health Organisation’s Quality of Life Group (WHOQOL, 1994), US Centres for Disease Control and Prevention, (CDC, 2000) and scholars Fadda and Jirón, (1999) are as follows:

[A] person's perception of his/her position in life within the context of the culture and value systems in which he/she lives and in relation to his/her goals, expectations, standards, and concerns. It is a broad-ranging concept incorporating, in a complex way, the person's physical health, psychological state, level of independence, social relationships, personal beliefs, and relationship to salient features of the environment.

(WHOQOL, 1994: 28)

Quality of life (QOL) is a popular term that conveys an overall sense of well-being, including aspects of happiness and satisfaction with life as a whole.

(CDC, 2000: 5)

The concept of "quality of life" represents more than the private "living standards" and refers to all the elements of the conditions in which people live, that is, all their needs and requirements. --- It demands, amongst other things, available and accessible social and public infrastructure to satisfy the needs of those involved and affected by it as well as an environment without serious deterioration or pollution.

Fadda and Jirón, (1999: 262)

The above definitions show that a QOL definition remains loose and lengthy if used outside a specific context. For this reason an operational definition of the concept is required for each study or review. For this particular study, the operational definition acknowledges the WHO's QOL group definition of the cultural, social and environmental context but also welcomes the economic aspect which also influences the above three contextual factors mentioned. Especially because this study will be rooted in a low-cost housing settlement, where economic considerations are critical, the economic context is vital, not only as a criterion indicator but also as a descriptive one. Thus a preliminary definition could include: "a persons perception of the social, environmental, cultural and economic context and the interactions that these distinct contexts involve, and includes specifically perceptions of happiness and satisfaction."

3.3 Significance of QOL studies

Cited significance of quality of life studies, whether subjective or objective or both, include its use in timeline studies (Dasgupta, 2000; Royuela *et. al.*, 2003), an example of which is provided by the objective QOL indicator GDP and whereby it is

periodically determined to ascertain whether a particular country is economically more prosperous than it was a few years ago (Dasgupta, 2000). Other reasons include determining the individual public perception rather than average and bureaucratic perceptions, which could gloss over important considerations; an example is given by Kenny (2005) where increases in income did not necessarily denote an increased quality of life, at least in all countries used within his study. This is sometimes referred to as the "Easterlin paradox" (Graham, 2005: 2) and is further confirmed by author Carol Graham (2005) through a variety of case studies around the world. In fact, variables like social exclusion and family relationships influenced quality of life to a greater extent in some reported localised studies (Kenny, 2005). Therefore, quality of life studies can be used to discern whether the "elite perspective" (Mukherjee, 1989: 65) of what a particular community or country requires, adequately caters for the broader perceptions of the increase of quality of life of a society. It can therefore also be used to test whether objective measures of QOL are reflective of the subjective QOL and vice versa.

Johansson (2002) also aptly indicates that QOL measurements, particularly those that are subjective are imperative for the democratic process as continued streams of QOL information allows for the understanding of current quality of life. Møller and Dickow (2002: 267) unite the significance of timeline studies in quality of life research and the need for these indicators to fuel the democratic process and therefore speak of "the role of quality of life surveys in managing change in democratic transitions..." Quality of life indicators and measurements are therefore a route of feeding back to policy as well as influencing it (Johansson, 2002; Dalbokova and Krzyzanowski, 2002).

Veenhoven (2002) further provides a variety of reasons why subjective indicators are of importance, amongst them he cites the differentiation of "wants" and "needs", subjective indicators as determining public preferences and a transcendence of material living and its understanding. Although Veenhoven's article (Veenhoven, 2002) speaks more of the subjective/objective dichotomy in quality of life research, his reasons for the use of subjective indicators provides an understanding of the role of quality of life research.

3.4 Health Related QOL

Quality of life studies, as mentioned before, are versatile and are adapted to various disciplines and fields. One of these is health studies or specifically social health studies (Ventegodt *et. al.*, 2005) Through this is borne the concept of health-related quality of life (HRQOL). One of the most focussed compilations of this topic is provided by the US Centres for Disease Control and Prevention (CDC). They provide a concise definition of HRQOL as “an individual's or group's perceived physical and mental health over time” (CDC, 2000: 8). Individual HRQOL include perceptions of health, risks and conditions while group or community HRQOL include mass perceptions of the above as well as access to resources (CDC, 2000). Furthermore, group HRQOL measures health practices and conditions (CDC, 2000) which are more indicative of objective QOL studies. Therefore, like QOL, HRQOL is also associated with policy and borrows from *both* objective and subjective indicators even though the above definition may relate only to the latter.

One significance of HRQOL studies is the unification of the various disciplines involved in QOL studies as well as providing a holistic understanding of health (CDC, 2000) rather than making sense of indicators and their results in a segregated manner. Furthermore, HRQOL studies can elucidate the burden of disease and provide disease profiles of communities or societies (CDC, 2000), and this information, like the broader QOL, can be fed back to policy and is likely to influence subsequent regulations and specific legislature (CDC, 2000). Timeline HRQOL studies are also thought to aid in determining whether health objectives (CDC, 2000) of a particular country or community are being realised and therefore act as a monitoring system.

Specifically therefore, HRQOL, being a subset of QOL proper, relies primarily on qualitative methods of data generation and also defines no specific and focused method for study. It thus reiterates the all-encompassing nature of QOL and emphasises the need to develop a specific operational method and definition within a specific context.

3.5 Gender related QOL

It is relatively rare that QOL studies, or in particular the indicators, are gendered. It is perhaps more common to compare responses and perspectives based on different social, cultural and economic contexts but not so between the genders. However, of the few quality of life studies that have taken into consideration gender, it becomes apparent that there is a need for this gendering. This need is primarily for the sake of understanding the differences between the sexes but is also a fundamental aspect of the understanding that people are not homogenous, and this heterogeneity influences perceptions, observations and the overall attitude to particular contexts. Authors Eckermann (2000) and Fadda and Jirón (1999) stress that the disaggregation of indicator results must be gendered, if reflective outcomes are desired.

Fadda and Jirón's (1999) paper specifically looks at the methods involved in conducting a gendered quality of life study and in particular the design of a questionnaire aimed at conducting such research. In light of the rarity of the number of studies being conducted with gendered objectives and use of indicators, it is perhaps of great interest to encounter such a paper. Eckermann's (2000) paper, set within the context of health and HRQOL, stresses the need for gendered quality of life measures as it is important "to fully capture the diversity of women's and men's health" (Eckermann, 2000: 29). Other studies making use of gendered measures of quality life include those by Gerlin *et. al.* (2004) and Meadows *et. al.* (2005). The former is also within the context of HRQOL and in particular asthma related QOL while the latter is within the context of child and youth QOL in the United States. Clearly, gendered measures of QOL are gradually taking root especially within the health context, perhaps because of the long-standing comprehension of the differences in male and female health.

This gap in gendered quality of life measurements calls for the increased utilisation of gendered indicators and variables. The envisaged study, however, will not attempt to encapsulate gender differences within the instrument, as it is believed to be an advanced application to a designed instrument. Therefore, at this very initial stage of

development, the instrument will not include gendered QOL indicators although future revisions are likely to include them.

3.6 Community and Settlement QOL

It is fortunate that many studies concerning QOL in relation to communities and settlements have been conducted within South Africa. This is primarily due to the work of researchers from various universities that have adapted typical QOL studies to the South African context. Their studies, therefore, provide an adequate and appropriate background to the envisaged study. However, much of this review and critique will also draw from international studies on this subject. This section is divided into three parts, the first detailing some of the reasons why community/settlement QOL studies are undertaken, the second will review the broader methods contained in the studies, and the last will review the models utilised and methods of data analysis.

3.6.1 Reasons for determining community QOL

Much of the QOL studies conducted in South Africa are concentrated in either informal settlements (Mathee and Swart, 2001; van Rensburg *et. al.*, 2001) or former "townships" (Møller and Schlemmer, 1980; Westaway, in press; Beukes and van der Colff, 1997; Westaway and Gumede, 2000; Westaway, 2001; Mears, 1997). The latter type of settlement was, in the apartheid era, intended for non-white groups and was thus associated with being disadvantaged and marginalized. Therefore, determining the quality of life in these settlements was presumably primarily for feedback to policy, so that the vastly unequal society that apartheid had created could be gradually collapsed. Other reasons include the testing of methods or development of instruments and models in community QOL (Westaway and Gumede, 2000; Møller and Saris, 2001; Bookwalter and Dalenburg, 2004). Thus, actually conducting studies are primarily for validation and analysis of the reliability of the questionnaire or interview method being utilised.

Other community studies include those conducted in urban areas to determine QOL in areas of high industrial pollution (Nurick and Johnson, 1998) or effects of transition to democracy (Møller, 2000). Here the focus on the community is lesser than previous studies because it's the dependant factor. The independent factor is, as in the examples above, any community affected by industrial pollution, or any community (ies) affected by the democratic transition. In these studies, particularly for the latter, the community is not confined by size, geographical area, or status. In fact, within South Africa, some of the surveys conducted utilised the whole country as a community (May and Norton, 1997; Hirschowitz and Orkin, 1997). In some studies, determining community QOL is for comparison of QOL between different communities (Lau *et. al.*, 2005). This helps to determine the priorities of different communities especially if they are cultural, gender and religious differences between them, but also aids in utilising what was successful in one community in another.

More generally QOL studies in communities are also being conducted to test the hypothesis that neighbourhood qualities often affect peoples perceptions and overall QOL (as an e.g. see Sirgy and Cornwell, 2002). This brings to the fore the concept of Environmental Quality of Life (EQOL) and its role in general QOL (Türksever and Atalik, 2001; Westaway and Gumede, 2000). Therefore, community QOL studies, although varied and utilising a wide range of communities (as well as different definitions of it) are essentially being conducted to provide an understanding of what the problems are and how they can be confronted and overcome. Whether this is by reevaluating policy, engaging communities in "grassroots" organisations and businesses, engaging the private sector or just providing a set of recommendations (which is where most changes are initiated), determining QOL, can be of importance.

3.7 Measuring QOL

3.7.1 Terminology

It is imperative to consider the vocabulary of quality of life before attempting to fully appreciate how it is measured. One set of terms is of quality of life indexes and variables. The index being referred to is a set of broad areas relating to social

aspects that are being investigated. Generally synonymous to index are domains, which refers to the various aspects of ones life wherein happiness or satisfaction can be rated (Hsieh, 2003) and is usually applied to subjective studies rather than objective ones. These include the financial/economic aspect, family life and neighbours and health as examples. This terminology, which will be employed in this study, lends itself to the contestation and inconclusive reporting of the two primary models that QOL studies can take. These will be discussed at a later stage within this section.

Indexes and domains are constituted of variables. Sometimes, the variables are assigned codes that allow for their use in quantitative statistical analysis. An example is provided by the indexes and variables utilised by Royuela *et. al.* (2003), where they included indexes of wealth, labour, educational level and demography within their study. Variables constituting each index include, for example, for the wealth index, per capita available family wealth, average tax return per taxpayer, average tax paid per taxpayer, per capita value added and value added growth in the last five years (Royuela *et. al.*, 2003). Similar variables are provided for each of the other indexes utilised. Therefore, what is generally considered an indicator can be termed “variable”, in this context, and if appropriately classified, lies within a broader topic, index or domain. Comparable to variables and indicators is that of constructs. This is utilised more so in the analytic disciplines and essentially refer to variables that are analysed, usually independently.

The last set of terms that will be utilised within this study is that of items. These are essentially a set of questions asking similar questions that aim to elucidate the same information (Bland and Altman, 1997). They are important in statistical analysis as averaging a few responses is more reliable than evaluating just one answer (Bland and Altman, 1997). Items are intended to constitute each construct or variable and the relationship of some of the terms mentioned here are illustrated diagrammatically in Figures 3 and 4. This dissertation will make use of the terms construct, domains and items.

Further classifications and terminology include the terms constituents and determinants (Royuela *et. al.*, 2003; Dasgupta, 2000). The former refers to the constituents that are perceived to make up a life of quality or as Dasgupta (2000) states, 'well-being'. These include health, freedom, welfare and choice as examples (Royuela *et. al.*, 2003; Dasgupta, 2000). These are similar to the domain terminology and can also be paralleled to the terminology of indexes. Determinants, on the other hand, essentially refer to the accessibility and availability of the constituents and effectively refer to the *availability* to, for example, health care, education, potable water *etc.*

3.7.2 Models

It is important to differentiate between the concepts of method and model before this section is reviewed. The method employed is usually that of either interviewing participants, administering questionnaires or use of focus groups, as examples; while models are those on which the broader study or questionnaires and interviews are based and usually are supported by theory. The measurement of QOL therefore relies greatly on the model being used as well as the method of analysing the results obtained from that model. Within the model, the development of a set of indicators or variables designed to measure QOL, is part of the model development methodology, and should not be confused with the methods of the greater study.

Like the differentiation provided above, it is perhaps apt to initially report differing views at the very beginning of this section. One of these differing viewpoints is with regard to the existence of the understanding that satisfaction, as determined from a subjective viewpoint, can be dependant on personality traits, consciousness, behaviour, experience and perception rather than environmental characteristics alone (Møller and Saris, 2001; Ventegodt *et. al.*, 2005). This understanding that satisfaction can be borne of personality traits, therefore brings into focus the two models dependant on the terminology of domains, mentioned earlier. These refer to the bottom-up and top-down models (Møller and Saris, 2001; Hsieh, 2003). In essence, the former advocates that variables like income satisfaction, neighbourhood satisfaction, and satisfaction with family life, as examples, influence

overall subjective well-being or perceived quality of life (Møller and Saris, 2001; Hsieh, 2003). Therefore, satisfaction with the components that constitute the various aspects of life (domain satisfactions) influence and affect the overall perception of satisfaction (Hsieh, 2003; Møller and Saris, 2001).

The latter model, the top-down model, states the opposite. Thus, it maintains that overall subjective well-being could influence domain satisfactions (Møller and Saris, 2001; Hsieh, 2003). Research conducted indicates that the two models are not mutually exclusive as both models were reflected by South Africa's (SA's) population (Møller and Saris, 2001). However, the results with regard to which model is the correct one, are largely inconclusive and a variety of studies are concerned with tackling this unresolved issue (Scherpenzeel and Saris, 1996; Headey *et al.*, 1991). By far, however, the bottom up approach is more widely utilised and this manifests itself in researchers use of indexes and variables, indicators and domains within clearly bottom-up orientated studies (Mccrea *et al.*, 2005; Rahtz *et al.*, 2004; Sirgy and Cornwell, 2002; Lever, 2000; Nieboer *et al.*, 2005; Westaway and Gumede, 2000; Westaway, *in press*).

The use of models is certainly not confined to the abovementioned two and within any particular study, there is room for further use of models, which fall beneath either of the two initial models and are specific to the objectives for that study. A variety of reported articles, studies and reviews (Royuela *et al.*, 2003; Taillefer *et al.*, 2003; Lau *et al.*, 2005; Møller and Saris, 2001; Cummins, 2000; Fiadzo *et al.*, 2001; Westaway and Gumede, 2000; Nurick and Johnson, 1998; Nieboer *et al.*, 2005; Türksever and Atalik, 2001; Christakopoulou *et al.*, 2001; Lever, 2000; Rahtz *et al.*, 2004; Sirgy and Cornwell, 2002) are also primarily concerned with the development of a methodological model that adequately expresses the subjective data that is required, or models of the data collected. Whether the method requires development of new indicators, broader models or indexes, it reiterates the understanding that quality of life research is firstly, still developing and secondly, requires adaptation to the particular context in which it is situated. Therefore, there exists no steadfast and universal route and method of measuring constituents,

determinants, variables and indexes. This, however, should not be regarded as an inconsistency but rather that the field requires further study and exploration.

Much of the studies conducted either utilise a validated model or scale of measurement or, if no appropriate ones existed, a new body of indexes and methods of measurement are developed. An example of a study demonstrating the development of a new model is provided in the paper by Dalbokova and Krzyzanowski (2002). In an attempt to develop a set of environmental health indicators, the authors reviewed various texts to initially devise a set of "issues" associated with environmental health risks. These were then converted to indicators via the use of guideline documents and other similar templates. This method is, however, potentially risky in that issues that are not within the literature review can be overlooked and thus important aspects of the study can be ignored. However, devising a method whereby issues can be incorporated into the study even after the domains or indexes have been developed is a route of addressing this risk. One way is to include community participation as a method of determining domains and their prioritisations. Variations of this method can be employed for optimal and/or contextual use.

Another example is provided by Sirgy and Cornwell's (2002) study where the researchers developed three different conceptual models to determine "how neighborhood features affect quality of life" (Sirgy and Cornwell, 2002: 79). Their study was clearly a bottom-up one and their models were backed by theory but were still speculative with regard to their actual existence. In fact, the three models were devised to determine which one the gathered subjective data adhered to or supported (Sirgy and Cornwell, 2002). This is in contrast to initially obtaining data then devising a model out of it. Rahtz and Sirgy (2000) and Rahtz *et. al.* (2004) also make use of models in their study. In fact the first paper developed an HRQOL community model while the second reports improvements and validation of that model. The original and revised model, like the paper by Sirgy and Cornwell (2002), is borne out of theoretical review and is developed before data is generated. Therefore, both these papers reflect a method of model production that occurs before data generation or instrument design. This is required if the study aims to test

theoretically reported data (the model itself) (for example see Mccrea *et. al.*, 2005) or if the study is highly contextualised and the relations between variables, domains or indicators are easily elucidated. This type of model production is also helpful when statistical data or reliability of the model is required because predetermined analysis is possible. One study that *culminated* in the production of an HRQOL model for the US from data received is that of Michalos and Zumbo (2002). However, this model is essentially a revision of the initial model that was developed for health-related studies. Therefore, most QOL studies require some sort of model or starting point that initiates the data generation and collection. The envisaged study will initially develop a model before data collection and will thus conform to the understanding that an initial model is usually developed as a template for latter studies.

A further example, where a model was developed, is provided by authors Royuela *et. al.* (2003) who devised and tested an “index methodology” for measuring quality of life in smaller areas. This methodology is simply one that is based on a tabular model that constitutes a variety of variables that are specifically inclined to determine QOL within a specific context. The authors also adequately coded and thus weighted each variable such that each index will carry an overall positive or negative weight to the determination of well-being or QOL (Royuela *et. al.*, 2003). Thus, the development of a set of indicators or variables, specific for a particular study is usually justified with a rationale that is typically backed by literature and the distinct focus of the study.

Dependant on the particular objective of a study, a previously devised model may also be used. This could be because researchers wish to test a specific model, or because the model has already been devised and validated, removes the burden of developing it again for study purposes. An example of use of a developed model, in a study that had the dual focus of testing the model and determining well-being in a cross-cultural context is provided by Lau *et. al.* (2005). The authors utilised a previously devised model termed The Personal Well-Being Index that pursued responses on seven variables (Lau *et. al.*, 2005). These include amongst others, satisfaction with standard of living, health, life achievement, personal relationships,

safety, and future security (Lau *et. al.*, 2005). With regard to HRQOL, determined models and subsequent instruments are those described by the CDC, (2000). This includes the “core healthy days measures” where the measurement of perceived well-being (regarding health issues) is measured via four questions and an index of unhealthy days is ultimately calculated (CDC, 2000: 8).

The use of models in the broader methods of a study has obvious merits for the increase of validity, decrease of bias and promotion of uniformity such that justified comparisons can be made within the data and across similarly attained data of the past or future. It also provides the researcher with a well thought out framework for pursuing answers in whatever study conducted.

There are numerous other types, developments and use of models for QOL studies. These are also differentiated and preferred according to the demarcation of QOL study, i.e. whether it is HRQOL, gender-related QOL, or other. Because it is virtually impossible to review the variety of models that do exist or are being developed and justified, it is rather more appropriate to provide the few examples as above and thus appreciate that QOL studies can take on one of two routes. That is, either devise a new or partially new model or use a model that is adequate and has been utilised previously. These models can either be generated from collected data or developed and tested if required. The objectives of any particular study influences the use and development of models and associated instruments. Thus the use of models, either newly developed or adapted, depends on whether the model requires testing or the instrument requires reliability testing. The former involves determining whether the interrelationships of the concepts constituting the model actually exist while the latter assumes this relationship, either because of theoretical support or specific contextual influence, and actually determines the reliability of the instrument that is moulded out of the model. This distinction can be seen in studies like Sirgy and Cornwell's (2002) and Mccrea *et. al.* (2005) which are studies that test developed models, while those of Lever (2000) and Lyubomirsky and Lepper (1999) test the reliability of instruments developed presumably from theoretical models.

The models discussed above, can only be discussed with regard to their development and background because they are highly specific to their particular context. This means that the concepts, domains and variables within any one model are interrelated via theoretical background or by empirical data. The former usually requires testing and therefore models developed in this vein are usually experimental ones. The former is developed out of gathered data and also requires testing to determine reliability and repeatability. It should be noted that the term "model" is not used universally by all researchers and authors and could also apply to development of indexes, frameworks, domains and contexts within any particular study.

The reasons for conducting QOL studies must be backed by a reliable and valid method that adequately attains what is required, in the way of data. The following section reviews some of the methods utilised and the theoretical merits and limitations of them.

3.7.3 Methods

With regard to the broader methods employed in the community related QOL studies, they are largely homogenous in terms of use of interviews/questionnaires (Türksever and Atalik, 2001) or participatory exercises.

Nurick and Johnson's (1998) paper provides an example of use of participatory exercises as a method. Briefly, their paper is essentially aimed at devising a set of indicators generated by the affected communities to determining the impacts of industrial pollution (Nurick and Johnson, 1998). In this way the authors achieve the dual objective of determining variables of priority within the affected communities as well as using those variables to monitor quality of life. The methods of participatory exercises included participation with members of affected communities, of both sexes (Nurick and Johnson, 1998) to adequately reflect the variables of priority. Although the method employed is commendable in combining a variety of objectives, it rests on the assumption that the community participating is aware, and sufficiently educated, to understand the dynamics of pollution effects, especially with regard to

the scientific nature of pollutants and effects. Furthermore, it relies on the participants' available time and more specifically the availability of representative participants with regard to gender. Also, as author Mitchell (2005) cautions, participatory exercises should not be taken for granted that they are beneficial or advantageous, as competitiveness and self interest of individuals involved may undermine the vision of these exercises (Mitchell, 2005). Usually, engaging the community may not be problematic because the study is actually seeking to facilitate the monitoring of industrial pollution through the community but this aspect must be adequately emphasised for communities to understand the significance of such participatory exercises. In fact all subjective QOL studies require individual or collective direct participation and becomes imperative that the function of such an exercise is explained.

This abovementioned explanation of the function of community participation, does not only apply for participatory exercises but also for the other types of methods mentioned. Westaway and Gumede's (2000) paper, which attempted to determine QOL or environmental QOL (EQOL) in particular utilised a questionnaire as a survey method. These were interviewer administered and required particular information on demographic variables (Westaway and Gumede, 2000). This type of method has been historically and widely utilised (Beukes and van der Colff, 1997; Westaway, *in press*; Mathee and Swart, 2001 as examples of studies that utilise this method). The use of interviewers to administer the questionnaire constrains the probability of participants not returning their questionnaires or not even filling them in. More so, it protects against the possibility that some participants are illiterate and therefore cannot complete the questionnaire themselves or to the best of their abilities. This is therefore the limitation of self-administered questionnaires, where response rates and quality of responses are heavily dependant on participants enthusiasm, attitude and ability towards the questionnaire and the study as a whole (for e.g. of a study that utilised self administered questionnaires: Rahtz *et. al.*, 2004). One-on-one questionnaire sessions also aids in the collection of observational data that indicate the attitude of the person being interviewed, both towards the questionnaire session and with regard to the questions being administered. These are perhaps some of the reasons why this method is so widely utilised and also because, there is theoretically

no limit to the number of persons who sit in on the questionnaire session, the answers yielded from such a session could be interpreted in a number of ways, or even if the session is recorded. This increases the reliability and validity of the interpretation, which are fundamental issues of QOL methodologies, and indeed other studies as well.

The methods, therefore, must adequately achieve the objectives of the QOL study but are also dependant on the methods of analysis, sampling and models, where applicable.

3.7.4 Methods of analysis

As in the case of similar studies subjective QOL studies can make use of pure qualitative reporting, qualitative reporting with minimal use of statistical methods, or a study that is heavily dependant on statistical analysis, both of the descriptive and analytic nature. The former includes reporting of means, medians, variances (as examples see Westaway, *in press*; Beukes and van der Colff, 1997) *etc.* while the latter utilises chi-square, anova, manova, regression, correlation matrices (as examples see Westaway and Gumede, 2000; Christakopoulou *et. al.*, 2001; Bookwalter and Dalenburg, 2004) and the like.

The above statistical analysis is, of course, if the study is largely for the analysis of data for the determination of QOL alone rather than for testing the reliability of the instrument or fit of the model utilised within that study. These latter types of studies and their statistical analysis are heavily dependent on statistical and non-statistical tests specific to testing reliability and variance, particularly intra-test variance. Examples include use of Cronbach's Alpha Reliability Test (Westaway and Gumede, 2000; Lever, 2000; Santos, 1999) that determines internal reliability while internal variances, also to determine reliability, are determined by standard deviation and routine descriptive statistics (Westaway and Gumede, 2000). Reliability is described as "the degree to which test scores are free from errors of measurement" (American Psychological Association, 1985: 19) and is considered of importance in scale development and measurement (DeVellis, 1991). In fact, DeVellis (1991) talks about

scale reliability and describe it as “the proportion of variance attributable to the true score of the latent variable” (DeVellis, 1991: 24). The latent variable is described as the underlying variable that needs to be measured (DeVellis, 1991). It is also considered not “directly observable” (DeVellis, 1991: 12) as well as variable and not fixed (DeVellis, 1991).

Cronbach's Alpha Reliability Test is a method of determining internal consistency of items that are included in scaled instruments such that the items of a scale are tested for correlation (DeVellis, 1991; Pedhazur and Schmelkin, 1991). Cronbach's alpha is based on a statistical score that is awarded to a set of variables that ranges from 0 to 1. The generally accepted cut off of a particular item within a scaled instrument is 0.7, where any item falling below 0.7 is discarded and those above are kept within the scale (Santos, 1999). This test is usually performed on statistical programs (like SPSS), where other routine and in depth statistical tests can also be performed. Of these other tests are those that also determine reliability but utilise different methods. One method is of producing a covariance matrix, where the sum of all values indicates the variance of the scale utilised in the instrument. The covariances indicate the interrelationships between different items of a scale or between pairs of variables (DeVellis, 1991). Other forms of determining reliability are via the split-half reliability test, where the first half of a test is compared to the second half (DeVellis, 1991; Pedhazur and Schmelkin, 1991). A variation of this test is the odd-even reliability where odd-numbered items are statistically compared to even-numbered items (DeVellis, 1991). This method is inherently problematic because, as in an example provided by author DeVellis, (1991), in a lengthy questionnaire the respondent becomes fatigued in the latter questions and comparisons between the first and second lots for the split-half reliability test are not valid (DeVellis, 1991). For the odd-even reliability test, problems arise if the questionnaire is modelled in an easy-to-hard format and other specifically structured formats that would yield comparisons invalid (DeVellis, 1991). Another test of reliability is the use of a parallel version of the initial test that is given to the same sample population and is termed alternate forms reliability (DeVellis, 1991). The correlation between the alternate forms and the initial test indicates reliability, i.e. the higher the correlation the greater the reliability. The test-retest reliability measure is

another method of determining reliability, where the same sample population is utilised and the exact same test is given to this population over a short period of time (DeVellis, 1991; Pedhazur and Schmelkin, 1991). The correlation between scores of the initial measure to the second lot of scores is also a measure of reliability. One problem with this last measure is the understanding that changes over time may influence scores and thus what could come across as an unreliable scale could actually be due to changing conditions that inherently influence the variable that is being investigated (DeVellis, 1991).

Reliability tests are primarily purposed for testing reliability of scaled *instruments* rather than the models behind them. Tests for model fit are usually those like of path analysis, which is utilised to determine, “two way relationships” and “model fit” (Mccrea *et. al.*, 2005: 136). This test works via comparison of the covariance of the model being tested against its actual expectation, and if they are compatible, they fit the model (Mccrea *et. al.*, 2005). Models, and correlations of variables and concepts within models can also be tested via qualitative methods. These include initially utilising a template of a model and thereafter revising the model based on field data. This type of method will be utilised in the envisaged study where rating of existing variables constituting the designed model will be used as a test for the appropriateness of the variables and questions enquiring for the inclusion of other variables will be used as method of revising the model.

3.8 Conclusion

Subjective QOL studies are taking root in formally objective orientated fields of study. This has paved the route for a better understanding of happiness and life satisfaction than the interpretation of access and availability to material resources as measures of these (i.e. objective indicators). The methods of measurement, methods of analysis and models of QOL studies are not confined to any particular formula but can be moulded to what is required. This requirement is usually borne out of the understanding of the specific context of the study as well as the particular and dominant objective of the study. With regard to the envisaged study, the context is the housing situation in South Africa, with particular focus on low cost housing.

The reason for setting this context is to determine whether the reported criticisms of low cost houses are perceived by residents themselves as unsatisfactory. Thus, the next chapter explores South Africa's housing context, and culminates with a description of low cost housing provision. The last section of the ensuing chapter will draw from both this chapter as well the next and will provide a conceptual framework for the study.

Chapter 4: Housing in South Africa

4.1 Housing policies and frameworks: an historical account

South Africa's political frameworks have changed rapidly from the past, "closed door", colonial theme to one of which democratic principles and transparency are enshrined. The Group Areas Acts of 1950 and 1966 reflected the political framework behind the segregation and inequality of the apartheid regime where residential segregation was based on race (Mackay, 1996). The policy instigated the formation of "townships" or "homelands" for non-white residents that were located on urban fringes, isolated from core urban facilities and services (Mackay, 1996). Furthermore, non-whites were not allowed to reside in "white areas" permanently, (Mackay, 1996) nor were they allowed to legally obtain finance from corporate sectors for mortgages.

With the advent of the first free elections and the first democratically elected government of South Africa, housing provision was not far from the initial routes envisaged for transformation. In 1994, the government produced a Housing White Paper which is reported to have been based on prior, pre election documents like the De Loo report entitled "Formulation of a New Housing Strategy and Policy" of 1992 and principles of housing organisations like the National Housing Forum (Mackay, 1996; Rust, 2003), founded in the same year as the production of the De Loo report (Mackay, 1996). To provide an indication of the challenges set forth by the housing backlog, the preamble of the Housing Policy and Strategy (Housing White Paper, 1994: 1) reads:

Housing the Nation is one of the greatest challenges facing the Government of National Unity. The extent of the challenge derives not only from the enormous size of the housing backlog and the desperation and impatience of the homeless, but stems also from the extremely complicated bureaucratic, financial and institutional framework inherited from the previous government.

Politicians, therefore, recognised the challenge of providing formalised houses and subsidies to South Africa's citizens, but in no way attempted to withdraw from this challenge. This was indicated in the development of other policies, programmes and frameworks which flanked the Housing White Paper which, include the Constitution

(Rust, 2003), the Growth, Employment and Rehabilitation (GEAR) Documents (Fitchett, 2001) and the Reconstruction and Development Programme (RDP) (van Rensburg *et. al.*, 2001; Fitchett, 2001). The RDP in particular not only provided for housing within its vision but also catered for political, economic as well as social demands by enshrining democracy and transparency (Mackay, 1996). The RDP housing initiative proved less effective in practice than on paper due to its construction of poor quality houses (Rust, 2003) perhaps due to the strain of the claim of building a million houses within the first five years of the post apartheid era (Mackay, 1996).

The RDP's constraints perhaps paved the way for the Housing Bill and finally the Housing Act of 1997. This act consolidated the need for provision of adequate housing for the country as well as detailed the major legislative and financial implications of this vision. Subsequent amendments and regulations of the act as well as delegation of powers to provincial departments determined the current state of housing provision. Aside from the Housing Act, policies aimed at framing social and rental housing policies as well as the policy relating to the prevention of removal of illegal tenants also shaped the current housing context. However, one of the most entrenched provisions of the post-apartheid housing policy was that of subsidy provision for housing for the vast numbers of previously marginalized individuals (Rust, 2003). This culminated in the provision of construction of low-cost houses funded by schemes formulated by the National Department of Housing, and who presumably delegated powers of provision to provincial and local departments.

4.2 Low cost housing

With statistics indicating the high rates of inequality, poverty, population growth and housing shortages (Mackay, 1996; Schlemmer and Møller, 1997; HRSC, 2004; Boaden, 1990; Housing White Paper, 1994) the housing policies of South Africa could not merely recommend and pass legislation but required a concerted effort for the initiation of policy implementation. This chiefly included the provision of finances and subsidies for construction of low cost houses, especially in light of the fact that a vast majority of South Africans could not afford the payments themselves (Mackay,

1996). The Housing White Paper made provision for a Housing Finance Corporation and detailed its prospective function which included, amongst others, management of short term mortgage schemes, monitoring and conducting research on “lending patterns” and credit; as well as to facilitate rental housing and management of national housing education (Mackay, 1996). At this point (1994-1998), the amount for individual subsidies was agreed at R15 000 for a single beneficiary whose maximum income level was R800 per month (Mackay, 1996). The subsidies for beneficiaries with an income level between R2 501 and R3 500 was determined at R5 000 (Mackay, 1996). Further subsidies were provided based on requirements for specialist testing of unfavourable sites on which houses were to be located (Smit, 2000), which included test surveys and geo-technical testing of land. The subsidies increased to R16 000 (Smit, 2000) for beneficiaries in the indigent category, which were now classified as those with an income level of less than R1 500 per month (KZN Housing, 2005). Initially, the houses built of this subsidy were one or two rooms with waterborne sewerage, electricity and a water supply (Smit, 2000). Subsequently, through either criticism of the housing process as well as inflation, the subsidies were increased to R25 580 (DOH, 2004). Further finance institutions initiated were the National Housing Finance Corporation (NHFC) and the National Urban Reconstruction and Housing Agency (NURCHA), which were associated with provision of capital and guarantees for developers (Department of Housing (DOH), 2004). Of late, the subsidy has increased again to an amount of R31 929 for indigent persons (KZN Housing, 2005) and houses were then required to be approximately 30 sq. m with similar standards of water, electricity and sanitation as the initial requisites. It is reported that in 2004, 1.5 million houses were constructed on the principles of this subsidy throughout the country and therefore housed an approximate 6 million citizens (DOH, 2004).

The primary reasons, aside from that of mainstream poverty alleviation, for provision of formalised, subsidised, low-cost housing are provided by Rust, (2003). These include provision of a fixed asset to citizens of the country thereby providing a route of improving their economic status and to also ultimately legitimate their citizenship by becoming active members of the country in terms of having stability through addressed houses (Rust, 2003). Further reasons provided include the associated

increase in employment opportunities for development and housing related jobs as well as fulfilling the constitutional obligations of the government and thereby fulfilling the rights afforded to SA citizens (Rust, 2003). Therefore, the housing projects were seen to be beneficial from the perspectives of most of the involved sectors. The preceding sentences do, however, indicate that the “elite perspective” (Mukherjee, 1989: 65) was chiefly considered rather than a subjective beneficiary perspective, which it is believed, if considered, could have avoided some of the challenges and criticisms that the Department of Housing encountered during housing provision.

This criticisms and challenges included poor location (Venter *et. al.*; Biermann, 2004; Fitchett, 2001), poor size of dwellings (DOH, 2004; Olifant, 2004), poor quality of houses (Rust, 2003) and though not directly related to subjective perspectives, the gradual decline and reluctance of developers to commit to housing projects simply because the projects proved less profitable to them than other developments (Rust, 2003). Another criticism is based on the lack of aesthetic appeal of the settlements (SAPA, 2005), which is thought to impact on cognitive appreciation, appeal, feelings of comfort and happiness as well as the abstract concept of sense of place.

4.3 Conclusion

Chapter three, which dealt with issues of QOL, provides the background to the merits of QOL studies. This chapter provides the context of the QOL study, specifically to that of low cost housing units. An adaptation of the framework of the dissertation (Figure: 1), together with the review and logical interrelatedness of concepts from both the QOL and low cost housing fields, can form the conceptual framework of this study. This is illustrated as figure 2.

The diagram essentially depicts the need for understanding subjective and “grassroots” settlement views and specifically subjective low cost housing views (shortened for views of residents from low cost housing settlements). Low cost housing is informed by the challenges that it is faced with as well as policy that influences its development. In this particular context, the challenges as distilled from reports and literature include the poor quality of houses, poor service provision, lack

of opportunities, inability to view the low-cost house and settlement as a home as well as poor location of low-cost sites. These challenges, therefore, are included within the conceptual framework and feed back to policy as well as to low cost housing. This forms a continuous feedback system. This feedback, however, does not halt at this point but also links to the understanding of the perceptions of communities and people as a whole. Thus, QOL studies and the development of methods concerned in these studies, not only feeds back to policy but also to academic literature as a route of continuously improving measurement and instruments. Other challenges can also be included but those that are depicted are those that will be tested for, based on dominant reporting of these challenges.

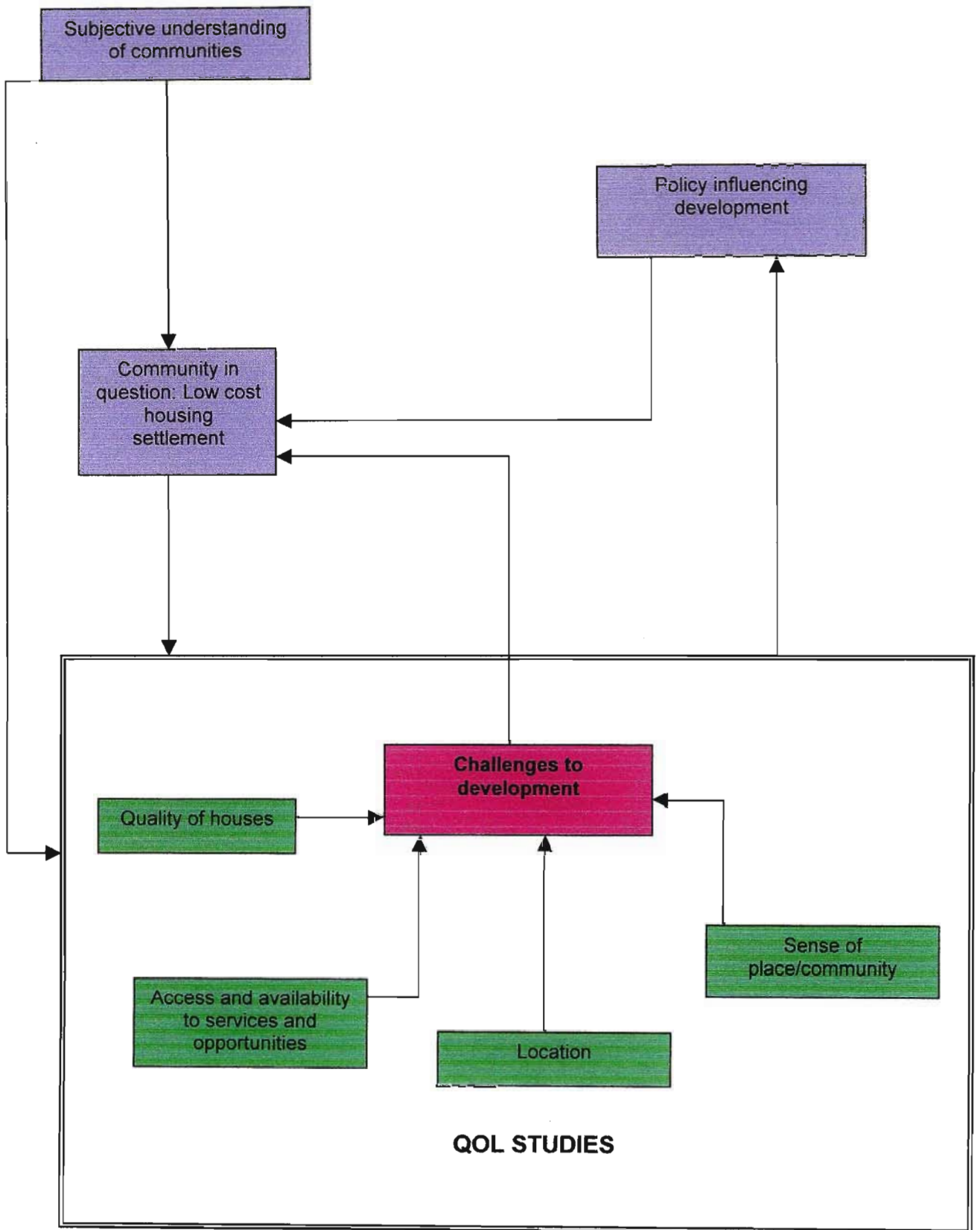


FIGURE 2: CONCEPTUAL FRAMEWORK OF STUDY

Chapter 5: Design of the Instrument

To determine the reliability of an instrument requires the obvious presence of the instrument, which is informed by a model, which in turn is informed by literature. Thus, there exists a process of developing the model, the instrument with its domains, constructs and items. These four terms are interrelated as depicted in Figures 3 and 4. Briefly, this particular model constitutes domains borne out of literature, which is made up of constructs. Each construct has a varying number of items which are essentially similar questions each seeking to determine the same information. The employment of items is of importance as the instrument is designed as a multi-construct one. This enables the constructs to be used independently in any desired research. Thus determining consistency of these constructs determines whether the set of items for each variable can be used as an independent test. Figures 3 and 4 also indicate the sequence of instrument design employed within this study. The use of items (see Figure 4) is important in determining internal consistency of constructs, especially if the instrument is designed to incorporate independent constructs. The independency of constructs enhances the flexibility of the instrument, as applicable and relevant constructs can be utilised where desired.

This chapter, therefore will detail the design of the model as well as its constituent domains and variables that have been employed within the questionnaire, based on the following two diagrams (Figures 3 and 4). Methods of analysis, sampling and general methods are also discussed in this chapter, in relevant sections.

5.1 The Model

This model emerges from the overlap of the theoretical components of low cost housing settlements and quality of life and can be entitled: "perceived quality of life in low cost housing settlements". For the sake of defining the study to those most closely associated with housing and in particular low cost housing, six main issues were identified in a similar fashion as that described by Dalbokova and Krzyzanowski (2002) and Lyubomirsky and Lepper (1999). That is, they are developed from review of the literature.

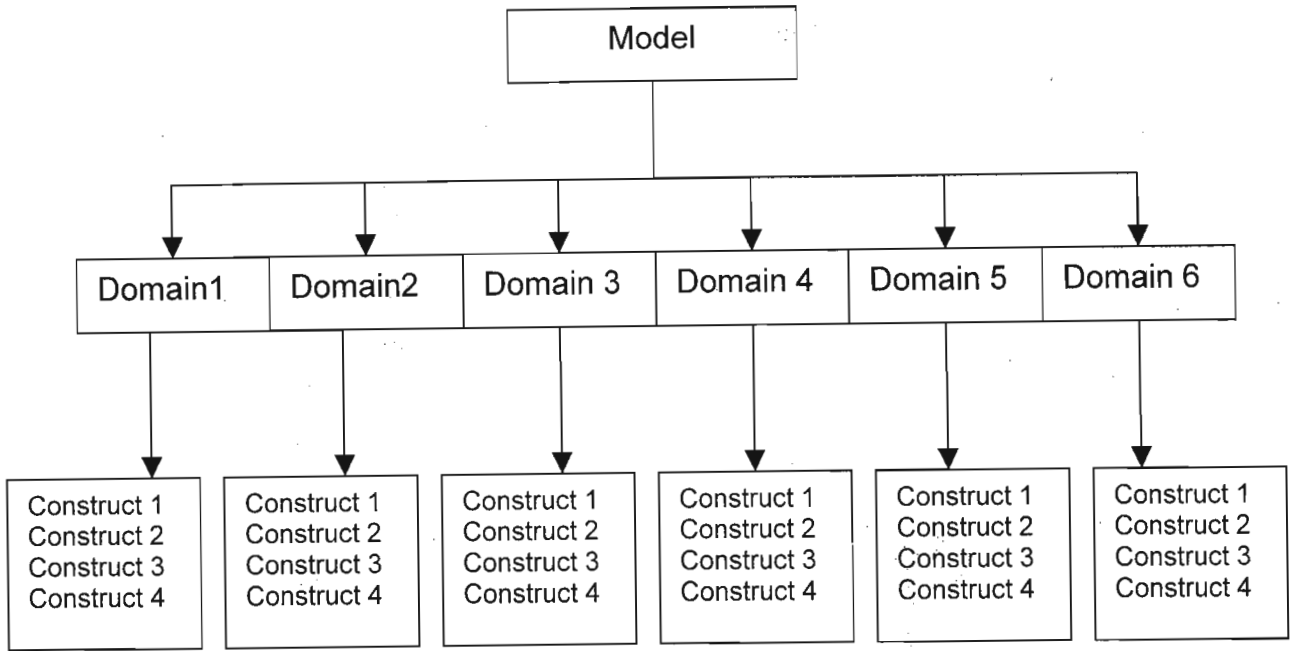


FIGURE 3: DIAGRAM INDICATING THE DESIGN PROTOCOL FROM MODEL THROUGH TO CONSTRUCT

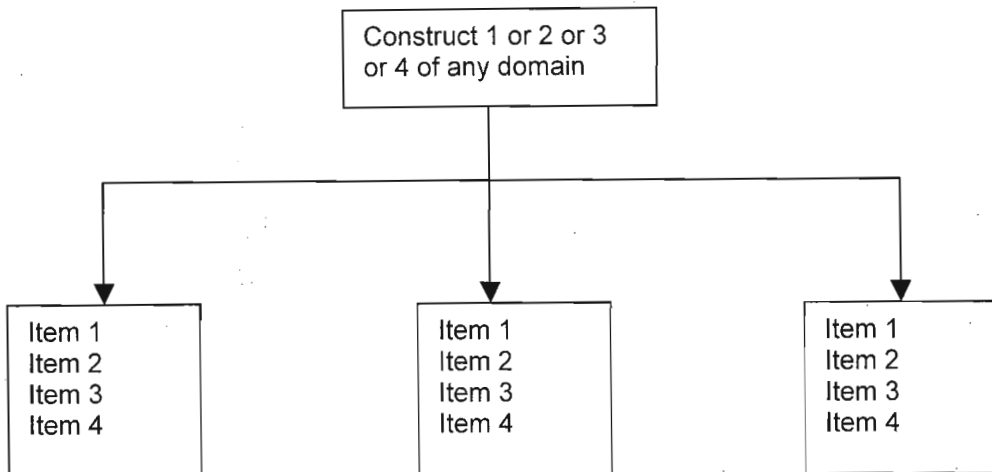


FIGURE 4: DIAGRAM SHOWING INTERRELATIONSHIP OF CONSTRUCTS AND ITEMS

These issues were differentiated under the headings of “environment” and “socio-economic” and after adaptation to QOL studies, were considered as domains under which specific indicators or variables were identified. It is these domains and their specific variables that will be investigated, and those are indicated in the diagram below (Figure: 5). These domains and variables are considered to be of importance within the context of low cost housing, especially with regard to the criticisms that low cost housing has encountered during its brief history. Briefly, domains and variables that are provided are termed HRQOL, location, opportunities, sense of place/community, service provision and quality of houses. It should be noted that

since there exists two routes of determining QOL data, i.e. via the bottom-up and top-down models (see section 3.7.2), both are reflected as Figures 5 and 6 respectively, where the direction of the arrows indicating influence are reversed in Figure 6. The instrument design will be detailed later and the incorporation of these models, or determination of them, will be discussed then.

Specifically, HRQOL, although traditionally defined as perceived quality of personal health (CDC, 2000) is envisaged to provide an indication of residents' satisfaction and happiness with regard to access and availability to health care services. It is also thought that an HRQOL study could determine the quality of treatment and services of primary and secondary healthcare facilities.

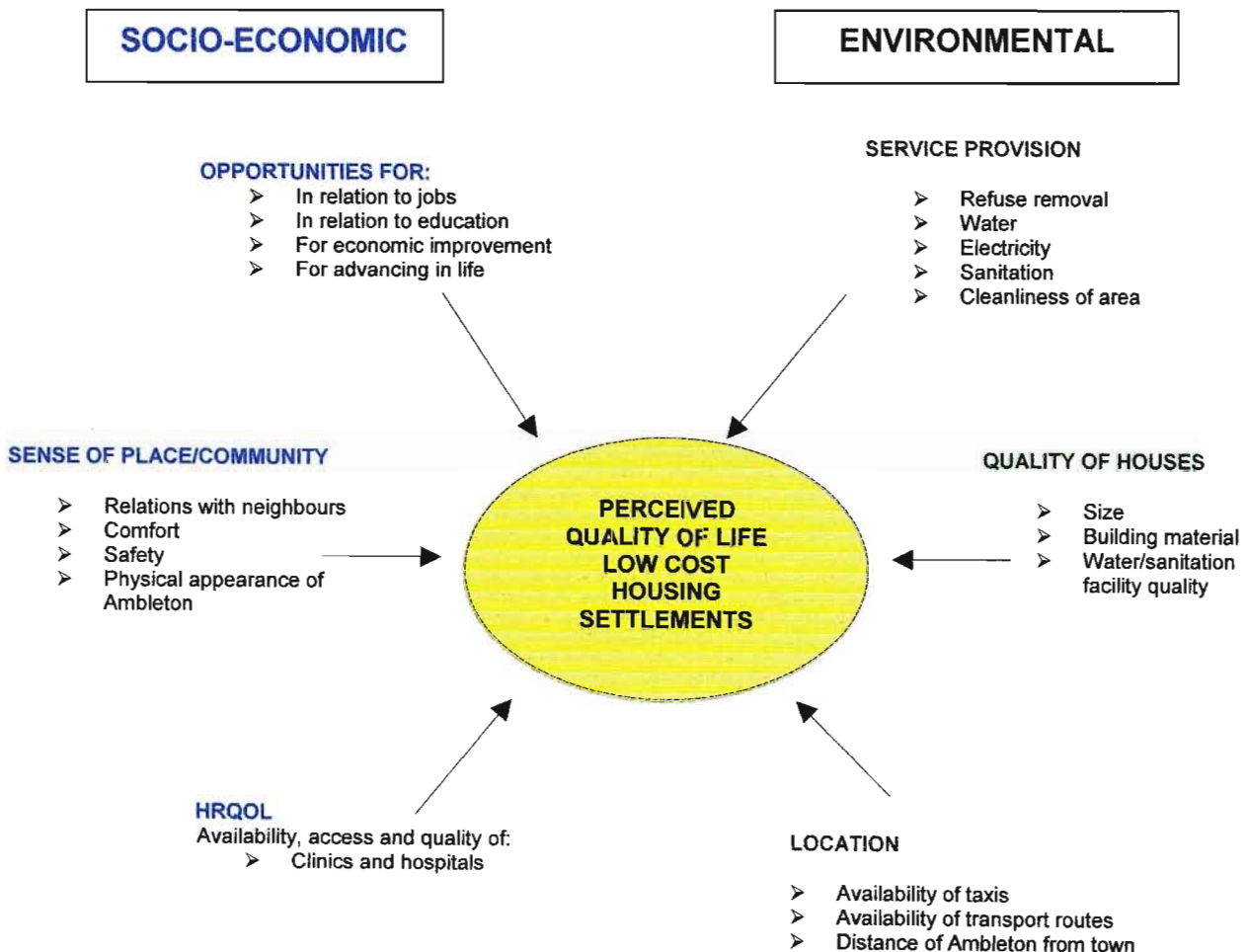


FIGURE 5: BOTTOM-UP CONCEPTUAL MODEL

The sense of place/community domain is essentially one of the integral reasons why people have a certain “feel” towards their houses or communities. The term is a difficult one to define but understanding the term “place” within the context of the term home can be described as: “[p]lace is a difficult term. Embedded within the concept of place are layers of meaning derived from memory, sentiment, tradition and identification with a spatial location” (Corcoran, 2005: 1). This domain, too, is closely associated with all others and will primarily be concerned with perceptions of crime, safety and relations with neighbours and community members and satisfaction with appearance of the settlement. The location domain is chiefly integrated into the study due to the various reports of low cost housing being poorly located (Fitchett, 2001; Smit, 2000; Rust, 2003). This domain is therefore intended to determine what the perceptions of the residents’ are in relation to their location and opportunities. The opportunities domain is thus allied to this one and looks at variables of access to jobs, education and economic opportunities. Service provision is primarily concerned with the satisfaction with services provided by the local municipality, to some extent the provincial and national department and also services provided by para-statal bodies.

The domains and specific variables are provided in Table 1. This table of domains will also provide the template for the questionnaire that will be used in the study. Thus, Figure 5, as well as the table of domains, is essentially the model behind the design of the instrument.

5.2 Domains

Table 1 provides a similar version of figures 5 and 6, although it does not directly differentiate between the top-down and bottom-up models. It is primarily intended to be used in the instrument design as a template, and is therefore the link between the theoretical model and the instrument. The format of the table is similar to that of the composite table of indexes as designed and utilised by Royuela *et. al.* (2003). However, this study is seen to consist more of domains rather than indexes as the former are more holistic and their indicators are more flexible which is advantageous to a subjective study. The list of domains as provided in Table 1, also borrows from

established scales and evaluation tools like the Personal Well-Being Index as described by Lau *et. al.* (2005). This scale was originally developed by Robert Cummins in 1997 and reported in his book “Comprehensive Quality of Life Scale - Adult Manual: Fifth Edition” (Lau *et. al.*, 2005).

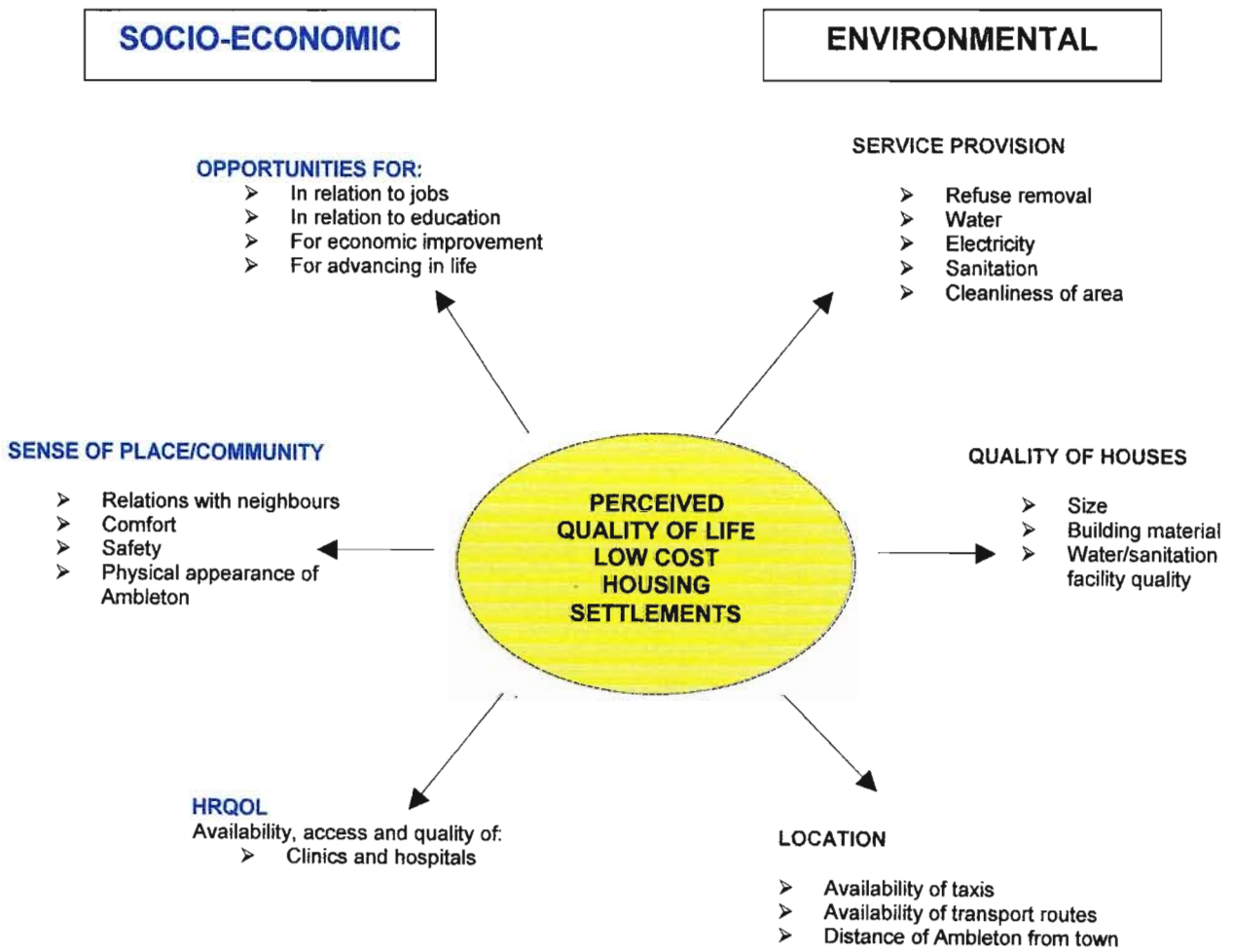


FIGURE 6: TOP-DOWN CONCEPTUAL MODEL

TABLE 1: COMPOSITE TABLE OF DOMAINS WITH OPERATIONAL DEFINITIONS

Domains	Operational Definition	Indicators/Variables
SERVICE PROVISION	Services that are normally provided by government bodies but can on occasion infer services provide by public or para-statal bodies (e.g. water services provided by Umgeni Water).	Satisfaction with government provided services e.g.: <ul style="list-style-type: none"> ➤ Refuse removal ➤ Cleanliness of Ambleton ➤ Water ➤ Electricity ➤ Sanitation
QUALITY OF HOUSES	Quality in terms of sustainability and longevity of houses and all equipment and hardware associated with the house. Also infers size of house.	Perceptions and satisfaction with: <ul style="list-style-type: none"> ➤ Materials of house construction ➤ Size of houses ➤ Water/sanitation facility quality
LOCATION	Location with regard to access to other parts of the Msunduzi region as well as the intermediate taxi and transport links associated with travel.	Perceptions of location in relation to: <ul style="list-style-type: none"> ➤ Getting to other locations ➤ Taxis and transport links ➤ Availability to taxis ➤ Distance from town
SENSE OF PLACE/COMMUNITY	The feeling of comfort with consideration of the house as a home as well as the neighbourhood as a community rather than just a place where they reside. Also includes feelings of safety of the neighbourhood.	Satisfaction with and perceptions of: <ul style="list-style-type: none"> ➤ Relations with neighbours and members of community ➤ Physical appearance of Ambleton ➤ Safety of neighbourhood
OPPORTUNITIES	Opportunities with regard to economic alleviation, education and employment.	Perception w.r.t: <ul style="list-style-type: none"> ➤ Attaining employment ➤ Attaining higher education ➤ Economic alleviation
HRQOL	Satisfaction with number of and accessibility to chiefly, primary and secondary health care facilities	Satisfaction with: <ul style="list-style-type: none"> ➤ Access, availability and quality of clinics ➤ Access, availability and quality of hospitals

5.3 The instrument

Within this study the domains for the model have already been developed, rather than allowing for the appropriate community groups to produce them via focus groups or similar, because of one important reason. For this particular research, domains provided must be understood to be part of QOL within the context of low cost housing and developing community indicators via a method like that developed in Nurick and Johnson's (1998) study, requires that the study population acknowledges this. It becomes increasingly difficult to confine this if a community participation method involving development of domains is used because participants are likely to include other aspects, especially with regard to economic instability, in the study. Therefore, to avoid the risk of succumbing to the dominant "elite perspective" (Mukherjee, 1989: 65) of developing and determining QOL measures without community participation, each respondent will be requested to rate each domain on a five point Likert Scale ranging from very important to very unimportant (see Appendix 1). Any domain that exhibits a collective low prioritisation will be removed, while via general, open-ended questions, new domains can be incorporated also based on collective prioritisation.

The model being used is primarily a bottom-up model (Møller and Saris, 2001; Hsieh, 2003; Hsieh, 2004) that assumes that domain satisfactions affect overall satisfaction or well-being. To encompass a method, within the questionnaire, of distinguishing which model is dominant within the study population is likely to confuse the format and increase respondent burden (Gershuny, 2005). This model can also be justified based on the initial need for an evaluation tool of low cost houses. This was initially described because there have been reported criticisms on low cost housing which were initially domain based. Therefore understanding whether these domains affect QOL in low cost housing settlements is really the purpose of including domains and thus the recruitment of the bottom-up model.

The domains are modelled into a questionnaire, which is the chosen format of the instrument based on abovementioned reliability of this method (see QOL chapter). The questionnaire will be interviewer administered and will comprise of Likert Scale

rankings of satisfaction of items comprising variables within the study. The variables utilised are as follows:

- Overall satisfaction
- Service provision
- Opportunities
- Location
- Sense of Place-satisfaction with neighbours
- Sense of Place-satisfaction with Ambleton as a home
- Sense of Place-satisfaction with safety of the community of Ambleton
- HRQOL-Clinic-Availability
- HRQOL-Clinic-Access
- HRQOL-Clinic-Quality of services
- HRQOL-Hospital-Availability
- HRQOL-Hospital-Access
- HRQOL-Hospital-Quality of services
- Quality of houses-quality of building materials
- Quality of house-size

Each variable will be investigated independently as one of the dominant aims of the field study is to determine internal consistency and reliability of the items, which can be utilised independently of other constructs or variables. The use of items is also a requirement in the statistical Cronbach's Alpha Reliability Test, which is used to determine internal consistency.

Variables have been grouped together such that more than one variable will be investigated on the same participant even though the variables will maintain their independent nature. This grouping is provided in the above list where the variables that are grouped together have the same colour. Overall satisfaction is not grouped with any other variable, as it will be asked with all other variables. For the final format and layout of the questionnaire see Appendix 1.

The Likert Scale-type format utilised has been employed in other studies like those of Lever (2000) and Mccrea *et. al.* (2005). Although, previous studies indicate that Likert Scales below seven choice-points are unreliable (Cummins, 2003), this study will utilise a five choice-point Likert Scale, because the envisaged difficulty of translating the choice points into the language of the residents will prove

problematic. The effect of respondent burden (Gershuny, 2004) as well as the envisaged difficulty of translating the seven choice-points to Zulu, the dominant language of the respondents, was considered and therefore, the five choice-point remained an appropriate compromise. The following is an example of a question that is used in the questionnaire.

1. Please rate your satisfaction with life in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
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Likert Scale-type formats are advantageous in that they can be utilised in statistical computer packages to determine reliability. Therefore, this type of format is preferred specifically for reliability testing.

5.4 Sampling, methodological procedures and analysis of data

5.4.1 Sampling and method of administering the questionnaire

The entire, chosen low-cost housing settlement of Ambleton (see next Chapter), will be regarded as the population of the study. Stratified random samples of households will be chosen via on-site sampling. Stratified samples will be preferred as Ambleton is constructed in phases, which manifests itself physically in the form of street blocks. Therefore random samples of house numbers will be drawn from all the houses within any one street block that indicated the different phases of construction of the settlement. These samples will be generated manually by picking out 10 houses (house numbers) from the possible houses in that street block. If the chosen houses are unoccupied or if the residents refuse participation or are under the age of 18, the house directly next to it (if not already chosen) will be utilised.

An interviewer, fluent in the local language of Zulu will approach each household and will gain permission for the conducting of the researcher-administrated questionnaire. Permission, to interview will also be gained from the ward and city councillors as well as municipal officials associated with the chosen study site.

5.4.2 Analysis

Once data are collected, both quantitative and qualitative analysis will be conducted. For the quantitative testing, tests of internal consistency will be recruited as the dominant method of analysis for the testing of reliability of variables. This will be conducted with the use of Cronbach's Alpha Reliability Test, as it is an appropriate method of determining reliability within scaled Likert-type tests (Santos, 1999) that comprise of at least four items. Essentially scores of each item of each respondent will be used to compute the alpha coefficient of the test. This test, as mentioned earlier determines whether items are testing the same idea or variable. The higher the alpha (number between 0 and 1) the higher the internal consistency.

The model will be tested via qualitative methods. Incorporation of new domains will occur after there is substantial evidence of a new domain being prioritised by the community. This will be investigated by the use of an open-ended question that specifically enquires about other domains (see first group of questions of Appendix 1). Testing the prioritisation and relevance of existing domains within the model will be done by the first part of the questionnaire. Here, respondents will be asked to rate the importance of each domain on a Likert Scale (separate from the rest of the questionnaire). Averaged ratings will determine whether scores are too low or appropriate enough to remain within the model.

5.5 Conclusion

In brief, the designed model is constituted of domains that are borne of reviewed literature. These domains are broken down into constructs, which are tested for by four or more items that essentially ask similar questions. These questions are called items and will be tested by the use of Cronbach's alpha reliability test, to determine internal consistency. The model will be tested qualitatively via the use of specific questions within the instrument that are aimed at elucidating responses to the importance of the domains. The questionnaire Likert Scale format with five choice-point scales that ranges from "very satisfied" to "very dissatisfied".

Chapter 6: Study site description

6.1 Msunduzi

Pietermaritzburg, the province of KwaZulu-Natal's capital, lies approximately 1 hour from Durban, the port city on the east coast of South Africa (SA) (see Figure: 7). The former Pietermaritzburg Municipality amalgamated with five other local municipalities to form the Msunduzi Local Municipality (Msunduzi Municipality, 2002). The amalgamated municipality now occupies an area of 649 square kilometres and has a population of just over 500 000 persons with the bulk of this population being within the 16-65 age group (Msunduzi Municipality, 2002). The Msunduzi Municipality rests within the larger Umgungundlovu District Municipality and is strategically located along the national route (N3) (see Figure: 7) that provides direct access to Durban and its harbours to the east of the council, and to the KZN midlands via Estcourt and Bergville via the western and north-western routes (Msunduzi Municipality, 2002).

With 116 540 numbers of households and an over 500 000 population (Msunduzi Municipality, 2002), the Council is considered relatively large, especially in contrast to neighbouring local municipalities like Umvoti with a population of approximately 117 000 persons (Umvoti Municipality, 2002). The household figure of the Msunduzi Municipality has most likely increased with the construction of Provincial Housing Development Board (PHDB) houses, or more commonly known as, low-cost houses, in the recent years. Ambleton, a low-cost housing settlement falls into this category (see Figure: 8).

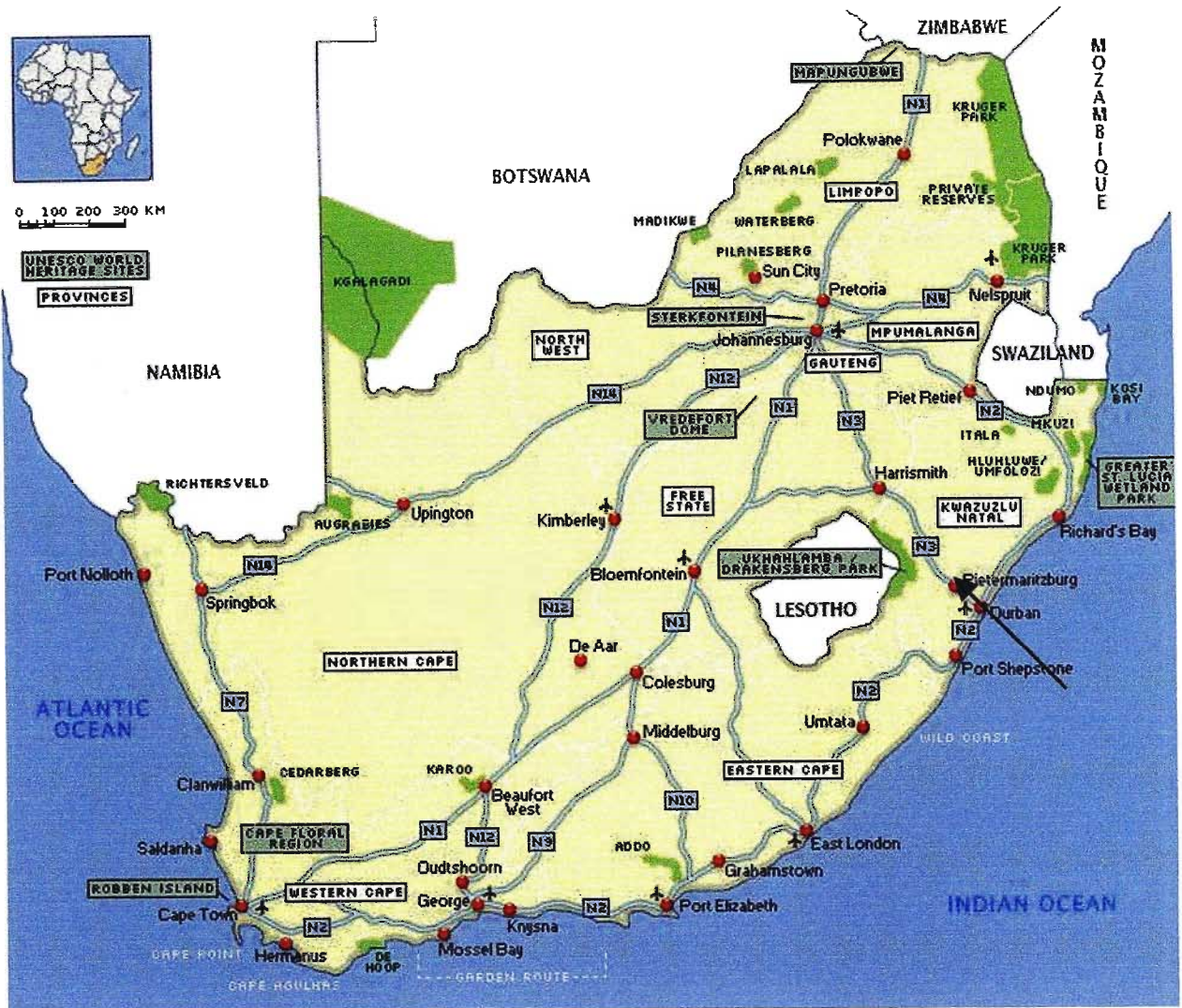


FIGURE 7: MAP OF SOUTH AFRICA INDICATING GEOGRAPHICAL LOCATION OF PIETERMARITZBURG (Adapted from: Sa-Venues, 1999-2005)

6.2 Ambleton

Ambleton (see Figure: 8) is located southwest of the city region and was previously located within the Pietermaritzburg Municipality. It is a site, together with adjacent low cost housing sites, that consists of approximately 2000 individual low cost, government-funded houses (see Figures: 9 and 10). The houses are built, and are currently being built in phases, so the settlement is continually growing in size, both in population size and spatially. The area is underdeveloped in the sense of only constituting low-cost houses, and few, if any commercial or employment sites. It is perhaps one of the few settlements that adhere to the government stipulation of size of dwellings and service provision to each house. Each dwelling is typically

30m² (see Figures: 9 and 10) with provided electricity, and piped water (not within the house). Main roads of the area are tarred but secondary roads leading to houses are underdeveloped and are gravel roads (see Figure: 9). It provides an ideal research area in that it falls perfectly into the stereotyped low-cost settlement of being located on the urban periphery, having limited natural visual appeal but complies to the construction requisites provided by government on housing size and services provided.

Since Ambleton is a low-cost housing site, the socio-economic status of residents is thought to be that associated with the income level of R0-1500.

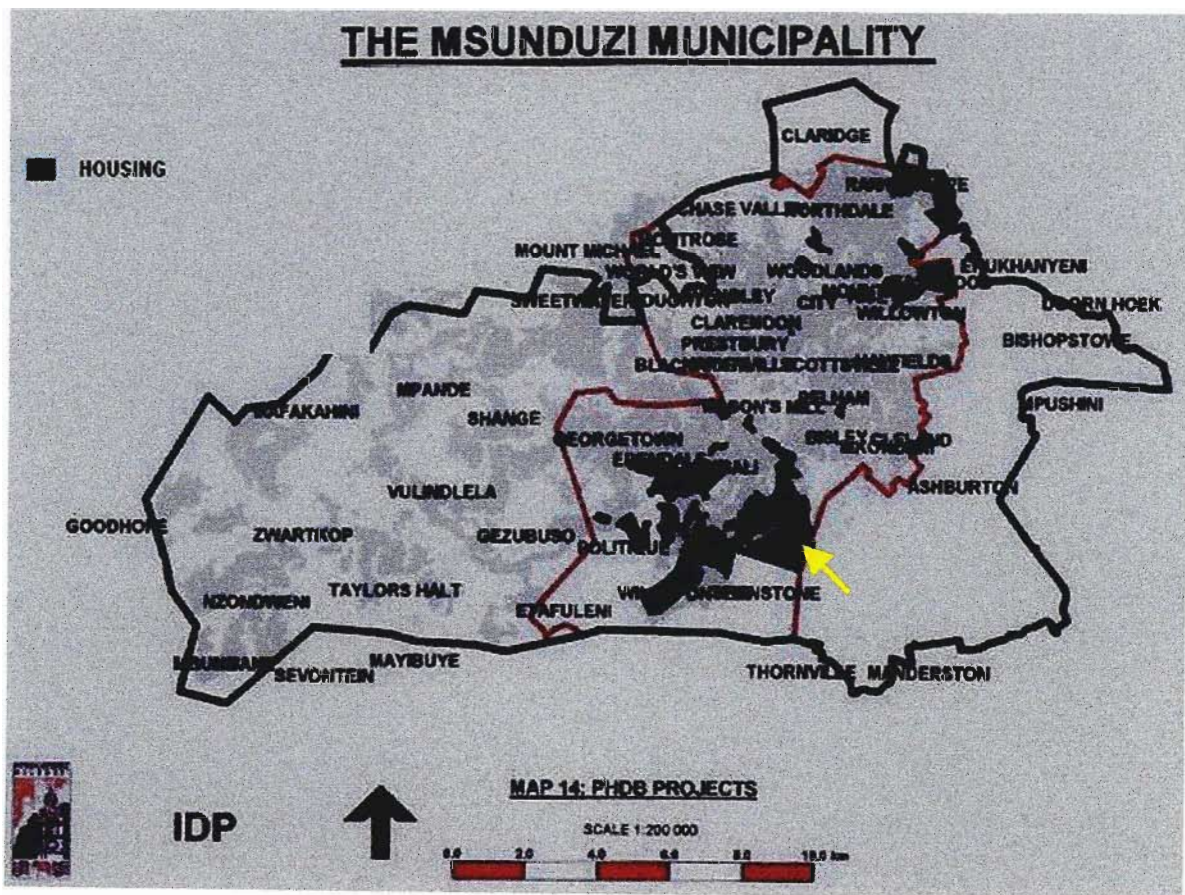


FIGURE 8: LOCATION OF PHDB HOUSING SITES AND AMBLETON (ARROW)
(Adapted from: Msunduzi Municipality, 2002)

Ambleton is also convenient as a study population as it is closely located to the research institution and information regarding construction of houses and service provision, particularly from the Msunduzi Municipality IDP and Geographic

Information Systems (GIS) maps, is available. Verbal communications with municipal staff, developers and civil servants, is also possible as the local municipality and provincial housing departments are located in Pietermaritzburg.



FIGURE 9: PHOTOGRAPH SHOWING HOUSES OF AMBLETON WITH RESIDENTS

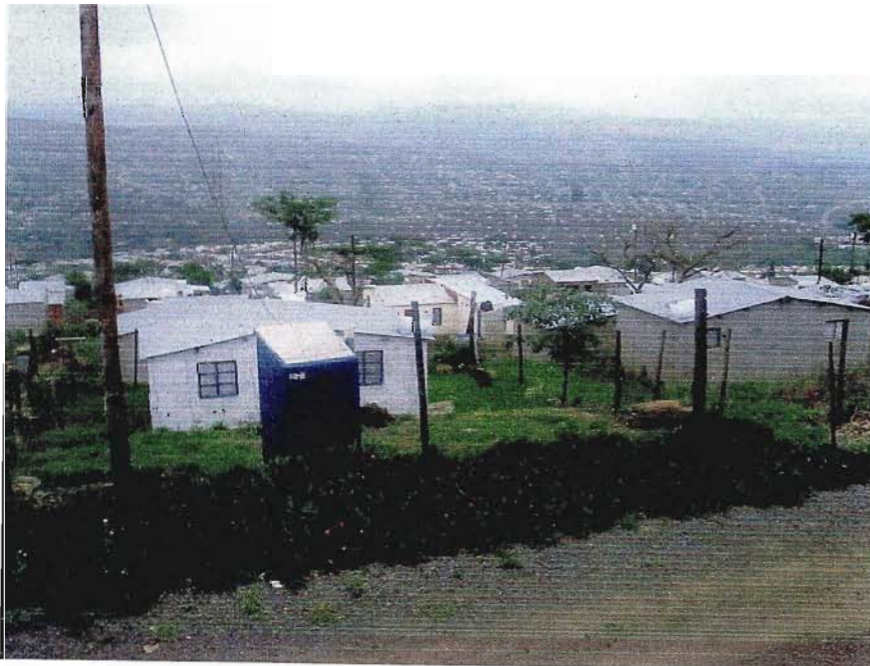


FIGURE 10: PHOTOGRAPH SHOWING EXTENT OF AMBLETON, AND INDIVIDUAL HOUSES IN FOREGROUND

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COMPONENT B

This article is written in the format of the *Social Indicators Research* Journal, Springer Publishers (Springer Sociology Journal) (Previously published by Kluwer Academic Publishers)

Chanda, R. R. and R. J. Fincham: 2005, 'Preliminary Reliability Testing and Qualitative Model Fit of a Multi-Construct Instrument Designed to Measure QOL in Low Cost Housing Settlements In South Africa', *Social Indicators Research*-

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**PRELIMINARY RELIABILITY TESTING AND QUALITATIVE MODEL FIT OF A
MULTI-CONSTRUCT INSTRUMENT DESIGNED TO MEASURE QOL IN LOW
COST HOUSING SETTLEMENTS IN SOUTH AFRICA**

ABSTRACT. Quality of life studies in low-cost housing settlements in South Africa remain uncharted territory. This confronts academia with the need to develop an instrument, not only for research purposes, but also to provide a benchmark instrument that evaluates low cost housing especially in light of the criticisms that have been forthcoming since their inception and implementation. This paper details the phases of the development of such an instrument. The first phase is the development of an initial model that informs the instrument, while the second is the development of the instrument borne of the model. The testing of both the model and the instrument is also detailed. The model is tested qualitatively, via the use of respondent feedback to questions specifically aimed at elucidating their responses to domain importance. This, therefore, qualitatively tests the fit of the model in terms of influence to satisfaction of life. The instrument is tested for internal reliability via the use of Cronbach's alpha reliability test. Results of alpha reliability testing of items after respondent feedback indicate good internal consistencies of twelve of the fifteen constructs constituting the instrument. Furthermore, frequency data indicates high prioritisation of satisfaction domains constituting the model by respondents. No other specific domains were indicated by respondents but data suggests that a few further constructs are also of importance to the community. Overall, the instrument and model are well poised as initial level tools for determining QOL in similar contexts.

INTRODUCTION

Quality of life (QOL) studies are fast becoming acknowledged as relevant subjective studies reflecting well-being, in whatever domain, being investigated. In South Africa, social indicating has taken a new precedence, where the previous segregated approach of collection and storage of data, has now given way to a holistic one (Møller, 1997) that includes subjective indicating, rather than purely objective research (see for example May and Norton, 1997; Beukes and van der Colff, 1997; Louw, 1997). Much of the QOL studies in South Africa have been concentrated on informal settlements (Mathee and Swart, 2001; van Rensburg *et al.*, 2001) and “townships” (Møller and Schlemmer, 1980; Westaway, *in press*; Beukes and van der Colff, 1997; Westaway and Gumede, 2000; Westaway, 2001, Mears, 1997). However, with the advent of low-cost housing, which South Africa's democratic government has introduced as a route of addressing poverty, inequality and the constitutional obligation of the government (van Rensburg, *et al.*, 2001), it is thought that QOL studies can be used to evaluate the impact of this relatively new housing strategy especially in light of the criticisms that it has received.

This rest of the introduction of this paper will elaborate on the housing situation of South Africa as well as the policies and legislation that provide the backbone of the housing situation. Furthermore, the paper will highlight some of the prominent criticisms and challenges of low cost housing provision. Additionally, the significance and definition of QOL will also be briefly discussed. However, a brief introduction on Quality of Life will also initially be provided.

Quality of life

Quality of life studies have an obscure past, with roots embedded in the social indicators movement of the 1960's of both the United States and parts of Europe (Rapley, 2003; Johansson, 2002). Since this developing field of social indicating is relatively new, there exists a great number of definitions of the concept of QOL. They all essentially have the same theme and can be encapsulated within the following generic definition: “the concept of “quality of life” represents more than

the private “living standards” and refers to all the elements of the conditions in which people live, that is, all their needs and requirements. --- It demands, amongst other things, available and accessible social and public infrastructure to satisfy the needs of those involved and affected by it as well as an environment without serious deterioration or pollution” (Fadda and Jirón, 1999: 262). QOL, therefore, takes into account the holistic and integrated nature of social indicating. QOL studies are considered significant for a variety of reasons. Amongst these are uses in timeline studies (Royuela *et. al.*, 2003; Dasgupta, 2000) to determine whether material wealth influences satisfaction and most importantly to evaluate whether the “elite perspective” (Mukherjee, 1989: 65) of what the masses require actually encompasses the broader perspective. Therefore, QOL studies suggest immense potential for evaluation of low-cost housing settlements.

South Africa's Housing Situation

One of the first major political frameworks, the Reconstruction and Development Programme (RDP) placed a great emphasis on housing provision (Scholand and Tubeni-Ndzube, 1999; Rust, 2003) as housing was seen as a route of poverty alleviation. More so, it was believed that providing a house to a beneficiary not only afforded the opportunity of a shelter but also provided them with the prospect of economic alleviation and therefore the opportunity to become integrated into mainstream society (Rust, 2003). The vision of provision of houses was further reflected in policies until it was encapsulated within the Housing Act of 1997. Policies and legislature became synonymous with subsidies and housing provision and the development of subsidy schemes, funds and other similar organisations were developed for the provision of the capital for the process (DOH, 2004; Mackay, 1996).

The enormity of this task was, perhaps, not fully understood and managed, conceivably due to the strain of provision (Rust, 2003). This culminated in the situation of housing backlogs, severely lacking quality, sizes and location of houses (Rust, 2003) and only a partial fulfilment of the promise of housing provision. Thus, provision of these houses and settlements has been challenged

with a variety of criticisms (Rust, 2003; SAPA, 2005). This included poor location (Venter *et. al.*, 2004; Biermann, 2004; Fitchett, 2001), poor size of dwellings (DOH, 2004; Olifant, 2004), poor quality of houses (Rust, 2003) and though not directly related to subjective perspectives the gradual decline and reluctance of developers to commit to housing projects simply because the projects proved less profitable to them than other developments (Rust, 2003). Another criticism is based on the lack of aesthetic appeal of the settlements (SAPA, 2005), which is thought to impact on cognitive appreciation, appeal, feelings of comfort and happiness as well as the abstract concept of sense of place. It is unfortunate that this scene has permeated the housing sector because it obscures the merits of the housing initiative and the increased quality of life that some communities and individuals have experienced (see van Rensburg *et. al.*, 2001).

With the above understanding of the low-cost housing situation as well as the merits of a QOL study, QOL studies within a low cost settlement are thought to be potentially beneficial. Firstly, they can be used to determine whether the reported criticisms are affecting the QOL of residents and secondly to obtain a subjective “grass roots” evaluation of low cost housing provision. This evaluates the “elite perspective” (Mukherjee, 1989: 65), a borrowed term that is used here to indicate the perspective of non-residents of low cost houses on low cost settlements. This usually refers to those who are involved in the development, monitoring and evaluation of low cost housing provision but have not garnered the collective residents perception of low cost houses using standardised survey instruments. However, since QOL studies within low-cost housing studies are rare, non-existent or simply not reported, especially within the South African context, the need for an appropriate and reliable instrument is paramount. This is largely because it can provide a standard reference for evaluating QOL in low-cost housing settlements regardless of whether studies are temporally or spatially separated. A standard instrument can allow the comparison and collection of results of countrywide studies, which could be the initial step to determining the collective perceptions of low-cost housing.

The above indicates the aim of this study. That is, to develop and test an instrument that can be used to determine QOL in low-cost housing settlements. At this preliminary stage of instrument design, primary testing of the instrument to determine internal consistencies and therefore reliability of items within developed constructs will be conducted. Therefore, this paper will report the results of this testing, as well as provide qualitative reports that determine the appropriateness of the model that was utilised for the design of the instrument. Reliability testing is important because although the instrument is a composite, multi-construct one, constructs are also intended to be utilised independently. Therefore, the items measuring the same response must first be tested for internal consistency, a measure of reliability. Qualitative testing of the model is considered the appropriate method at this stage because it is still a very preliminary stage of model development. Feedback from respondents is required to attain a model that can be further tested once all domains and variables have been incorporated.

METHODS

Site description

The study instrument was piloted on the residents of Ambleton, which is a low cost site consisting of approximately 2000 houses. The site is located on the urban periphery of the Pietermaritzburg city, which lies in the Msunduzi Local Council. Pietermaritzburg is located about 45 minutes away from the east coast of South Africa and the port city of Durban. Both these cities are located in the KwaZulu-Natal province, geographically located on the eastern side of the country. Ambleton was utilised as a study as it suited the conditions that usually were criticised as being inferior. These included what could be interpreted as poor location (location on urban periphery) thus poor access to city services, limited aesthetic appeal, and comparatively fewer services in terms of opportunities and jobs than other parts of the city. It was also chosen because of its advantageous location to the research university and information regarding its construction, beneficiaries and residents were readily accessible, particularly from verbal communications with staff of the local municipality.

Sampling

Stratified random samples of houses in Ambleton were used in the survey. These samples were generated by randomly choosing 10 house numbers from all the house numbers in that street block, thereby generating 10 participants for each set of questionnaires. These sets of questionnaires were constituted of constructs that were grouped into five batches and the 10 households from each street block that were sampled were utilised for each batch. For example, if a street block had houses with numbers in the 300's, all numbers within that number bracket was used as a population. 10 house numbers that were randomly chosen were approached for the purposes of the survey. If the house chosen was unoccupied or the resident refused participation, the house directly next to the chosen one was utilised, if it wasn't chosen already. This method was also used if gaining access to a chosen house was difficult, or if residents present at that time were under the age of 18.

A trained interviewer, fluent in the local language, verbally translated the questionnaire from English to Zulu. The questionnaires were administered over a period of one week. Interviewees were interviewed in their homes and all persons interviewed were residents and/or beneficiaries of houses in the low cost site and, as mentioned before, over the age of 18.

Questionnaire design

The questionnaire method was utilised, as it is a reliable method and has been relatively widely and historically utilised within the QOL research field (Beukes and van der Colff, 1997; Westaway, *in press*; Mathee and Swart, 2001 as examples of studies that utilise this method). The questionnaire was designed based on six domains that were identified as important considering the criticisms of low cost housing sites. These domains were borne of reviewed literature. These included: health related quality of life (HRQOL), which was geared more to determining access to, and availability of, healthcare services while the second domain, sense of place/community was included due to reports of beneficiaries leaving and selling

their homes soon after they were handed over to them and included questions of residents' feelings of safety and homeliness regarding Ambleton as well as comfort with neighbours and other residents. The third domain included was that of location primarily because it is one of the most reported criticisms that low-cost houses have endured, especially with regard to poor location on urban peripheries while the fourth domain called, opportunities, was linked to the location domain particularly because poor proximity usually infers poor opportunities with regard to access and advancement in life. The fifth and sixth domains included were service provision and quality of houses. These have also become focal points of criticisms and therefore were included as domains. Each of the six domains was either classified as socio-economic or environmental, as depicted in Figure 1.

Each domain was either tested for as a whole or was broken down into variables or constructs. Thus, the questionnaire consisted of 4 or more items under each construct that fell beneath a specific domain. Likert Scales were used as a method of evaluation and constituted five choice-points, which began at "very dissatisfied" to "very satisfied". The entire questionnaire consisted of 86 questions concerning variables, while a further six questions were utilised to determine relevance of the domains. These questions also utilised the Likert Scale format with a five choice point scale but had rankings ranging from "very important" to "very unimportant". To prevent respondent fatigue and burden in light of the magnitude of questions within the instrument, grouped constructs were administered to different respondents such that five groups of 10 persons answered various parts of the questionnaire. This method did not prejudice results as each variable was tested for reliability separately.

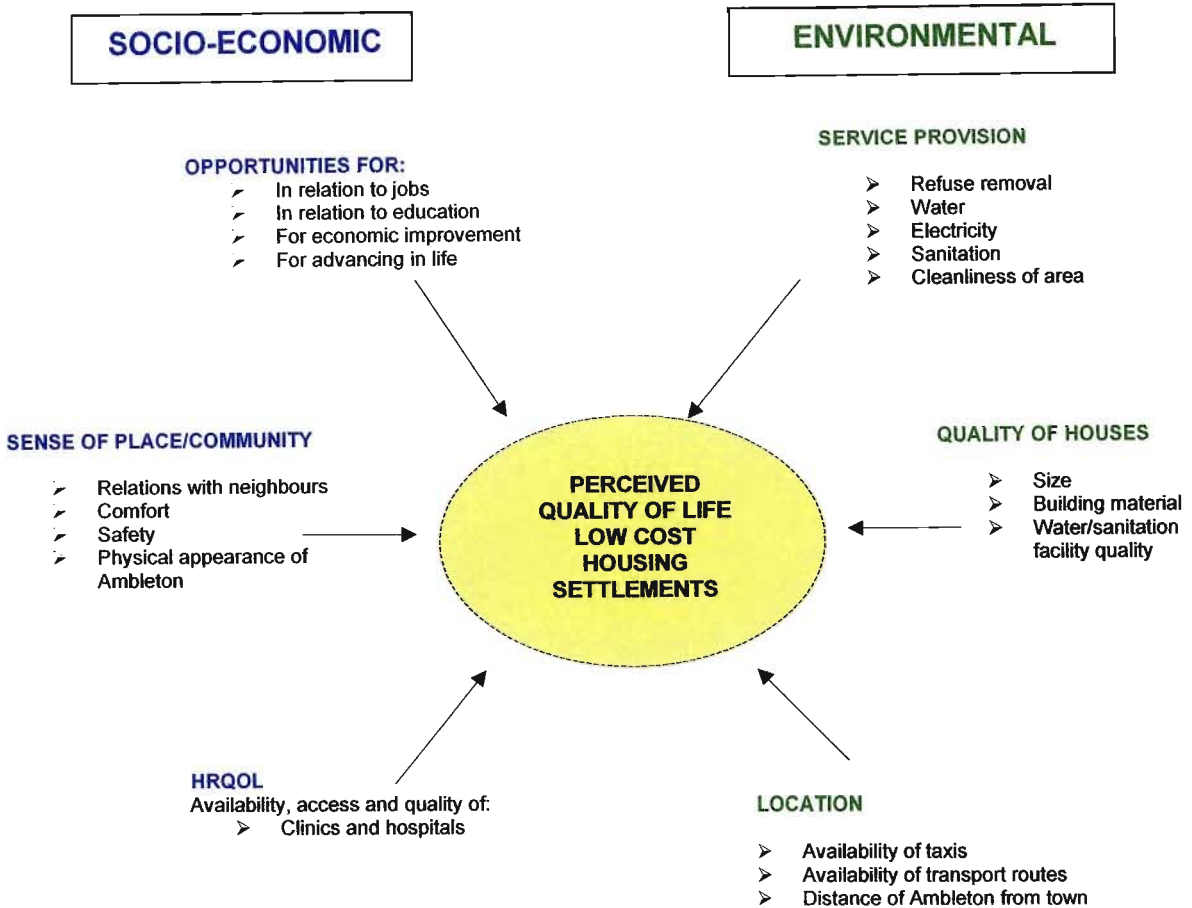


FIGURE 1: MODEL INFORMING THE QUESTIONNAIRE DESIGN

Analysis

Internal consistency of items constituting each variable was determined with the use of Cronbach’s alpha reliability test (Santos, 1999). This was computed with the SPSS version 11.5. Model fit was determined qualitatively via frequency tables of rating of each domain on a Likert Scale of “very important” to “very unimportant”. Furthermore, qualitative respondent feedback was used to incorporate other pertinent domains or variables according to prioritisation by respondents.

TABLE 1: COMPOSITE TABLE OF DOMAINS WITH OPERATIONAL DEFINITIONS

Domains	Operational Definition	Constructs/Variables
SERVICE PROVISION	Services that are normally provided by government bodies but can on occasion infer services provide by public or para-statal bodies (e.g. water services provided by Umgeni Water).	Satisfaction with government provided services e.g.: <ul style="list-style-type: none"> ➤ Refuse removal ➤ Cleanliness of Ambleton ➤ Water ➤ Electricity ➤ Sanitation
QUALITY OF HOUSES	Quality in terms of sustainability and longevity of houses and all equipment and hardware associated with the house. Also infers size of house.	Perceptions and satisfaction with: <ul style="list-style-type: none"> ➤ Materials of house construction ➤ Size of houses ➤ Water/sanitation facility quality
LOCATION	Location with regard to access to other parts of the Msunduzi region as well as the intermediate taxi and transport links associated with travel.	Perceptions of location in relation to: <ul style="list-style-type: none"> ➤ Getting to other locations ➤ Taxis and transport links ➤ Availability to taxis ➤ Distance from town
SENSE OF PLACE/COMMUNITY	The feeling of comfort with consideration of the house as a home as well as the neighbourhood as a community rather than just a place where they reside. Also includes feelings of safety of the neighbourhood.	Satisfaction with and perceptions of: <ul style="list-style-type: none"> ➤ Relations with neighbours and members of community ➤ Physical appearance of Ambleton ➤ Safety of neighbourhood
OPPORTUNITIES	Opportunities with regard to economic alleviation, education and employment.	Perception w.r.t: <ul style="list-style-type: none"> ➤ Attaining employment ➤ Attaining higher education ➤ Economic alleviation
HRQOL	Satisfaction with number of and accessibility to chiefly, primary and secondary health care facilities	Satisfaction with: <ul style="list-style-type: none"> ➤ Access, availability and quality of clinics ➤ Access, availability and quality of hospitals
OVERALL SATISFACTION	Life satisfaction considering residence in Ambleton, especially in comparison to previous residence.	-

RESULTS AND DISCUSSION

Domains and the model design

The following table (Table: 3) indicates the frequencies of the ratings of each domain of the model designed. The majority of the ratings for all six domains are rated as “very important” or “important”. In fact only one respondent for opportunities rated this domain as “very unimportant” while three respondents rated quality of houses, sense of place/community and opportunities as “unimportant”. By far, the most utilised rating is that of “important” for all domains. The domain that received the highest ratings of importance was that of HRQOL. This stemmed from the understanding that Ambleton has no fixed clinics and hospitals and residents have to travel to neighbouring settlements to obtain

healthcare facilities and services. Thus, answers to the HRQOL constructs and items were prejudiced somewhat because some respondents rated the clinics and hospitals they frequented rather than indicating their satisfaction with the lack of clinics and hospitals in *Ambleton*. Also, the translation of the questionnaire from English to Zulu could have resulted in the answers given. It is surprising to discover that a large proportion of respondents rated the quality of houses domain as not certain. This is thought to be because of the understanding that having a house was considered by some residents to be a great benefit and questioning its quality conflicts with their relief and satisfaction of actually having a stable house.

The frequency table below indicates very high prioritisation of the domains constituting the existing model. However, although no more domains were considered relevant by questionnaire probes, three new variables under already existing domains were mentioned that require consideration for incorporation into the existing model. Approximately a third of all respondents indicated the lack of drainage systems, streetlights, recreational and community facilities. Although these were not mentioned by the large majority of respondents, it is thought that they do affect QOL but were not mentioned as respondents had limited time in which to answer to the questionnaire. Therefore, it is thought that it should constitute the revised version of the model and future construct testing could indicate levels of satisfaction/dissatisfaction. Therefore, a revised version of the model should comprise of satisfaction and perceptions of drainage systems, streetlights and recreational and community facilities. Diagrammatically, this is reflected in Figure 2, which should be contrasted to Figure 1 to determine the revisions of the model (newly incorporated constructs are indicated in bold). Further revisions include incorporation of the constructs of toilet facilities and *both* mobile and fixed clinics beneath the quality of houses and HRQOL domains, respectively. This is considered because of the fact that a large proportion of respondents revealed their intense dissatisfaction with the toilet facilities of their homes. Since there exists such an extreme dissatisfaction with the toilet facilities, it is thought that it should constitute an entire construct. The same holds true for both mobile and fixed clinics within the HRQOL domain. Since there exists a differentiation between satisfaction/dissatisfaction of the two types of clinics, it is

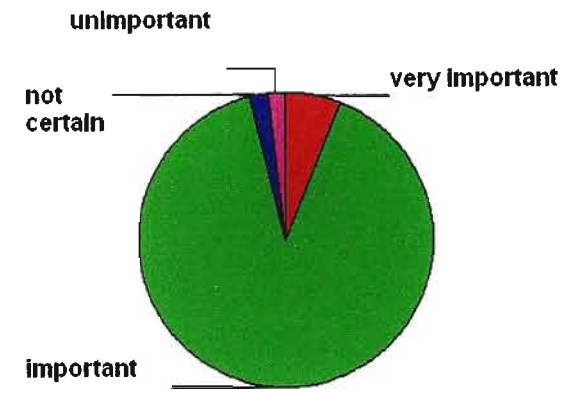
believed that it should be tested for separately. This gives a better understanding of the type of clinics that are both operating and gaining success within the settlement.

The overall high relevance rating of the domains constituting the model indicates that the preliminary model sets a good theoretical support for the questionnaire design. The exact interactions between and within the domains of the model require further research to ultimately produce a more intricate model.

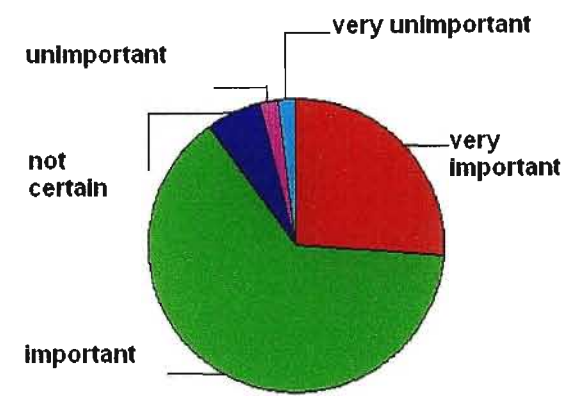
TABLE 2: TABLE INDICATING THE FREQUENCIES OF THE RATINGS OF EACH OF THE DOMAINS CONSTITUTING THE MODEL

Domain	Frequencies					Pie chart
	Very important	Important	Not certain	Unimportant	Very unimportant	
Service provision	4	42	4	0	0	<p>A pie chart for 'Service provision' with three segments: a large green segment representing 'Important' (42%), a small blue segment representing 'Not certain' (4%), and a small red segment representing 'Very important' (4%). The 'Very unimportant' and 'Unimportant' categories have zero frequency and are not visible in the chart.</p>
Quality of houses	0	31	18	1	0	<p>A pie chart for 'Quality of houses' with three segments: a large red segment representing 'Important' (31%), a medium green segment representing 'Not certain' (18%), and a very small blue segment representing 'Unimportant' (1%). The 'Very important' and 'Very unimportant' categories have zero frequency and are not visible in the chart.</p>

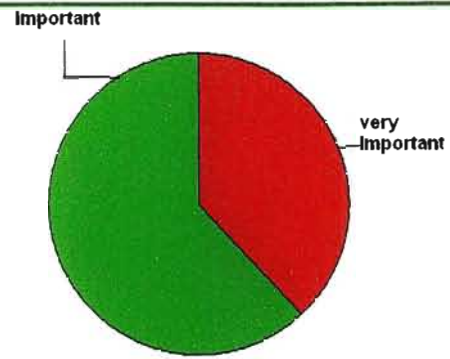
Sense of place/community	3	45	1	1	0
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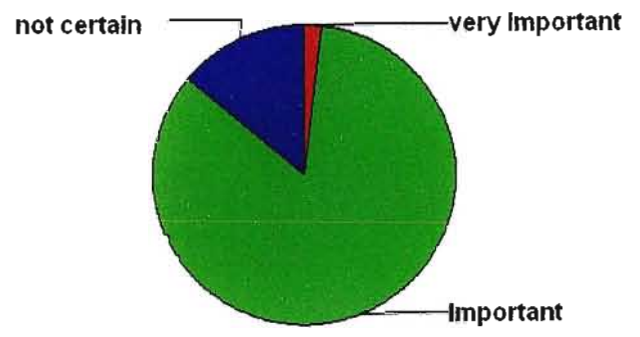
Opportunities	13	32	3	1	1
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HRQOL	19	31	0	0	0
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Location	1	42	7	0	0
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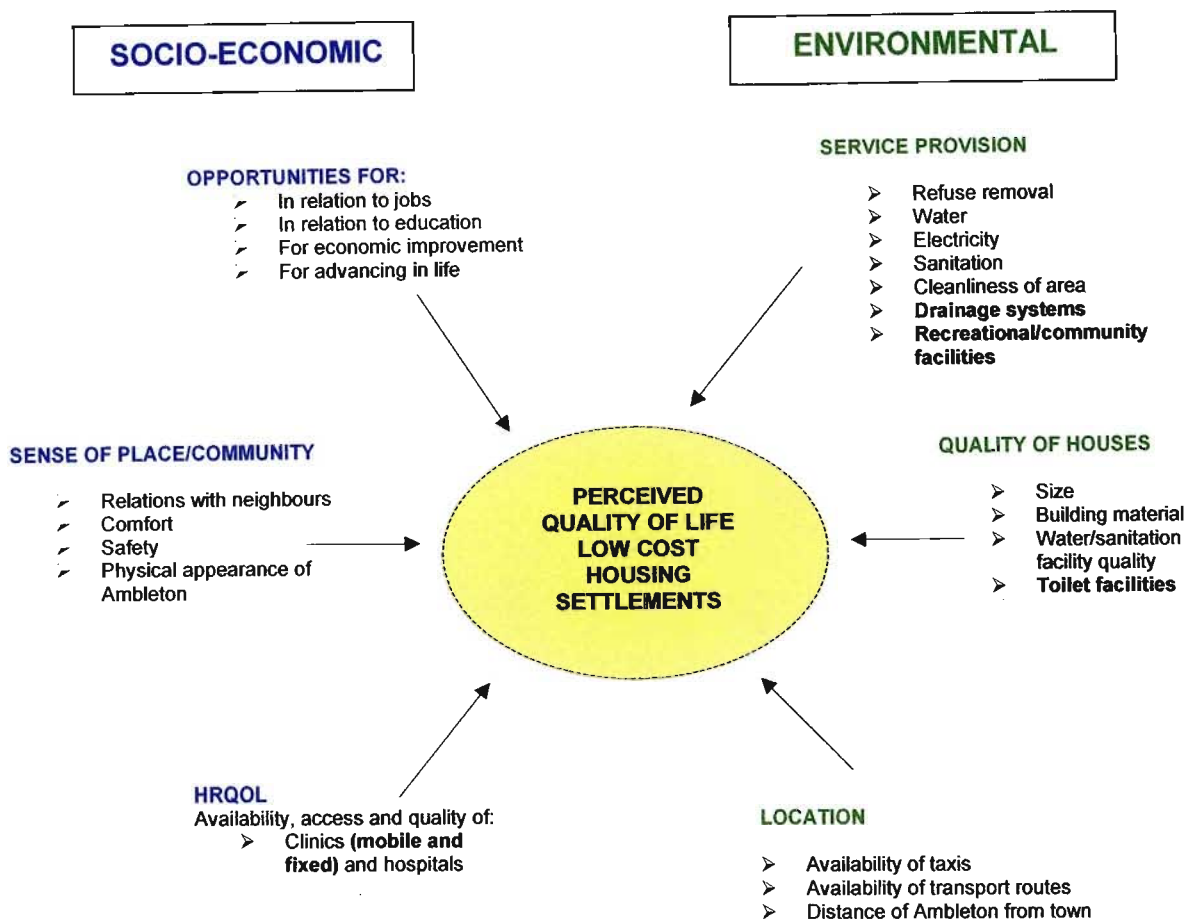


FIGURE 2: REVISED MODEL AFTER RESPONDENT FEEDBACK. ALL NEW CONSTRUCTS ARE INDICATED IN BOLD

The instrument

The following table (Table: 3) indicates the domains, variables and number of items and cases for each. The table also indicates the alpha coefficient for each variable as well as resultant alpha coefficients if the any one of the items are deleted.

If a lenient 0.6 is used as a reference for the appropriate alpha, twelve constructs indicate good reliability. This leniency is borne out of the understanding that this phase of testing is considered as preliminary and more vigorous testing can be used in latter analysis as the instrument is perfected to its highest level of

reliability. The only construct reflecting a negative alpha is that of location. Statistically this indicates a coding error that translates eventually to the poor internal consistency of the items making up the construct. This is believed to be caused not only by poor design but again, by translation difficulties resulting from translation of the questionnaire into Zulu from English. Two other constructs indicating poor consistencies are those of “sense of place: neighbours” and “quality: quality” (see Table: 3). The former is a difficult concept and testing for satisfaction levels with items designed to elucidate similar answers without invoking respondent fatigue by repetition can be difficult to achieve. The latter is also a difficult concept because it is not constituted of a single component. Rather, quality has various aspects and these are identified as quality of building materials (e.g. roofing materials, building blocks, window and door frames, and which in turn could also be tested separately), quality of water, electricity and sanitation services as well as quality of houses as provided by the capacity of the government. Each of these constitutes a construct but for the sake of primarily respondent burden this was consolidated into one. The results are perhaps a reflection that they should be broken down to their constituents for greatest internal consistency.

TABLE 3: TABLE SHOWING ALPHA COEFFICIENTS OF EACH DOMAIN AND ASSOCIATED CONSTRUCT/S

Domain	Construct	Item	No of cases	Alpha	Alpha if item deleted	
Overall satisfaction	-	1	50	0.7926	0.6690	
		2			0.7064	
		3			0.8097	
		4			0.7631	
Service provision	-	1	10	0.7681	0.7651	
		2			0.7352	
		3			0.7008	
		4			0.7243	
		5			0.7370	
		6			0.7247	
		7			0.7697	
Location	-	8	10	-0.6	-	
		1			-0.2500	
		2			-1.0345	
		3			0.3409	
Quality of houses	Quality	4	10	0.3361	1.0345	
		1			0.2341	
		2			0.3346	
		3			-0.1587	
	Size	-	4	10	0.9141	0.4941
			1			0.8914
			2			0.8827
			3			0.9083
Opportunities	-	4	10	0.6642	0.8770	
		5			0.9116	
		1			0.6835	
		2			0.6333	
		3			0.7227	
		4			0.4899	

		5			0.4679
		6			0.6109
		7			0.6911
HRQOL	Clinic-Access	1	10	0.6656	0.4522
		2			0.4522
		3			0.8824
		4			0.4152
	Clinic-Availability	1	10	0.7720	0.6168
		2			0.7407
		3			0.8344
		4			0.6168
	Clinic-Quality	1	10	0.7063	0.4687
		2			0.6198
		3			0.5700
		4			0.8357
	Hospital-Access	1	10	0.8268	0.6994
		2			0.7103
		3			0.9106
		4			0.7929
	Hospital-Availability	1	10	0.6880	0.4561
		2			0.6895
		3			0.6014
		4			0.7035
	Hospital-Quality	1	10	0.8388	0.7980
		2			0.7545
		3			0.7175
		4			0.8868
Sense of place/community	Safety	1	10	0.8247	0.7772
		2			0.8814
		3			0.7044
		4			0.7044
		5			0.8280
	Home	1	10	0.7586	0.6792
		2			0.5922
		3			0.8129
		4			0.7032
	Neighbours	1	10	0.5205	0.2461
		2			0.2699
		3			0.6019
		4			0.6188

CONCLUSION

The instrument is informed by a model that reflects its relevance and appropriateness from respondent feedback. Only a few changes to the model are required at this initial stage of testing, and these refer to the incorporation of new constructs within the chosen domains rather incorporation of new domains. This minimal change to the model indicates that the model is a good theoretical support to the questionnaire. The instrument, however requires revisiting of the domains and constructs of location, sense of place: neighbours and quality of houses: quality. Their items require revision for greater internal consistency while language translation difficulties could be ironed out via the initial translation of the entire questionnaire into the dominant language of the respondents. Further revisions could also include take home questionnaires, thereby increasing the time spent on free-response questions like those testing for other domains and constructs.

However, this type of method is potentially problematic as many people may not return their questionnaires or the inability to comprehend certain items, may render some answers incomplete or missing. This method, therefore, requires testing in the context of QOL studies in low cost housing before being incorporated as a tried method in all studies of this nature.

As a preliminary model and instrument, the developed set of model plus instrument has by far surpassed expectations and has shown good internal consistency and model fit. There is, however, room for improvement, particularly with the items of the three variables mentioned that yield poor alpha coefficients.

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APPENDICES

APPENDIX 1:
QUESTIONNAIRE

QUESTIONNAIRE

Hello. We are from the University of KwaZulu-Natal, Centre for Environment, Agriculture and Development. We are doing a study on Ambleton, for my dissertation/research project and we would like to ask you a few questions about Ambleton. This questionnaire session is totally voluntary and we cannot compensate you for your time. However, if you agree to participate in this session, you can choose to end this session at any time and you can refuse to answer any question. We don't need your names or any personal information so your anonymity is held in high regard. Whatever you say to us here will not be used anywhere else beside this study.

It should also be pointed out that this study will not necessarily bring you or your community any direct benefit but any feedback from these studies can be used in the future for the betterment of your community. Please feel free to ask questions if you are unsure at any time during this session.

Are you comfortable enough to participate in this study? Yes/No

House number		
Male/female	Male	Female
Age		
Owner/beneficiary	No	Yes
Number of persons in house		
Number of years/months in Ambleton		

Please rate how important the following things are you to and your family.

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
SERVICES PROVIDED BY THE GOVERNMENT (SANITATION, REFUSE REMOVAL ETC.)				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
QUALITY AND SIZE OF THE HOUSE YOU ARE LIVING IN				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
LOCATION OF WHERE YOU LIVE IN RELATION TO OTHER AREAS AND FACILITIES				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
COMFORT WITH LIVING IN AN AREA AND COMFORTABLE RELATIONSHIP WITH NEIGHBOURS				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
OPPORTUNITIES FOR YOU AND YOUR FAMILY				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
ACCESS AND AVAILABILITY TO HEALTHCARE SERVICES				

OTHER DOMAINS

- **Are there other things that are not in the above list you are dissatisfied/satisfied or you think that is important with and you like to tell us about.**

1. Please rate your overall satisfaction with life in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

2. How would you rate your life satisfaction since you came to live in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

3. When you think of life after coming to live in Ambleton are you:

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

4. Please rate your satisfaction of Ambleton itself.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

5. How satisfied are you with government services in Ambleton (like water, electricity etc.)?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

6. Please can you tell us your satisfaction with how services are provided in Ambleton (refuse removal, electricity, sanitation etc.) in Ambleton:

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

7. When you think of the services that are provided by the municipality are you:

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

8. How satisfied are you with everything that is provided by the municipality and government for your house.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

9. Please rate your satisfaction of the sanitation services in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

10. Please rate your satisfaction with water services in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

11. Please rate your satisfaction with electricity in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

12. Please rate your satisfaction with the refuse removal and cleanliness of Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SERVICE PROVISION				

13. How satisfied are you with the availability of taxis and transport into town or other parts of PMB?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
LOCATION				

14. If you need to get to other places, how satisfied are you with being able to get there?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
LOCATION				

15. Please rate your satisfaction with the distance that Ambleton is from town.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
LOCATION				

16. If you have to get to another place, how satisfied are you that you will definitely get there within a few hours?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
LOCATION				

17. Please rate your satisfaction with the current opportunities (education, jobs, economic alleviation etc.) in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OPPORTUNITIES				

18. How satisfied are you with the opportunities that Ambleton can provide for you/your family (education, jobs, economic alleviation)?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OPPORTUNITIES				

19. Please tell us how satisfied you are with Ambleton as a community that can provide for your well-being.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OPPORTUNITIES				

20. When you think of the ability to advance in life, whether it is economically, via education or jobs, how satisfied are you with Ambleton being able to provide for you?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OPPORTUNITIES				

21. How satisfied are you with job opportunities in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OPPORTUNITIES				

22. How satisfied are you with education opportunities in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OPPORTUNITIES				

23. How satisfied are you with the economic situation in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OPPORTUNITIES				

QUESTIONNAIRE

Hello. We are from the University of KwaZulu-Natal, Centre for Environment, Agriculture and Development. We are doing a study on Ambleton, for my dissertation/research project and we would like to ask you a few questions about Ambleton. This questionnaire session is totally voluntary and we cannot compensate you for your time. However, if you agree to participate in this session, you can choose to end this session at any time and you can refuse to answer any question. We don't need your names or any personal information so your anonymity is held in high regard. Whatever you say to us here will not be used anywhere else beside this study.

It should also be pointed out that this study will not necessarily bring you or your community any direct benefit but any feedback from these studies can be used in the future for the betterment of your community. Please feel free to ask questions if you are unsure at any time during this session.

Are you comfortable enough to participate in this study? Yes/No

House number		
Male/female	Male	Female
Age		
Owner/beneficiary	No	Yes
Number of persons in house		
Number of years/months in Ambleton		

Please rate how important the following things are you to and your family.

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
SERVICES PROVIDED BY THE GOVERNMENT (SANITATION, REFUSE REMOVAL ETC.)				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
QUALITY AND SIZE OF THE HOUSE YOU ARE LIVING IN				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
LOCATION OF WHERE YOU LIVE IN RELATION TO OTHER AREAS AND ACILITIES				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
COMFORT WITH LIVING IN AN AREA AND COMFORTABLE RELATIONSHIP WITH NEIGHBOURS				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
OPPORTUNITIES FOR YOU AND YOUR FAMILY				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
ACCESS AND AVAILABILITY TO HEALTHCARE SERVICES				

OTHER DOMAINS

- Are there other things that are not in the above list you are dissatisfied/satisfied or you think that is important with and you like to tell us about.

24. Please rate your overall satisfaction with life in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

25. How would you rate your life satisfaction since you came to live in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

26. When you think of life after coming to live in Ambleton are you:

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

27. Please rate your satisfaction of Ambleton itself.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

28. Please rate your satisfaction with your neighbours.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-NEIGHBOURS				

29. How do you rate your satisfaction of the other people who live in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-NEIGHBOURS				

30. When you think of the other people of Ambleton, how satisfied are you that they are nice people to live with?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-NEIGHBOURS				

31. When you need help, how satisfied are you that your neighbours will be willing to help you?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-NEIGHBOURS				

32. How satisfied are you with the friendliness of your neighbours?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-NEIGHBOURS				

33. How satisfied are you with Ambleton as a home.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-HOME				

34. How satisfied are with you with the comfort that Ambleton provides as a home?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-HOME				

35. When you think of Ambleton, how satisfied are you that it is really a home for you and your children?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-HOME				

36. How satisfied are you with the togetherness of the community that makes Ambleton like a home?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-HOME				

37. Please rate your satisfaction with the safety of Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-SAFETY				

38. How satisfied are with you with the safety of Ambleton compared to other parts of Pietermaritzburg?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-SAFETY				

39. Please rate your satisfaction with being able to walk outside in the dark?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-SAFETY				

40. How satisfied are you that your children will be safe when they on their own?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-SAFETY				

41. When you think of the crime in Ambleton, how satisfied are you about your safety?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
SENSE OF PLACE/COMMUNITY-SAFETY				

QUESTIONNAIRE

Hello. We are from the University of KwaZulu-Natal, Centre for Environment, Agriculture and Development. We are doing a study on Ambleton, for my dissertation/research project and we would like to ask you a few questions about Ambleton. This questionnaire session is totally voluntary and we cannot compensate you for your time. However, if you agree to participate in this session, you can choose to end this session at any time and you can refuse to answer any question. We don't need your names or any personal information so your anonymity is held in high regard. Whatever you say to us here will not be used anywhere else beside this study.

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House number		
Male/female	Male	Female
Age		
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Number of persons in house		
Number of years/months in Ambleton		

Please rate how important the following things are you to and your family.

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
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1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
QUALITY AND SIZE OF THE HOUSE YOU ARE LIVING IN				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
LOCATION OF WHERE YOU LIVE IN RELATION TO OTHER AREAS AND ACILITIES				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
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1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
OPPORTUNITIES FOR YOU AND YOUR FAMILY				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
ACCESS AND AVAILABILITY TO HEALTHCARE SERVICES				

OTHER DOMAINS

- Are there other things that are not in the above list you are dissatisfied/satisfied or you think that is important with and you like to tell us about.

42. Please rate your overall satisfaction with life in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

43. How would you rate your life satisfaction since you came to live in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

44. When you think of life after coming to live in Ambleton are you:

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

45. Please rate your satisfaction of Ambleton itself.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

46. Please tell us how satisfied you are with the number of clinics in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-AVAILABILITY				

47. How satisfied are you with the choice of clinics that you can visit in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-AVAILABILITY				

48. If you need to get to a clinic, how satisfied are you that you will be able to get to one within a few hours?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-AVAILABILITY				

49. Please tell us how satisfied you are with the distance of the nearest clinic to you?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-AVAILABILITY				

50. When you get to a clinic, how satisfied are you with being able to see the staff and get treated?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-ACCESS				

51. How satisfied are you with the time it takes to see the staff in clinics?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-ACCESS				

52. Please tell us how satisfied you are with the queuing times in a clinic.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-ACCESS				

53. When you think of going to a clinic please tell us how satisfied you are that you will get treatment.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-ACCESS				

54. Please tell us your satisfaction with the service of the clinics in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-QUALITY				

55. Please rate your satisfaction with the quality of clinics in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-QUALITY				

56. When you think of the clinics in Ambleton, how would you rate the quality of services that the staff provide?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-QUALITY				

57. Please tell us how satisfied you are with the treatment that is provided in the clinics.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-CLINIC-QUALITY				

QUESTIONNAIRE

Hello. We are from the University of KwaZulu-Natal, Centre for Environment, Agriculture and Development. We are doing a study on Ambleton, for my dissertation/research project and we would like to ask you a few questions about Ambleton. This questionnaire session is totally voluntary and we cannot compensate you for your time. However, if you agree to participate in this session, you can choose to end this session at any time and you can refuse to answer any question. We don't need your names or any personal information so your anonymity is held in high regard. Whatever you say to us here will not be used anywhere else beside this study.

It should also be pointed out that this study will not necessarily bring you or your community any direct benefit but any feedback from these studies can be used in the future for the betterment of your community. . Please feel free to ask questions if you are unsure at any time during this session.

Are you comfortable enough to participate in this study? Yes/No

House number		
Male/female	Male	Female
Age		
Owner/beneficiary	No	Yes
Number of persons in house		
Number of years/months in Ambleton		

Please rate how important the following things are you to and your family.

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
SERVICES PROVIDED BY THE GOVERNMENT (SANITATION, REFUSE REMOVAL ETC.)				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
QUALITY AND SIZE OF THE HOUSE YOU ARE LIVING IN				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
LOCATION OF WHERE YOU LIVE IN RELATION TO OTHER AREAS AND ACILITIES				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
COMFORT WITH LIVING IN AN AREA AND COMFORTABLE RELATIONSHIP WITH NEIGHBOURS				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
OPPORTUNITIES FOR YOU AND YOUR FAMILY				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
ACCESS AND AVAILABILITY TO HEALTHCARE SERVICES				

OTHER DOMAINS

- Are there other things that are not in the above list you are dissatisfied/satisfied or you think that is important with and you like to tell us about.

58. Please rate your overall satisfaction with life in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

59. How would you rate your life satisfaction since you came to live in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

60. When you think of life after coming to live in Ambleton are you:

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

61. Please rate your satisfaction of Ambleton itself.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

62. Please rate your satisfaction with the number of hospitals in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-AVAILABILITY				

63. How satisfied are you with the choice of hospital that you can visit?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-AVAILABILITY				

64. If you need to get to a hospital, how satisfied are you that you will be able to get to one within a few hours?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-AVAILABILITY				

65. Please tell us how satisfied you are with the distance of the nearest hospital to you?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-AVAILABILITY				

66. When you get to a hospital, how satisfied are you with being able to see the staff and get treated?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-ACCESS				

67. How satisfied are you with the time it takes to see the staff in hospital?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-ACCESS				

68. Please tell us how satisfied you are with the queuing times in a hospital.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-ACCESS				

69. When you think of going to a hospital please tell us how satisfied you are that you will get treatment.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-ACCESS				

70. Please tell us your satisfaction with the service of the hospitals in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-QUALITY				

71. Please rate your satisfaction with the quality of hospitals in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-QUALITY				

72. When you think of the hospital in Ambleton, how would you rate the quality of services that the staff provides?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-QUALITY				

73. Please tell us how satisfied you are with the treatment that is provided in the hospital.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
HRQOL-HOSPITAL-QUALITY				

QUESTIONNAIRE

Hello. We are from the University of KwaZulu-Natal, Centre for Environment, Agriculture and Development. We are doing a study on Ambleton, for my dissertation/research project and we would like to ask you a few questions about Ambleton. This questionnaire session is totally voluntary and we cannot compensate you for your time. However, if you agree to participate in this session, you can choose to end this session at any time and you can refuse to answer any question. We don't need your names or any personal information so your anonymity is held in high regard. Whatever you say to us here will not be used anywhere else beside this study.

It should also be pointed out that this study will not necessarily bring you or your community any direct benefit but any feedback from these studies can be used in the future for the betterment of your community. Please feel free to ask questions if you are unsure at any time during this session.

Are you comfortable enough to participate in this study? Yes/No

House number		
Male/female	Male	Female
Age		
Owner/beneficiary	No	Yes
Number of persons in house		
Number of years/months in Ambleton		

Please rate how important the following things are you to and your family.

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
SERVICES PROVIDED BY THE GOVERNMENT (SANITATION, REFUSE REMOVAL ETC.)				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
QUALITY AND SIZE OF THE HOUSE YOU ARE LIVING IN				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
LOCATION OF WHERE YOU LIVE IN RELATION TO OTHER AREAS AND ACILITIES				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
COMFORT WITH LIVING IN AN AREA AND COMFORTABLE RELATIONSHIP WITH NEIGHBOURS				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
OPPORTUNITIES FOR YOU AND YOUR FAMILY				

1: Very important	2: Important	3: Not certain	4: Unimportant	5: Very unimportant
ACCESS AND AVAILABILITY TO HEALTHCARE SERVICES				

OTHER DOMAINS

- Are there other things that are not in the above list you are dissatisfied/satisfied or you think that is important with and you like to tell us about.

74. Please rate your overall satisfaction with life in Ambleton.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

75. How would you rate your life satisfaction since you came to live in Ambleton?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

76. When you think of life after coming to live in Ambleton are you:

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

77. Please rate your satisfaction of Ambleton itself.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
OVERALL SATISFACTION				

78. How satisfied are you with your house as it is?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-QUALITY				

79. When you think about the house you are living in, how satisfied are you that the government provided a good house for you?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-QUALITY				

80. Please tell us how satisfied you are with the materials that your house is built out of.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-QUALITY				

81. Please tell us how satisfied you are with the toilet and water services in your house.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-QUALITY				

82. For the number of people living in your house, how satisfied are you with the size of your house?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-SIZE				

83. Please rate your satisfaction with the size of your house as it is.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-SIZE				

84. How satisfied are you that the government provided a good-sized house for you and your family?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-SIZE				

85. When you think about the size of your family how satisfied are you with the number of rooms in your house?

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-SIZE				

86. Please rate your satisfaction with the size of the rooms of your house.

1: Very satisfied	2: Satisfied	3: Neither satisfied nor dissatisfied	4: Dissatisfied	5: Very dissatisfied
QUALITY OF HOUSES-SIZE				

APPENDIX 2:
SPSS OUTPUTS FOR EACH CONSTRUCT

Frequencies

Statistics

	SERVICES	QUALITY	LOCATION	SOP	OPPORT	HRQOL
N Valid	50	50	50	50	50	50
Missing	0	0	0	0	0	0

Frequency Table

SERVICES

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very important	4	8.0	8.0	8.0
important	42	84.0	84.0	92.0
not certain	4	8.0	8.0	100.0
Total	50	100.0	100.0	

QUALITY

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid important	31	62.0	62.0	62.0
not certain	18	36.0	36.0	98.0
unimportant	1	2.0	2.0	100.0
Total	50	100.0	100.0	

LOCATION

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very important	1	2.0	2.0	2.0
important	42	84.0	84.0	86.0
not certain	7	14.0	14.0	100.0
Total	50	100.0	100.0	

SOP

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid ver important	3	6.0	6.0	6.0
important	45	90.0	90.0	96.0
not certain	1	2.0	2.0	98.0
unimportant	1	2.0	2.0	100.0
Total	50	100.0	100.0	

OPPORT

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very important	13	26.0	26.0	26.0
important	32	64.0	64.0	90.0
not certain	3	6.0	6.0	96.0
unimportant	1	2.0	2.0	98.0
very unimportant	1	2.0	2.0	100.0
Total	50	100.0	100.0	

HRQOL

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very important	19	38.0	38.0	38.0
important	31	62.0	62.0	100.0
Total	50	100.0	100.0	

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SERVICES	50	1.00	3.00	2.0000	.40406
QUALITY	50	2.00	4.00	2.4000	.53452
LOCATION	50	1.00	3.00	2.1200	.38545
SOP	50	1.00	4.00	2.0000	.40406
OPPORT	50	1.00	5.00	1.9000	.76265
HRQOL	50	1.00	2.00	1.6200	.49031
Valid N (listwise)	50				

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.5000	.8631	50.0
2.	ITEM2	2.6600	1.0022	50.0
3.	ITEM3	2.5200	.9089	50.0
4.	ITEM4	2.4200	.8104	50.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	10.1000	7.9694	2.8230	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	7.6000	4.4898	.7477	.6690
ITEM2	7.4400	4.2106	.6696	.7064
ITEM3	7.5800	5.2282	.4607	.8097
ITEM4	7.6800	5.2424	.5579	.7631

Reliability Coefficients

N of Cases = 50.0

N of Items = 4

Alpha = .7926

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.2000	.4216	10.0
2.	ITEM2	2.5000	.7071	10.0
3.	ITEM3	3.3000	1.1595	10.0
4.	ITEM4	3.1000	1.2867	10.0
5.	ITEM5	2.8000	1.0328	10.0
6.	ITEM6	2.6000	.9661	10.0
7.	ITEM7	2.2000	.6325	10.0
8.	ITEM8	4.0000	.0000	10.0

* * * Warning * * * Zero variance items

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.7000	17.7889	4.2177	8

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	20.5000	16.2778	.3919	.7438
ITEM2	20.2000	14.4000	.5383	.7148
ITEM3	19.4000	11.3778	.6477	.6813
ITEM4	19.6000	11.1556	.5791	.7042
ITEM5	19.9000	12.9889	.5015	.7166
ITEM6	20.1000	12.9889	.5553	.7046
ITEM7	20.5000	15.8333	.3091	.7483
ITEM8	18.7000	17.7889	.0000	.7681

Reliability Coefficients

N of Cases = 10.0

N of Items = 8

Alpha = .7524

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.4000	.8433	10.0
2.	ITEM2	2.2000	.6325	10.0
3.	ITEM3	3.2000	1.0328	10.0
4.	ITEM4	2.2000	.6325	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	10.0000	1.7778	1.3333	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	7.6000	1.6000	-.2500	-.2500
ITEM2	7.8000	1.2889	.0619	-1.0345
ITEM3	6.8000	1.9556	-.4308	.3409
ITEM4	7.8000	1.2889	.0619	-1.0345

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = -.6000

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	3.6000	.8433	10.0
2.	ITEM2	3.3000	.8233	10.0
3.	ITEM3	3.7000	.6749	10.0
4.	ITEM4	3.1000	.8756	10.0
5.	ITEM5	3.7000	.9487	10.0
6.	ITEM6	2.4000	.8433	10.0
7.	ITEM7	3.1000	.9944	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	22.9000	12.1000	3.4785	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	19.3000	10.4556	.1711	.6835
ITEM2	19.6000	9.6000	.3572	.6333
ITEM3	19.2000	11.9556	-.0667	.7227
ITEM4	19.8000	7.5111	.7964	.4899
ITEM5	19.2000	7.0667	.8195	.4679
ITEM6	20.5000	9.1667	.4352	.6109
ITEM7	19.8000	9.9556	.1841	.6911

Reliability Coefficients

N of Cases = 10.0

N of Items = 7

Alpha = .6642

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.5000	.8498	10.0
2.	ITEM2	2.6000	.8433	10.0
3.	ITEM3	2.6000	.9661	10.0
4.	ITEM4	3.4000	.9661	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	11.1000	7.6556	2.7669	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	8.6000	4.7111	.6024	.6792
ITEM2	8.5000	4.2778	.7645	.5922
ITEM3	8.5000	5.1667	.3542	.8129
ITEM4	7.7000	4.4556	.5558	.7032

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = .7586

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.0000	.0000	10.0
2.	ITEM2	2.4000	.8433	10.0
3.	ITEM3	2.3000	.6749	10.0
4.	ITEM4	2.6000	.9661	10.0
5.	ITEM5	2.9000	.9944	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	12.2000	5.0667	2.2509	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	10.2000	5.0667	.0000	.5205
ITEM2	9.8000	2.8444	.5312	.2187
ITEM3	9.9000	3.2111	.5788	.2399
ITEM4	9.6000	3.6000	.1455	.5350
ITEM5	9.3000	3.5667	.1361	.5483

Reliability Coefficients

N of Cases = 10.0

N of Items = 5

Alpha = .4879

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	3.6000	.8433	10.0
2.	ITEM2	2.8000	.9189	10.0
3.	ITEM3	3.2000	1.0328	10.0
4.	ITEM4	3.2000	1.0328	10.0
5.	ITEM5	3.6000	.8433	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	16.4000	12.9333	3.5963	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	12.8000	8.8444	.6734	.7772
ITEM2	13.6000	10.4889	.2688	.8814
ITEM3	13.2000	7.0667	.8742	.7044
ITEM4	13.2000	7.0667	.8742	.7044
ITEM5	12.8000	9.7333	.4730	.8280

Reliability Coefficients

N of Cases = 10.0

N of Items = 5

Alpha = .8247

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.4000	.8433	10.0
2.	ITEM2	2.4000	.8433	10.0
3.	ITEM3	3.3000	.9487	10.0
4.	ITEM4	2.8000	1.0328	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	10.9000	6.7667	2.6013	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	8.5000	3.8333	.6730	.4522
ITEM2	8.5000	3.8333	.6730	.4522
ITEM3	7.6000	6.0444	-.0381	.8824
ITEM4	8.1000	3.2111	.6724	.4152

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = .6656

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	3.6000	.8433	10.0
2.	ITEM2	2.9000	.9944	10.0
3.	ITEM3	2.2000	.6325	10.0
4.	ITEM4	3.6000	.8433	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	12.3000	6.6778	2.5841	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	8.7000	3.5667	.7535	.6168
ITEM2	9.4000	3.6000	.5536	.7407
ITEM3	10.1000	5.4333	.2864	.8344
ITEM4	8.7000	3.5667	.7535	.6168

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = .7720

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.6000	.9661	10.0
2.	ITEM2	2.4000	.8433	10.0
3.	ITEM3	3.0000	1.0541	10.0
4.	ITEM4	3.0000	1.0541	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	11.0000	8.2222	2.8674	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	8.4000	4.2667	.7572	.4687
ITEM2	8.6000	5.3778	.5455	.6198
ITEM3	8.0000	4.4444	.6000	.5700
ITEM4	8.0000	6.2222	.1690	.8357

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = .7063

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.4000	.6992	10.0
2.	ITEM2	2.5000	.8498	10.0
3.	ITEM3	3.1000	.9944	10.0
4.	ITEM4	2.2000	.6325	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	10.2000	6.8444	2.6162	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	7.8000	3.9556	.8629	.6994
ITEM2	7.7000	3.5667	.7961	.7103
ITEM3	7.1000	4.1000	.4359	.9106
ITEM4	8.0000	4.6667	.6506	.7929

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = .8268

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.8000	1.0328	10.0
2.	ITEM2	2.7000	.9487	10.0
3.	ITEM3	2.2000	.6325	10.0
4.	ITEM4	2.9000	.9944	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	10.6000	6.9333	2.6331	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	7.8000	3.2889	.6881	.4561
ITEM2	7.9000	4.5444	.3681	.6895
ITEM3	8.4000	4.9333	.5695	.6014
ITEM4	7.7000	4.4556	.3547	.7032

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = .6880

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	3.4000	.8433	10.0
2.	ITEM2	3.0000	1.0541	10.0
3.	ITEM3	2.8000	1.0328	10.0
4.	ITEM4	3.1000	.9944	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	12.3000	10.4556	3.2335	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	8.9000	6.7667	.6787	.7980
ITEM2	9.3000	5.5667	.7595	.7545
ITEM3	9.5000	5.3889	.8342	.7175
ITEM4	9.2000	7.0667	.4539	.8868

Reliability Coefficients

N of Cases = 10.0

N of Items = 4

Alpha = .8388

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	3.0000	1.0541	10.0
2.	ITEM2	2.4000	.8433	10.0
3.	ITEM3	3.6000	.8433	10.0
4.	ITEM4	2.5000	.7071	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	11.5000	4.0556	2.0138	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	8.5000	2.2778	.2095	.2341
ITEM2	9.1000	2.9889	.1219	.3346
ITEM3	7.9000	2.1000	.5092	-.1587
ITEM4	9.0000	3.7778	-.0808	.4941

Reliability Coefficients

N of Cases = 10.0 N of Items = 4

Alpha = .3361

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	ITEM1	2.6000	.9661	10.0
2.	ITEM2	2.9000	.9944	10.0
3.	ITEM3	2.5000	.8498	10.0
4.	ITEM4	2.8000	1.0328	10.0
5.	ITEM5	3.2000	1.0328	10.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	14.0000	17.7778	4.2164	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ITEM1	11.4000	11.6000	.7969	.8914
ITEM2	11.1000	11.2111	.8376	.8827
ITEM3	11.5000	12.7222	.7148	.9083
ITEM4	11.2000	10.8444	.8625	.8770
ITEM5	10.8000	11.7333	.7035	.9116

Reliability Coefficients

N of Cases = 10.0

N of Items = 5

Alpha = .9141